Tivoli IBM Tivoli Asset Management for IT

IBM

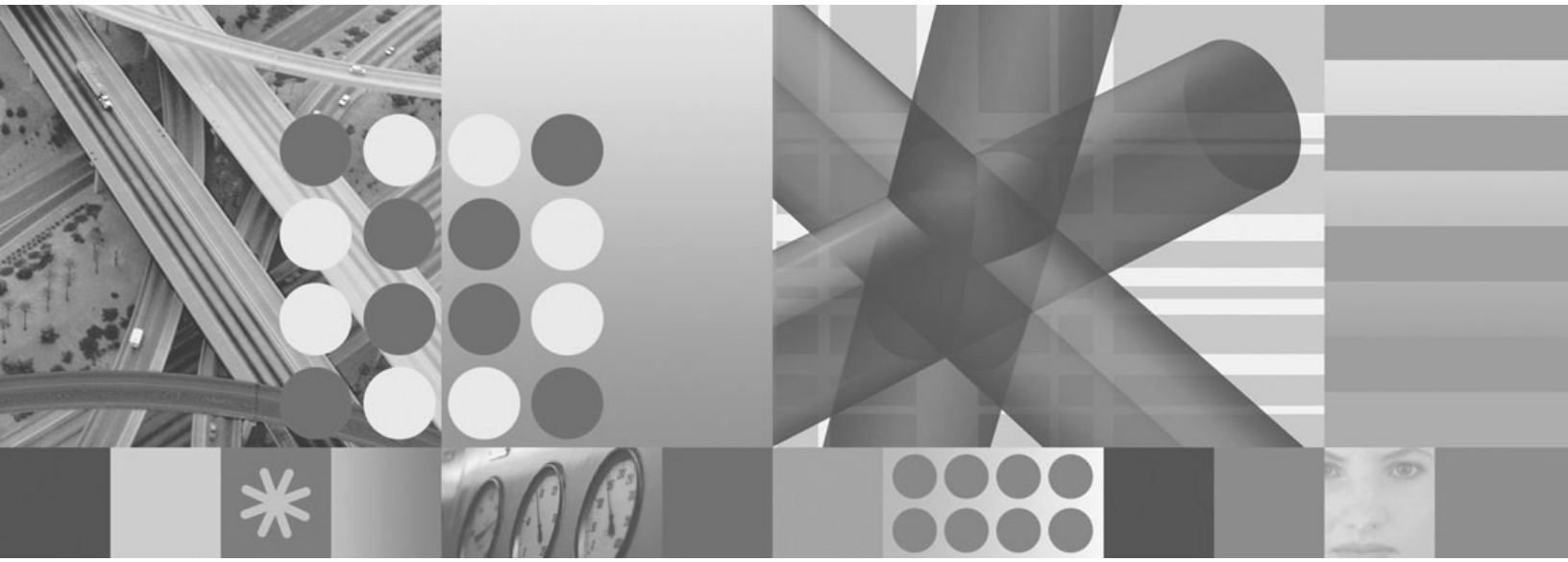
Version 7.2

Installing on Oracle WebLogic Server

Tivoli® IBM Tivoli Asset Management for IT

IBM

Version 7.2



Installing on Oracle WebLogic Server

This edition applies to version 7, release 2, modification 0 of IBM Tivoli Asset Management for IT and to all subsequent releases and modifications until otherwise indicated in new editions.

Contents

Figures v

Tables vii

Chapter 1. Introduction 1
Asset Management for IT components 1
Hardware and software requirements 2

Chapter 2. Planning to deploy IBM Tivoli Asset Management for IT 5
Tivoli Asset Management for IT deployment topologies 5
Asset Management for IT administrative workstation. 6
Planning for Tivoli Asset Management for IT middleware worksheet 6
Planning for Tivoli Asset Management for IT worksheet 11
Reusing existing middleware components 12
Planning for security 13
Planning language support 14
System password policy settings 15

Chapter 3. Preparing to install IBM Tivoli Asset Management for IT 17
DVD layout 17
Before you begin 17
Checking port availability 17
Accessing system directories. 18
Disabling the firewall 18
Deleting the TEMP and TMP user environment variables 18
Verifying the required rpm-build package is installed 19
Setting the ulimit 19
Setting the swap size 19
Setting shared memory 20
Enabling remote configuration 20
Preparing UNIX systems for Tivoli Asset Management for IT middleware 21
Increasing AIX file size and number of descriptors 21
Increasing AIX paging space. 21
Enabling asynchronous I/O on AIX 22
Checking for required libraries on Linux . . 22
Configuring the JRE in Linux 23
Tivoli Asset Management for IT Launchpad . . . 23
Starting the Launchpad 24
Setting up JMS queues for integration framework . 24

Chapter 4. Installing IBM Tivoli Asset Management for IT middleware 27
Process ID 28
Tivoli middleware installer workspace 29
Tivoli Asset Management for IT middleware deployment plan overview 30
Options for invoking the deployment plan . . . 30
Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer. 30
Tivoli middleware installer logs 37
Incorrect db2admin password 38
Invalid DB2 password value. 40
Starting IBM Tivoli Asset Management for IT middleware on Windows 41
Starting IBM Tivoli Asset Management for IT middleware on UNIX 42
Reusing middleware 43
Reusing IBM DB2 43
Reusing Oracle 44
Reusing IBM Tivoli Directory Server 44
Installing middleware silently 45
Silent middleware installation program options 46
Uninstalling IBM Tivoli Asset Management for IT middleware 49

Chapter 5. IBM Tivoli Asset Management for IT installation program overview 51
Performing IBM Tivoli Asset Management for IT installation 52

Chapter 6. Installing IBM Tivoli Asset Management for IT with manual middleware configuration. 65
Manually configuring the database server 65
Manually configuring DB2 9.x 66
Manually configuring DB2 8.2 70
Manually configuring Oracle 11g 74
Manually configuring Oracle 10g 76
Manually configuring Oracle9i Rel2 78
Manually configuring SQL Server 80
Manually configuring WebLogic Server 82
Creating the `MAXIMOSERVER` domain 82
Starting the `MAXIMOSERVER` WebLogic Server domain and deploying the Maximo applications . 83
Configuring JMS for the E-mail listener in WebLogic Server. 85
Configuring and managing Oracle WebLogic Server 87
Configuring JMS options for integration framework 88
Starting integration framework cron tasks . . . 89
Starting the WebLogic Server 90
Stopping the WebLogic Server 90

Chapter 7. Installing IBM Tivoli Asset Management for IT language pack . . . 91

Installing IBM Tivoli Asset Management for IT language pack with the Launchpad 91
Installing language packs with Process Solution Installer 93

Chapter 8. Deploying ear files 95

Chapter 9. Installing IBM Tivoli Integration Composer 97
IBM Tivoli Integration Composer overview 97
Integration Composer backward compatibility . . . 98
Hardware and software requirements. 99
Installation prerequisites. 100
Performing the Tivoli Integration Composer installation 101
Installing Tivoli Integration Composer on 32-bit Windows using the launchpad 101
Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems 103
Installing Tivoli Integration Composer on UNIX operating systems 105
Confirming the installation 108
Post-installation tasks. 108
Verifying the settings in the Integration Composer fusion.properties file 108
Changing the memory allocation in the startFusion file (optional) 109
Changing the memory allocation in the commandLine file (optional) 110
Uninstalling Integration Composer 111
Uninstalling Integration Composer on Windows operating systems 111
Uninstalling on UNIX operating systems . . . 111

Chapter 10. IBM Tivoli Asset Management for IT post installation tasks 113
Performing post installation tasks for the J2EE server 113
Initial data configuration 115
Signing in using a default user ID 115
Configuring SMTP. 115
Create currency codes 116
Create item and company sets 116
Create an organization 116
Create a general ledger account component . . 117
Applying changes to the database 117
Create a general ledger account 118
Update General Ledger Component Type Authorization 118
Create default insert site. 119
Create a Work Type 119
Specify a top-level class for IT assets and software 119
Create a classification structure for IT assets . . 120
Signing out and signing in 121
Tuning DB2 121

Chapter 11. Uninstalling IBM Tivoli Asset Management for IT 123
Uninstalling a manually configured IBM Tivoli Asset Management for IT 123
Running the IBM Tivoli Asset Management for IT uninstall program for a manually configured deployment 124
IBM Tivoli Asset Management for IT database configuration recovery 125
Restoring the DB2 database server 125
Restoring the Oracle database 126
Restoring the Microsoft SQL Server database 127
Troubleshooting the product uninstallation program 127
Error CTG00001 when performing an uninstall 127
Uninstalling IBM Tivoli Asset Management for IT silently 128
Uninstalling the maximo.ear file 128

Notices 129
Trademarks 130

Index 133

Figures

1. Tivoli Asset Management for IT Components 1
2. Asset Management for IT Installation flow - Tivoli middleware installation 27
3. Tivoli Asset Management for IT installation flow - Tivoli Asset Management for IT installation. 51
4. Asset Management for IT installation flow- Installing Asset Management for IT language pack.. 92
5. Asset Management for IT installation flow last step - Installing Integration Composer. . . . 97

Tables

1. Asset Management for IT hardware and software requirements 2
2. List of users and groups created during Asset Management for IT installation. Plan **your value** here.. 6
3. DB2 configuration. 7
4. Oracle configuration 9
5. SQL Server configuration 10
6. WebLogic Server configuration 10
7. Microsoft Active Directory configuration 10
8. Settings for a custom installation 11
9. Asset Management for IT installation prerequisite conditions. 53
10. Product compatibility with Integration Composer 7.2 and integration adapters . . . 98
11. Login specifications for the Maximo database 102
12. Login specifications for the target (Maximo) database 104
13. Asset Management for IT users and groups 115

Chapter 1. Introduction

IBM® Tivoli® Asset Management for IT is a comprehensive suite of products that are built on a single, common platform. Asset Management for IT combines enhanced enterprise asset management functionality with new service management capabilities that together improve the effectiveness of asset management strategies.

Asset Management for IT includes advanced IT asset management, service management, and a full-featured service desk, all based on the IT Infrastructure Library® (ITIL®) guidelines. Each product can be implemented separately as a stand-alone solution or deployed with other products. The solution enhances asset management and ensures service performance of production, facility, transportation, and IT assets.

Asset Management for IT components

Tivoli Asset Management for IT requires multiple software servers that you can either install on separate, dedicated server computers (for best performance), or the same server computer. The diagram included in this topic shows a typical Maximo® configuration.

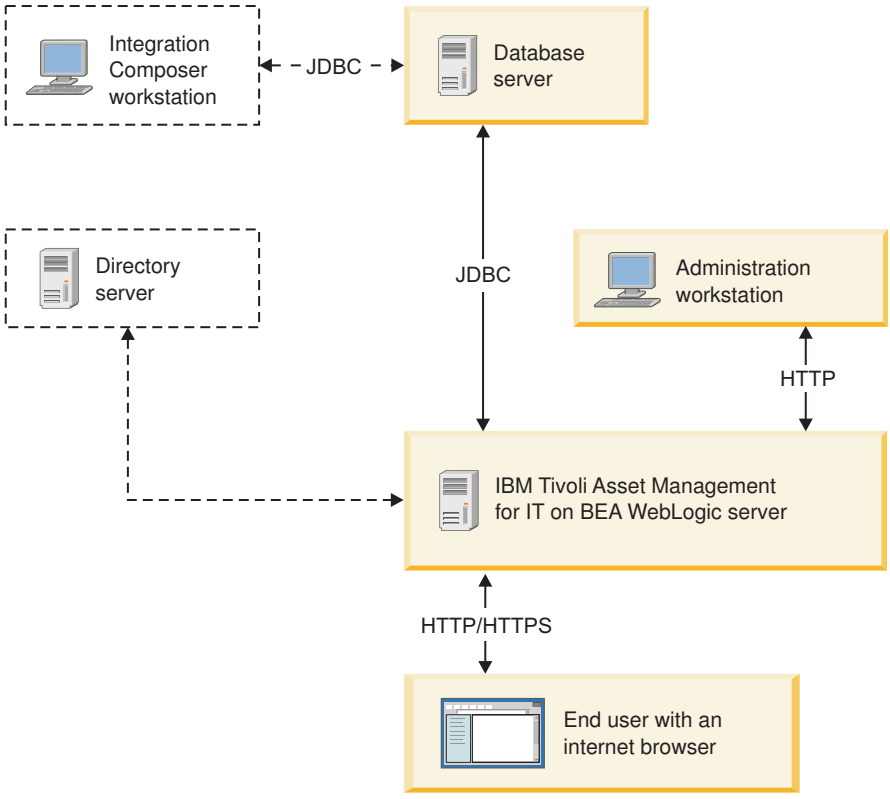


Figure 1. Tivoli Asset Management for IT Components

Database server

Asset Management for IT uses the Maximo database to store details about the attributes and history of each configuration item and the details about the relationships between configuration items.

Application server

Asset Management for IT uses Java™ 2 Enterprise Edition (J2EE) technology, which requires a commercial application server, such as Oracle WebLogic Server. The application server consists of Asset Management for IT applications that use JavaServer Pages (JSP), XML, and Asset Management for IT-application-specific business components.

Directory server

The directory server is used to secure the Asset Management for IT J2EE application.

Windows **Administrative system**

The administrative system is the computer to deploy Asset Management for IT. After the initial deployment, the administrative system is used to make updates or changes to the deployment. Changes to the Asset Management for IT deployment typically require that Asset Management for IT Enterprise Archive (EAR) files be rebuilt, which can only be done from the administrative system.

Related reference

"Hardware and software requirements"
All necessary Asset Management for IT hardware and software requirements are listed in this section. Each product version listed reflects the minimum requirement for use with the product family.

Hardware and software requirements

All necessary Asset Management for IT hardware and software requirements are listed in this section. Each product version listed reflects the minimum requirement for use with the product family.

If available, the Asset Management for IT administrative workstation and systems hosting Asset Management for IT middleware can support Internet Protocol version 6 (IPv6) network configuration. Compare the table with Figure 1 on page 1.

Table 1. Asset Management for IT hardware and software requirements

	Hardware and Software Requirements
Browser Windows	• Microsoft® Internet Explorer 6 and later. • Mozilla Firefox 3.0.x 9 (Windows® client)

Table 1. Asset Management for IT hardware and software requirements (continued)

	Hardware and Software Requirements
Database products	• IBM DB2® Enterprise Edition Version 9.5 for Linux, UNIX®, and Windows fix pack 3a . • IBM DB2 Enterprise Edition Version 9.1 for Linux, UNIX, and Windows • IBM DB2® Universal Database™ 8.2 with fix pack 14 **Note:** DB2 8.2 is only supported for manual configuration scenarios. • Oracle Database 11g Release 1 • Oracle Database 10g Release 2 • Oracle Database 9i Release 2 • Microsoft SQL Server 2008 Standard or Enterprise version. • Microsoft SQL Server 2005 service pack 2 and 3, Standard or Enterprise version. **Note:** If you use Microsoft SQL Server 2005 with Microsoft Windows 2008, make sure you installed service pack 3 to properly install Asset Management for IT. • Microsoft SQL Server 2000 Standard or Enterprise version. Refer to the database product specifications for supported operating systems. For example, see http://www.oracle.com/technology/products/database/oracle10g/index.html for the Oracle databases information.
J2EE application server. This is where you install Oracle WebLogic Server and where Asset Management for IT runs.	**Hardware reqirements** • 2–4 dedicated processors • 2 GB RAM per processor • 1.5 GB or greater of disk space for Maximo and Java/Web Server components **Software** • Microsoft Windows Server 2003 and 2008 (Standard service pack 2, Enterprise, or Datacenter) (32-bit, 64-bit) • Red Hat Enterprise Linux® 4 and 5 (Enterprise or Advanced) (update 4+5 or later) (Intel®) (32 bit) • SuSE Linux (SLES) 9.0 Enterprise Server System z® service pack 4 or later (manual install only) **Note:** Asset Management for IT supports the following operating systems. However, if you are using Asset Management for IT with DB2 Enterprise Server Edition , do not use these operating systems on your application server: • Sun Solaris 9 or 10 (SPARC processor-based systems) • Oracle WebLogic Server 9.2.2 provided by customer.
Directory server	Asset Management for IT supports Microsoft Windows Server 2003 service pack 2 Active Directory. Microsoft Active Directory Application Mode is not supported.

Table 1. Asset Management for IT hardware and software requirements (continued)

	Hardware and Software Requirements
Administrative system	**Hardware** • Intel-based Pentium® processor • 1 GB RAM of memory • SVGA 1024 x 768 resolution; if used for Application Designer 1280 x 1024 resolution **Software** • Windows Server 2003 and 2008 (Standard SP2, Enterprise, or Datacenter) (32-bit, 64-bit) • Microsoft Windows Vista (Business, Enterprise, Ultimate) (32-bit, 64-bit) • Microsoft Windows XP Professional service pack 2 (32-bit, 64-bit) • Adobe® Acrobat Reader 6.0 **Note:** The Asset Management for IT Workflow Designer requires a Java Runtime Environment, 5.0 Service Release 5.
Client system	**Hardware** • Intel based Pentium processor • 1 GB RAM of memory • SVGA 1024 x 768 resolution; if used for Application Designer 1280 x 1024 resolution **Software** • Microsoft Windows Vista (Business, Enterprise, Ultimate) (32-bit, 64-bit) • Microsoft Windows XP Professional service pack 2 (32-bit, 64-bit) • Adobe Acrobat Reader 6.0

Chapter 2. Planning to deploy IBM Tivoli Asset Management for IT

Use this information to plan your IBM Tivoli Asset Management for IT deployment, to determine the best deployment option for your environment and business needs. It allows you to better understand and effectively plan your Asset Management for IT product family instances' topologies.

Tivoli Asset Management for IT deployment topologies

A typical deployment lifecycle usually begins with a single-server topology that would move through phases of demonstration, functional proof-of-concept, and testing integration within the existing environment. It then gradually moves towards a pilot multi-server environment before finally implementing a production deployment within the enterprise.

There are two primary strategies to deploy Asset Management for IT within your enterprise.

Single-server (single computer deployment)
The single-server topology consists of loading all Asset Management for IT components onto one computer. This topology is used typically for proof-of-concept purposes, as a demonstration, or as a learning environment. For managing enterprise assets and processes, you would typically implement a multi-server topology.

Multi-server (multiple computer deployment)
The multi-server topology consists of splitting Asset Management for IT components across several different computers . This strategy is beneficial as it optimizes resource use and decreases the load on each system. This type of deployment would be typical for production use within an enterprise.

When contemplating your deployment strategy, determine whether it includes systems already established in your network. If you plan to reuse or migrate resources that exist in your network, make adjustments to your rollout plan to allow time for things such as bringing the existing resources to version levels that are compatible with Asset Management for IT.

In a disparate environment, the collection of computers in this deployment could be a mixture of Windows and UNIX computers.

Attention: Only the Administrative system must be hosted on a Windows system.

Your Oracle WebLogic Server configuration minimally requires a single Administration Server on a single computer. You can optionally configure additional resources to be managed by the Administration Server and distribute them across managed servers, clusters, and physical computers. See the *IBM Tivoli Asset Management for IT System Administrator Guide* for information on how to set up managed servers and clusters.

Asset Management for IT administrative workstation

Windows You install Asset Management for IT from a Windows workstation designated as the *administrative workstation*. This workstation is where the Asset Management for IT EAR files are built and later deployed to the application server.

There is not a Asset Management for IT runtime requirement for the Administrative Workstation. For daily operations, the administrative workstation will not be required after the initial installation and configuration of Asset Management for IT. You use the administrative workstation to install program patches, product upgrades, new applications, and additional language packs. While not typically used on a day-to-day basis, the administrative workstation is used in all phases of the product lifecycle and is an important Asset Management for IT support component.

Planning for Tivoli Asset Management for IT middleware worksheet

The tables in this section list the settings for values that you must supply when installing the Asset Management for IT middleware. In a multi-computer deployment scenario, you might have multiple values to consider.

Where blanks provided, there are no default values.

Table 2. List of users and groups created during Asset Management for IT installation. Plan **your value** *here..*

User, description	Group or groups, Supported platforms
db2admin. DB2 administrator. Windows Service User ID. This user is created by the middleware installer if it does not exist.	Windows DB2USERS, DB2ADMNS
maximo. Used for Maximo database configuration. This user is created by the Asset Management for IT installation program if it does not exist.	Windows Users, Administrators AIX Users, Administrators Linux Users, Administrators Solaris Users, Administrators
ctginst1. The system user used as the database instance owner on UNIX platforms. **ctginst1** must be a member of **db2grp1** with secondary groups of staff and **dasadm1**. This user is created by the middleware installer if it does not exist.	AIX Users, Administrators Linux Users, Administrators
db2fenc1. UNIX system user used as the fenced user ID for DB2. This user is created by the middleware installer if it does not exist.	AIX db2fgrp1 Linux db2fgrp1

Table 3. DB2 configuration.

Setting	Default
Installation directory	Windows *SystemDrive*\Program Files\IBM\SQLLIB Linux /opt/IBM/db2/V9.5 AIX /opt/IBM/db2/V9.5
DAS user	Windows db2admin Linux dasusr1 AIX dasusr1
Fenced user	Linux db2fenc1 AIX db2fenc1
Fenced user group name	Linux db2fgrp1 AIX db2fgrp1
Fenced user home directory	Linux /home/db2fenc1 AIX /home/db2fenc1
Instance name	ctginst1
Port	*50005*
Instance user name home directory	Linux /home/ctginst1 AIX /home/ctginst1

Table 3. DB2 configuration. (continued)

Setting	Default
Database instance user ID	Windows db2admin Linux ctginst1 AIX ctginst1
DB2 administrators group	Windows DB2ADMNS Linux db2grp1 AIX db2grp1
DB2 users group	Windows DB2USERS
Use same user name and p/w for remaining DB2 Services	YES
Database name	`ctginst1`
Configure Tools Catalog	NO This value is relevant for reuse scenarios only.
Enable O/S Security for DB2 objects	YES This value is relevant for reuse scenarios only.
DB2 instance port	
Data table space name	MAXDATA
Data table space size	medium (1000Mb) **DB2** Medium (5000Mb)
Temporary table space name	MAXTEMP
Temporary table space size	1000Mb

Table 4. Oracle configuration

Setting	Default
Installation directory	Windows *SystemDrive*\oracle\product\10.2.0\oradata Linux /opt/app/oracle/product/10.2.0/oradata AIX /opt/app/oracle/product/10.2.0/oradata Solaris /opt/app/oracle/product/10.2.0/oradata
Administrator User ID	sys
Oracle Software Owner ID	Windows Administrator Linux oracle AIX oracle Solaris oracle
Instance Location	Windows This value might be C:\oracle\product\10.2.0\oradata Linux This value might be /opt/app/oracle/product/10.2.0/oradata AIX /opt/app/oracle/product/10.2.0/oradata Solaris /opt/app/oracle/product/10.2.0/oradata
Oracle database name	`ctginst1`
Data table space name	MAXDATA
Data table space size	medium (1000Mb) **Oracle** Medium (1000Mb)
Temporary table space name	MAXTEMP
Temporary table space size	1000Mb

Table 5. SQL Server configuration

Setting	Default
Installation directory	ProgramFiles\Microsoft SQL Server\90
Named instance	maximo
SQL Server administrator	sa
SQL Server administrator password	
Port	*1433*
Database name	maxdb71
User ID	maximo
User ID password	
Data file name	maxdb71_dat
Log file name	maxdb71_log

Table 6. WebLogic Server configuration

Setting	Default
Domain source	Windows C:\bea\weblogic92\common\templates\domains Linux /home/mxadmin/bea/weblogic92/common/templates/domains Solaris /home/mxadmin/bea/weblogic92/common/templates/domains
Customize environment and services settings	No. **Note:** If you plan to implement integration framework - YES.
Domain name	mydomain **Note:** any name except for MAXIMOSERVER
Administration server name	MAXIMOSERVER
Listen address	All Local Addresses
Listen port	*7001*
Start Menu shortcut link name	Start Server
Start Server program name	startWebLogic.cmd

Table 7. Microsoft Active Directory configuration

Setting	Default
Directory server port	*389*
LDAP base entry	DC=ism71,DC=com
User suffix	CN=Users,DC=ism71,DC=com
Group suffix	DC=ism71,DC=com
Organization container suffix	DC=ism71,DC=com
Bind distinguished name	CN=Administrator,CN=Users, DC=ism71,DC=com

Planning for Tivoli Asset Management for IT worksheet

These tables list the settings whose values that you must supply when using the Asset Management for IT installation program.

Table 8. Settings for a custom installation

Setting	Default
Installation directory	C:\IBM\SMP
API port	*9530*
DB2 host name	
DB2 port	*50005*
Maximo database name	maxdb71
Maximo database instance	ctginst1
Maximo database user ID	maximo
DB2 installation directory	Windows C:\Program Files\IBM\SQLLIB Linux /opt/IBM/db2/V9.5 AIX /opt/IBM/db2/V9.5
DB2 instance administrator user ID	Windows db2admin Linux ctginst1 AIX ctginst1
Windows DB2 service user ID	db2admin
Oracle installation directory	Windows C:\oracle\product\10.2.0\oradata Linux /opt/app/oracle/product/10.2.0/oradata AIX /opt/app/oracle/product/10.2.0/oradata Solaris /opt/app/oracle/product/10.2.0/oradata
Oracle administrator user ID	sys
Oracle software owner user ID	oracle
SQL installation directory	C:/ProgramFiles/Microsoft SQL Server/90
Data table space name	maxdata

Table 8. Settings for a custom installation (continued)

Setting	Default
Data table space size	medium **DB2** Medium (5000Mb) **Oracle** Medium (1000Mb) **SQL Server (Initial data file size)** Medium (1000Mb)
Temporary table space name	maxtemp
Temporary table space size	1000Mb
WebLogic Server host name	
WebLogic Server host port number	*7001*
Web server port	*80*
Web server name	webserver1
Application server	MAXIMOSERVER **Note:** This value cannot be changed.
Database server port	*50000*
Database user ID	MAXADMIN
Directory server host name	
Directory server port	*389*
Directory server administrator DN	cn=root
Bind password	
Windows Maximo installation folder	C:\IBM\SMP **Note:** Maximo can only be installed on the Asset Management for IT administrative system, which must be a Windows system.
SMTP server	
Workflow Admin E-mail	
Admin E-mail	

Reusing existing middleware components

You can reuse some existing middleware installations as Tivoli Asset Management for IT components. If you plan to do so, ensure that they are at the level supported by Asset Management for IT. The Asset Management for IT installation programs do not provide a mechanism for patching unsupported servers, nor do these programs provide remote prerequisite checks to ensure they are at the right level.

For example, you probably have an instance of DB2 or Oracle in an existing database server farm which already has established access policies, redundancy measures, and backup plans in place.

Middleware configuration options

You are presented with the option of either allowing the Asset Management for IT installation program to configure middleware automatically, or configuring each middleware component manually.

Auto-configure
The Asset Management for IT installation program automatically configure middleware to work together with Asset Management for IT. This option is recommended if you are installing new instances of middleware

components, or if you have existing middleware instances that are not governed by policies that restrict programmatic configuration.

Manual

You can manually configure middleware that exists in your environment, or has been installed by the middleware installer. This configuration must be completed prior to running the Asset Management for IT installation program. If you have policies in place that dictate certain procedures and guidelines when configuring systems in your environment, you can choose this deployment path.

Related tasks

Chapter 6, "Installing IBM Tivoli Asset Management for IT with manual middleware configuration," on page 65
You can have one or more IBM Tivoli Asset Management for IT middleware components configured automatically by the Asset Management for IT installation program. Alternatively, you can choose to manually configure one or more of the middleware servers to work with Asset Management for IT. Configure the components before you install the product.

Planning for security

Planning for security includes choosing a security option, deciding which users will work with each application in Asset Management for IT, and optionally which users can work with which configuration items.

Each service management process defines its own *roles*. If you install more process managers, additional roles for those processes will be added.

The roles are based on those defined in the Information Technology Infrastructure Library (ITIL). IBM implements ITIL using IBM Tivoli Unified Process. Refer to the IBM Tivoli Unified Process content for more detailed information on roles and their responsibilities.

You must decide whether to use the roles defined by the service management processes, or define your own.

The roles defined by the processes are implemented as *security groups*. You can assign each user defined to one or more security groups, which enables them to perform the responsibilities assigned to those roles. You can modify the applications that members of each security group can use in the Security Groups application.

Choosing a security option

Asset Management for IT offers one option for managing your users and their memberships in security groups.

When you install Asset Management for IT, you must choose one of three optionschoose the Maximo security option for managing users and groups.

The security option you choose will determine how your system performs *authentication*, which is the validation of a user signing in to Asset Management for IT, and *authorization*, which uses security groups to control which users can work with each application.

Use:

Use Maximo security for authentication and authorization

With this option, a directory server is not required. You create and manage users and groups in the base services Users and Security Groups applications, separately from any corporate user data you might have.

This is the only security option available if you are using WebLogic for your J2EE server.

With this option, you cannot configure single sign-on to launch in context to the Asset Management for IT interface without providing credentials.

Controlling access to configuration items

By default, any authenticated user can work with any configuration item (CI), using any application to which the user's role gives access. If you want, you can control which users can work with selected configuration items. You do this by organizing the configuration items into *access collections*.

Configuring security

You will configure your security environment by creating users and assigning them to security groups, defining the applications that members of each security group can use, and optionally by creating access collections, after you have finished installing Asset Management for IT.

Related tasks

Manually configuring Microsoft Active Directory

Windows You can choose to configure a Microsoft Active Directory resource manually for better use with Tivoli Asset Management for IT.

Planning language support

Language support refers to the languages you plan to support in the product user interface.

IBM Tivoli Asset Management for IT includes language support for languages supported by UTF-8 and UCS-2.

When deployed using Microsoft SQL Server, Asset Management for IT does not support UTF-8. Language support is limited to those supported by the current Windows system code page. Supported language set choices are either all Latin 1 languages and English or one double-byte character set language and English.

Important: If you plan to add language support to Asset Management for IT, you **must** use the Asset Management for IT language pack installation program to define the base language to use **before** you perform post-installation steps described in Chapter 10, "IBM Tivoli Asset Management for IT post installation tasks," on page 113. You can add additional languages at a later date, but the base language must be set either during or directly after the Asset Management for IT installation.

Related tasks

Chapter 7, “Installing IBM Tivoli Asset Management for IT language pack,” on page 91

“Installing language packs with Process Solution Installer” on page 93
The Process Solution Installer guides you through the installation of a process manager product (PMP) or Integration Module. Use the Process Solution Installer to refresh languages to synchronize them with Maximo languages.

Installing process managers using the Process Solution Installation wizard
To install a process solution package into your Asset Management for IT instance, you might use the Process Solution Installer wizard.

System password policy settings

Be familiar with the password policies of systems you are using as part of a Asset Management for IT deployment.

Before deploying Asset Management for IT, be sure you are familiar with the password policies of systems used in the deployment, or you might experience errors during installation.

For example, Microsoft Windows Server 2008 systems have a stricter set of password requirements than previous versions configured by default. If you are not familiar with these stronger password requirements, you might experience an error during the installation of Asset Management for IT when creating users on a Microsoft Windows Server 2008 system.

Password values that you provide during the Asset Management for IT installation should be compliant with the password policies set for the target system.

Go to the sections “Incorrect db2admin password” on page 38 and “Invalid DB2 password value” on page 40 to read about potential problems with system password policy settings while installing Asset Management for IT middleware.

Chapter 3. Preparing to install IBM Tivoli Asset Management for IT

These topics provide information on product media, preinstallation considerations, overview of the installation procedure, and instructions on using the IBM Tivoli Asset Management for IT Launchpad.

DVD layout

Tivoli Asset Management for IT ships on a set of DVDs that contain the prerequisite middleware, Quick Start Guide, and the product code. Alternatively, you can download Asset Management for IT files containing these same images from IBM Passport Advantage®.

The following DVDs contain files for the Asset Management for IT product:

- Tivoli Asset Management for IT Quick Start
- Tivoli Asset Management for IT for Multiplatforms
- Windows Tivoli Middleware Installer Images for Windows Server x86–32
- Windows Tivoli Middleware Installer Images for Windows Server x86–64
- Linux Tivoli Middleware Installer Images for Linux x86–32
- Linux Tivoli Middleware Installer Images for Linux x86–64
- Linux Tivoli Middleware Installer Images for Linux on System z
- AIX Tivoli Middleware Installer Images for AIX® PPC-64
- Solaris Tivoli Middleware Installer Images for Solaris SPARC-64
- HP-UX Tivoli Middleware Installer Images for HP-UX x86–64
- Tivoli Software Knowledge Base Toolkit
- Maximo eCommerce Adapter

Before you begin

This section describes the steps that you must take before you install middleware or Tivoli Asset Management for IT. To perform any of the steps, you must be logged in as a user with administrator privileges on Windows or as root on UNIX.

Attention: Make a copy of the image of the system on which you are planning to install the product. An automated uninstall feature is not supplied with Asset Management for IT. If the installation fails, restore the system to its previous working state using the copy of the disk image prior to attempting the installation again.

Checking port availability

You need to ensure certain ports are available before using the product installation programs.

About this task

You must manually check to see if port 50000 is in use for the system you are using to host DB2. This is the default port value used by DB2. If you intend to use this value, ensure the port is not already assigned before you run the middleware installation program.

1. Open the appropriate port checking utility on the host system.
2. Check the availability of port 50000. If you find that port already assigned, ensure you choose another value for DB2 when prompted by the middleware installation program.

Accessing system directories

Linux Before using the middleware installation directory, you need to assign access permission to particular directories.

Before you begin

Before using the middleware installation directory, you need to assign access permission for the /tmp and /home directories on Linux systems.

About this task

The product installation programs require *read*, *write* and *execute* permissions for the /tmp and /home directories. If one of these directories uses a symbolic link, for example, /products/home, ensure that symbolic link directory also has the proper access.

1. Log into the system as a user with root authority on the system.
2. Enter the following commands:

```
#chmod 777 /tmp
#chmod 777 /home
```

Disabling the firewall

Prior to the installation, disable the firewall for the system to which you are installing Asset Management for IT middleware.

About this task

See the documentation that comes with your Operation System for information on disabling the firewall.

Deleting the TEMP and TMP user environment variables

Windows The existence of the TEMP and TMP user variables can cause errors with the installation of DB2 on a Windows system. Prior to installing DB2, remove these variables for the user ID that performs the installation.

Before you begin

Note: The TEMP and TMP user variables are user environment variables that must be deleted, not system variables.

About this task

To remove the TEMP and TMP user variables on a Windows system, complete the following steps:

1. Access the System Properties dialog by right-clicking the My Computer icon on your desktop and selecting **Properties**.
2. From the System Properties dialog, first select the **Advanced** tab, and then click **Environment Variables**.
3. In the **User variables** section, select **TEMP**, and then click **Delete**. Repeat the process for the TMP variable.
4. Click **OK**.
5. Exit the System Properties dialog by clicking **OK**.

Verifying the required rpm-build package is installed

Linux This procedure describes how to verify that the rpm-build package is installed on Linux. This package must be installed before you install the Tivoli Asset Management for IT middleware. This procedure applies only if you are installing on Linux.

About this task

To verify that the rpm-build package is installed, perform the following steps:

1. Run rpm -qa | grep build command.
2. If the command returns a value like `rpm-build-4.3.3.-18_nonptl`, the rpm-build package is installed. If nothing is returned, install the rpm-build package which is located on disk 3 (of 5) of the Red Hat Enterprise Advanced Server version 4 installation CDs using the rpm tool with the `-i` option.

Setting the ulimit

Linux This section details how to set the ulimit in Linux, which is used to define user system and process resource limits.

About this task

Set the ulimit for the system prior to installing Tivoli Asset Management for IT middleware. To set the ulimit, complete the following steps:

1. From a command line, type ulimit -f unlimited.
2. From a command line, type ulimit -n 8192.

Results

If you set the ulimit in the .profile for root, the ulimit setting will apply to all processes.

Setting the swap size

Linux Tivoli Asset Management for IT can be a resource-intensive application. It is recommended that you configure and tune your system for maximum performance. This section details how to set the size of the swap space used in Linux systems.

About this task

Typically, the swap size set for Linux systems must be equivalent to twice the amount of physical RAM in the computer.

Additional swap space can be made available to the system by:

- increasing the size of the existing swap partition
- creating an additional swap partition
- creating a swap file

What to do next

Refer to the product documentation for your Linux distribution for more information.

Setting shared memory

Linux This section details how to set a minimum shared memory value in Linux before you start to install Asset Management for IT

Before you begin

Set a minimum shared memory value for the system prior to installing the Tivoli Asset Management for IT middleware.

About this task

To set the minimum shared memory value, complete the following steps:

1. From a command line, type `sysctl -w kernel.shmmax` and determine if the value is less than 268,435,456 bytes (256Mb).
2. If you want to increase the value, from a command line, type `sysctl -w kernel.shmmax=268435456`.
3. Update the value in /etc/sysctl.conf.

Enabling remote configuration

If you plan to take advantage of the Tivoli Asset Management for IT installation program feature that automates the configuration of Asset Management for IT middleware, enable a *Remote Execution and Access* (RXA) service for each system on which you intend to install Asset Management for IT middleware.

RXA requires that the target system enable at least one of the protocols supported by RXA, which include rsh, rexec, SSH, and Windows SMB. Before you start the Asset Management for IT installation program, ensure that one of these protocols is running and accepts remote logins using a user name and password configured on the target computer.

- Windows If the remote system is a Windows computer, configure RXA to work over SMB. For Windows computers, you cannot use Cygwin ssh. If Cygwin is present on the Windows computer, the installation will fail.

RXA does not support accessing network drives on the local or remote system.

Preparing UNIX systems for Tivoli Asset Management for IT middleware

UNIX Certain UNIX parameters must be set to specific values to create an environment on the system that can accommodate Asset Management for IT and its associative middleware.

Increasing AIX file size and number of descriptors

AIX To make Tivoli Asset Management for IT function correctly, you need to increase the default number of file descriptors allowed for the root user, and also set the maximum allowable file size to unlimited.

About this task

To increase the allowable file size and number of allowable descriptors for the root user in AIX, complete the following steps:

1. Edit the /etc/security/limits file by opening it in a text editor.
2. Locate the section for the root user, and then make changes to the parameters below using the values listed.

   ```
   root:
           fsize = -1
           nofiles = 8192
   ```

   A value of -1 for the fsize parameter indicates no limit.
3. Save and exit the file. You must log out as root and log back in for these changes to take effect.

What to do next

Verify the settings from a command window by issuing the following command:

```
ulimit -a
```

Output from the ulimit command should be similar to the following:

```
time(seconds)           unlimited
file(blocks)            unlimited
data(kbytes)            2097152
stack(kbytes)           32768
memory(kbytes)          unlimited
coredump(blocks)        2097151
nofiles(descriptors)    8192
```

Increasing AIX paging space

AIX To successfully install and run Tivoli Asset Management for IT, you need to increase the default paging space for the AIX system to a minimum of 4 GB, or, preferably, the total amount of physical memory in the system.

- To determine the current amount of paging space available to the server, issue the following command

  ```
  lsps -a
  ```

  This command will result in output similar to the following:

  ```
  Page Space      Physical Volume      Volume Group      Size          %Used
  hd6             hdisk0               rootvg            5632MB         2
  ```

- To determine the size of a logical partition, issue the following command:

  ```
  lslv hd6
  ```

This command will result in output that will include partition information similar to the following:

```
LPs:                        44
PP SIZE:                    128 megabyte(s)
```

In the example output, there are a total of 44 Logical Partitions that are each 128 Mb in size. This results show a total of 5632 Mb of paging space available to the system.

- In order to add more paging space, you will add more logical partitions to the system. To add more logical partitions, use the following command:

  ```
  chps -s xx yyy
  ```

  Where *xx* is the number of logical partitions to add and *yyy* identifies the logical volume.

  For example,

  ```
  chps -s 10 hd6
  ```

  adds 10 logical partitions to the logical volume hd6, which results in adding 1280 Mb to the paging space.

Enabling asynchronous I/O on AIX

AIX Tivoli Directory Server requires asynchronous I/O be enabled on AIX systems. Without asynchronous I/O, DB2 and Oracle database instances cannot be started successfully. It is an operational requirement, not an installation requirement so this step can be run at any time before full operation of the product.

About this task

You only need to perform this step if the system will host the IBM Tivoli Directory Server.

To turn asynchronous I/O on follow these steps:

1. Log into the system as root.
2. Open a terminal and run the following command:

   ```
   smit chgaio
   ```
3. From the System Management Interface Tool (SMIT) dialog box, change `STATE` to be configured at system restart from defined to `available`, and then click **OK**.
4. Exit SMIT.
5. Run the following command from the command line:

   ```
   smit aio
   ```
6. From the System Management Interface Tool dialog box, select **Configure Defined Asynchronous I/O**, and then click **Enter**.
7. Reboot the system to enable the changes.

Checking for required libraries on Linux

Linux The Tivoli Asset Management for IT middleware installation program requires the `libstdc+.so.5` system library to be present on a Linux system in order to launch the middleware installation program user interface.

About this task

If you do not have this library installed, you will receive an error indicating that theAsset Management for IT middleware installation program is unable to run in graphical mode.

If you receive this error, check the /usr/lib/ directory to determine if you have the `libstdc+.so.5` library installed. This library is included as part of Red Hat Enterprise Linux v4 update 4. If you cannot locate this library on your system, locate the RPM package for your system that contains this library and install the package.

Configuring the JRE in Linux

Linux In some cases, the Tivoli middleware installer will fail on RHEL 5 systems, or other systems with SELinux enabled. In one failure scenario, the middleware installer will fail with an error message stating that the Java Runtime Environment (JRE) could not be found on the system.

About this task

If this is the case, implement one of the following solutions:

- Temporarily disable SELinux by using the setenforce 0 command, run the install, and then re-enable SELinux by using the setenforce 1 command.
- Edit the /etc/selinux/config file and set **SELINUX** to either permissive or disabled. This solution, however, affects the level of security for the entire system.

  In another failure scenario, middleware installer will fail stating that it cannot find the VM. If this is the case, implement one of the following solutions:
- Manually issue the command:

  `chcon -R -t textrel_shlib_t` *`install_dir`*`/jvm/jre`
- Edit the /etc/selinux/config file and set **SELINUX** to either permissive or disabled. This solution, however, affects the level of security for the entire system.

Tivoli Asset Management for IT Launchpad

The Tivoli Asset Management for IT Launchpad serves as a centralized interface for launching a collection of installation programs and product information.

The Launchpad application assists you in choosing which product installation programs to install and indicates the order in which they must be installed.

Note: Use the Launchpad for 32–bit Windows only.

Use the Asset Management for IT Launchpad to:

- Plan the installation (**Installation Planning**) using the installation documentation:
  - Release notes for technical information
  - Quick Start Guide for available features and deployment options
  - Planning installation guides for system requirements and deployment options
- Install software. The Launchpad guides you through the installation to perform the following tasks in the right order:

1. "Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer" on page 30
2. Installing Tivoli Asset Management for IT 7.2 and the appropriate Language Pack
3. "Installing Tivoli Integration Composer on 32-bit Windows using the launchpad" on page 101

- Access the information center.
- Exit the installer.

Starting the Launchpad

All the Tivoli Asset Management for IT components can be installed using the Asset Management for IT Launchpad.

About this task

To start the Asset Management for IT Launchpad, complete the following steps:

1. Log on to an account with system administration privileges on the computer where Asset Management for IT components are to be installed.
2. Start the Launchpad from the root directory of the product DVD:
   - Windows: Start the Launchpad by using the launchpad.exe program if the Windows autorun feature is disabled.
   - Linux: Start the Launchpad from the root directory by using the launchpad.sh program.

     For example,

     ```
     ./media/cdrecorder/launchpad.sh
     ```

     Running the Launchpad from the root directory avoids complications that would arise if you ran it inside the mounted directory and you wanted to swap disks. If you changed directory to the mounted DVD and launched the Launchpad from that directory, at a certain point in the deployment process you would need to swap to another DVD, but you would not be able to because Launchpad was still running from the directory on DVD you have mounted. You would not be able to unmount the disk without terminating the Launchpad.
   - Solaris: Sun Solaris: Start the Launchpad from the root directory by using the launchpad.sh program.

What to do next

For more information about installation and configuration parameters you might encounter while installing Asset Management for IT, refer to "Planning for Tivoli Asset Management for IT middleware worksheet" on page 6 and "Planning for Tivoli Asset Management for IT worksheet" on page 11.

Setting up JMS queues for integration framework

After you installed Oracle WebLogic Server, you need to configure it to work properly with integration framework.

1. From the WebLogic Server Administration Console, click **Lock & Edit** in the Change Center section of the console in order to set the server to edit mode.
2. Go to the **Services** → **Messaging** → **JMS Servers**.

3. In the Create a New JMS Server panel, type in the `mxintcqinserver` JMS name and click **Create A New Store**.
4. From the **Type** drop-down list, select **File Store**, and then click **Next**.
5. In the File Store Properties panel, type in `mxintcqinfile` in the **Name** field, accept **AdminServer** in the drop-down list, and enter the `jmsstore` installation directory file path, and then click **Finish**. For example, *weblogic_install_dir*/jmsstore. If the directory does not exist, you need to create it.

   If your file store has been created, the following message is displayed: `File store created successfully.`
6. Go back to the Create a New JMS Server panel, select the file store you have created using **Persistent Store** drop-down list.
7. Select the target server from the drop-down list and click **Finish**.
8. Repeat steps from 3 do 7 to create another, the second JMS Server. Enter the following values:

Option	Description
Parameter field	Value
JMS Server Name	`mxintsqinserver`
File Store Name	`mxintsqinfile`
File Store Target	the same as defined in step 5
File Store Directory	the same as defined in step 5

9. Repeat steps from 3 do 7 to create the third JMS Server. Enter the following values:

Option	Description
Parameter field	Value
JMS Server Name	`mxintsqoutserver`
File Store Name	`mxintsqoutfile`
File Store Target	the same as defined in step 5
File Store Directory	the same as defined in step 5

10. View the summary in the Summary of JMS Servers window. You have your JMS Servers displayed with their names, persistent stores, and targets.

    In steps 11 to 18 on page 26, you will create new JMS Modules.
11. Go to the **Services** → **Messaging** → **JMS Modules** and click **New**. The Create JMS System Module window is displayed.
12. In the **Name** filed, type in `meajmsmodule` and click **Next**.
13. Check the **AdminServer** check box, and click **Next**.
14. Check the **Would you like to add resources to this JMS system module?** check box, and click **Finish**. Now you are ready to add JMS Queues and a Connection Factory.
15. Click **New** in the Resources window.
16. In the Create a New JMS System Module Resource window, mark the **Queue** radio button, and click **Next**.
17. Enter the following values in the **Name** and **JNDI Name** fields:

Option	Description
Parameter field	Value
Name	`cqin`
JNDI Name	`jms/maximo/int/queues/cqin`

18. In the Create a New JMS System Module Resource window, mark the **mxintcqinserver** radio button, and click **Finish**.

    Note: If you do not see the target `mxintcqinserver`, click on **Create a New Subdeployment** , enter `mxintcqinserver` for **Subdeployment Name** in the next screen, and click **OK**.
19. If you want to add a second JMS Queue, repeat steps 15 on page 25 to 18 using the following values:

Option	Description
Parameter field	Value
Queue Name	`sqin`
JNDI Name	`jms/maximo/int/queues/sqin`
Target	`mxintsqinserver`

20. If you want to add a third JMS Queue, repeat steps 15 on page 25 to 18 using the following values:

Option	Description
Parameter field	Value
Queue Name	`sqout`
JNDI Name	`jms/maximo/int/queues/sqout`
Target	`mxintsqoutserver`

21. Click **New** to add a new resource in the Create a New JMS System Module Resource.
22. Select **Connection Factory** radio button and click **Next**.
23. Enter the following names and click **Next**:

Option	Description
Parameter field	Value
Name	`meajmsconfact`
JNDI Name	`jms/maximo/int/cf/intcf`

24. Click **Finish**. The Settings for meajmsmodule summary window is displayed.
25. In the **Summary of Resources** table, mark the **meajmsconfact** check box.
26. Go to **Configuration** → **Client** → **Maximum Messages per Session** and type in `-1`, and click **Save**.
27. Go to **Configuration** → **Transactions** → **XA Connection Factory Enabled**, check this check box, and click **Save**.
28. Click the **Activate Changes** button (green button on the left pane).

What to do next

Now you can start the integration framework cron task.

Chapter 4. Installing IBM Tivoli Asset Management for IT middleware

Before you can install IBM Tivoli Asset Management for IT, there are several Asset Management for IT middleware products that must be deployed. The middleware installer provides an interface for installing and deploying Asset Management for IT middleware in a reliable and repeatable fashion.

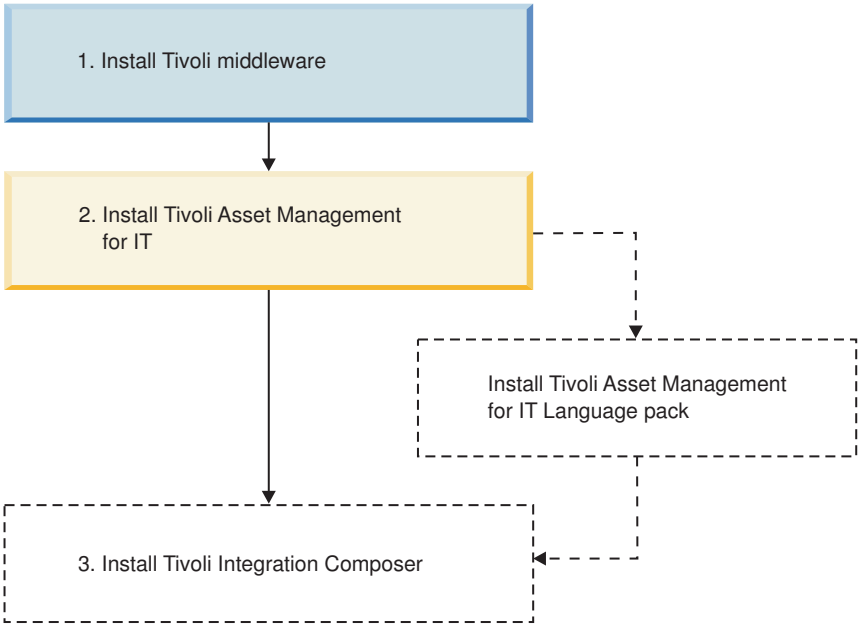


Figure 2. Asset Management for IT Installation flow - Tivoli middleware installation

The middleware installer records choices you make about your Asset Management for IT deployment and configuration parameters associated with those choices, and then installs and deploys the middleware based upon the information you entered.

The middleware installer installs and deploys the following software :(compare with Figure 1 on page 1):

Database server

Asset Management for IT uses the Maximo database to store details about the attributes and history of each configuration item and the details about the relationships between configuration items.

You can manually install a new instance of IBM DB2 9.5, or use a preexisting instance of IBM DB2 8.2 or 9.1, or install and configure Oracle or Microsoft SQL Server for your Asset Management for IT deployment.

Directory server

The directory server is used to secure the Asset Management for IT J2EE application.

You will have the choice of installing a new instance of IBM Tivoli Directory Server 6.2, or using a preexisting Directory Server or Microsoft

Active Directory server. If you choose to install a new version of Directory Server, you must choose to install a new IBM DB2 instance or reuse an existing DB2 server. If you choose to use Microsoft Active Directory Server for your directory server, you will have to install and configure it separately.

J2EE server

The J2EE server is the application server used to serve and manage the Asset Management for IT application.

The WebLogic Server and Microsoft Active Directory Server, if you choose to use it, will have to be installed and configured separately.

Microsoft Active Directory Server can be configured to secure the J2EE server deployment.

Process ID

Every time you use Tivoli middleware installer to install or uninstall middleware products, a *process ID* is generated.

A process ID:

- Appears on the file system in various places related to logs and generated files, such as file names, directory names, and log messages.
- It is used to group logs and other generated files that are related to the same invocation of the middleware installer.
- It also separates logs and other generated files that are related to different invocations of the middleware installer.

The process ID is a string of the format
`[operation_MMdd_HH.mm]`,

where

operation
is a string indicating the operation being performed, such as “INSTALL” or “UNINSTALL”,

MM
is a two-digit number (1-12) indicating the current month,

dd is a two-digit number (1-31) indicating the current day in the month,

HH
is a two-digit number (0-23) indicating the current hour,

mm
is a two-digit number (0-59) indicating the current minute.

Here are some examples of process ID values:

- `[INSTALL_0924_15.45]`
  An installation started on September 24 at 3:45pm
- `[UNINSTALL_1216_09.59]`
  An uninstallation started on December 16 at 9:59am

Tivoli middleware installer workspace

The Tivoli middleware installer is designed to record the options you select during install in a directory referred to as the *workspace*, and then configure the components selected as a single deployed application. Once a plan has been deployed, the middleware installer cannot subsequently deploy additional features and products onto the computer at a later time.

The existing plan must first be completely undeployed through the middleware installer before a different set of features and products can be deployed.

The composition and details of the deployment, as well as any logs generated by the middleware installer process are located in the workspace.

By default, the middleware installer workspace is defined as:

Windows **Windows:**
C:\ibm\tivoli\mwi\workspace

UNIX **UNIX:**
/ibm/tivoli/mwi/workspace

The workspace can be defined on a shared resource that is made available to all the systems that will run the middleware installer. Locating the workspace on a shared resource avoids the need to copy files such as the topology file manually from one computer to another.

The workspace contains the following items:

Deployment Plan
The deployment plan is a collection of installation steps, configuration parameters for those steps, and target computer information. It is generated through the middleware installer and it resides in the workspace directory.

When deployment steps are changed, the existing deployment plan is deleted and replaced with the new deployment plan.

The deployment plan configuration files contain information on the deployment plan itself. Whenever a deployment plan is modified, which includes reconfiguring existing deployment choices, the deployment plan configuration files will be deleted and regenerated when the deployment plan is redeployed.

Topology File
The topology file is a properties file that describes the configuration parameters of the Asset Management for IT middleware deployment. This file is created and then updated after every deployment or undeployment. If you have not defined a workspace that is centrally located and accessible to all the systems that will be receiving Asset Management for IT middleware, this file will have to be copied to the workspace of each computer where Asset Management for IT middleware is being deployed. The contents of this file can be used by the Asset Management for IT installation program to populate its panels with meaningful default values.

This file is saved in *workspace_dir*/topology.xml.

Logs Log files that contain information on the deployment can be found in the

workspace directory. In addition, log files native to the Asset Management for IT middleware itself are also contained in this directory.

Tivoli Asset Management for IT middleware deployment plan overview

The deployment plan resides in the workspace directory and is generated from deployment choices selected in the middleware installer. The plan is a series of deployment steps and configuration parameters.

Each step is responsible for installing and uninstalling one portion of the middleware. When deployment choices are changed, the existing deployment plan is deleted and replaced with the new deployment plan.

Once the deployment plan has been generated using the information you entered in the middleware installer, you have the option to have the middleware installer execute it. This method of executing the deployment plan is recommended in most instances.

Options for invoking the deployment plan

Once the deployment plan has been generated using the information you entered in the Tivoli middleware installer, you have several options for executing it.

Have the Tivoli middleware installer execute the deployment plan after it has been generated

This is the most common method of implementing the deployment plan. Create the plan using the middleware installer and then have it execute the plan by installing and configuring the middleware selected. This option also includes configuring existing instances of middleware present in your environment that will be used with Tivoli Asset Management for IT.

This method of executing the deployment plan is recommended in most instances.

Have the Tivoli middleware installer create the deployment plan and then componentize and distribute it

The deployment plan consists of a collection of XML files that can be used to deploy middleware either through the middleware installer or by Apache Ant. Ant is an open source software tool used to automate the software build process. Ant uses XML to describe build tasks and dependencies.

You need to have Ant 1.6.5 and the Java 1.5 JRE installed in order to execute a deployment plan outside of the middleware installer.

This method of executing the deployment plan should be reserved for advanced users that have a need to modify deployment plan parameters that are not configurable through the middleware installer.

Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer

This procedure explains how to use the middleware installer to create a deployment plan that is responsible for installing and configuring prerequisite middleware products. The instructions provided are for a typical installation using default values, and assume you are using the middleware installer to install a complete set of middleware for use with Asset Management for IT on a single computer.

Before you begin

If you intend to deploy middleware products across an array of computers, you will have to run the middleware installer on each computer, choosing which piece of middleware to install on that each particular computer. In this case, you will encounter a subset of the panels included in these instructions that are relevant to the middleware you have chosen to install on a computer.

The middleware installer can also configure existing middleware products. If you intend to reuse existing middleware products for your Asset Management for IT deployment, refer to "Reusing middleware" on page 43. Refer to the Asset Management for IT planning information to learn about using custom values during a custom installation.

In some cases, fields and labels displayed within the middleware installer are not correctly displayed on the panel when installing through remote sessions. It is recommended that you use the middleware installer locally on the system that will host the middleware. If you do experience this phenomenon, first minimize and then maximize the install wizard to force it to redisplay the panel.

Avoid using localhost for host name values in the installation program. Specify the actual fully-qualified host name of the system on which you are installing.

- Linux For Linux systems, ensure that the command `hostname -f` returns a fully-qualified host name. If it does not, consult the appropriate documentation for your operating system to ensure that the host name command returns a fully qualified host name.
- Windows For Windows systems, ensure a Windows Primary DNS suffix is defined.

To verify a fully qualified host name, complete the following steps:

1. On the desktop, right-click **My Computer**.
2. Select **Properties**. The System Properties panel is displayed.
3. From the Computer Name tab, click **Change**. The Computer Name Changes panel is displayed.
4. Enter your fully qualified host name in the **Computer name** field, and then click **More**. The DNS Suffix and NetBIOS Computer Name panel is displayed.
5. Verify that the Primary DNS suffix field displays a domain name, and then click **OK**.
6. From the Computer Name Changes panel, click **OK**.
7. Click **Apply** and close the System Properties panel.

Important: When entering LDAP values for Asset Management for IT installation panel fields, entries in LDIF files, or values you enter directly into an directory instance using the directory server's own tools, be aware of the product-specific syntax rules for using special characters in an LDAP string. In most cases, special characters must be preceded by an escape character in order to make it readable by the directory server. Failing to escape special characters contained in an LDAP string used with Asset Management for IT will result in product errors.

Many directory server products consider a blank space as a special character that is part of the LDAP string. Therefore, if you mistakenly enter an LDAP string that contains a blank, at the end of a field value, for example, and you do not precede the blank character with an escape character, you will encounter Asset

Management for IT errors that will be difficult to troubleshoot. Refer to the product documentation for your directory server for more information on special characters in LDAP strings.

About this task

To install the prerequisite middleware products for Asset Management for IT, follow these steps:

1. Login as a user with administrative authority.
2. Launch the middleware installer from the Launchpad.
   a. Start the Launchpad:

      Windows **For Windows**
      On the DVD titled "Tivoli Asset Management for IT 7.2", navigate to the root directory of the product disc or the downloaded installation image, and run the command: launchpad.exe.

      UNIX **For UNIX operating systems**
      On the DVD titled "Tivoli Asset Management for IT 7.2", navigate to the root directory of the product disc or the downloaded installation image, and run the following command: launchpad.sh.

   b. In the Launchpad navigation pane, click **Install the Product**.
   c. Click the **Middleware** link under **Install the middleware**.
3. Select a language for the installation and click **OK**.
4. From the Welcome panel, click **Next**. The middleware installer license agreement window is displayed. Read the license information and select **I accept both the IBM and the non-IBM terms** if you agree with the terms. Click **Next**.
5. From the Choose Workspace panel, specify the directory you will use as the middleware installer workspace, and then click **Next**.

   The default location for the workspace will be the last workspace location used by this user, as specified in the middleware user preferences node. If no previous workspace location exists in the middleware user preferences node, then the default location for the workspace will be

   - Windows Windows: C:\ibm\tivoli\mwi\workspace
   - UNIX UNIX: /ibm/tivoli/mwi/workspace

   If the selected directory does not exist, it will be created.

   After deployment, the middleware installer also generates a topology file in this directory. This topology file can be manually copied by the user to the workspace of the next computer in the topology, so that information on the deployment of middleware will be available to the middleware installer when it is executed on the next computer.
6. From the Install IBM Autonomic Deployment Engine panel, click **Next** to install the IBM Autonomic Deployment Engine.
7. From the Deployment Choices panel, select the features to deploy on this computer, and then click **Next**.

   Choices include:

   Database Server
   The Database Server is used to store details about the attributes and history of each configuration item and the details about the relationships among configuration items.

Directory Server
The directory server is used to secure the J2EE Server. This feature should be selected to either install a new directory server locally or reuse a local directory server.

J2EE Server
The J2EE server is the application server used to serve and manage the application.

The WebLogic Server needs to be installed manually; it cannot be installed with the middleware installer.

Secure the J2EE Server using the Directory Server.
This option allows you to use a directory server to secure the J2EE server. By default this option is selected. It must remain selected in order for you to enable the Directory Server option. If you select to opt out of maintaining J2EE server through the use of the directory server, you will be unable to install the directory server through the Asset Management for IT middleware installation program.

8. From the Deployment Plan Summary window, click **Next** to configure the parameters displayed. The deployment plan is generated and you will be provided details about the plan.
9. In the Configuration Parameters window, the default discovered host name is displayed. You might want to override it, and then click **Next**.
10. From the Credentials panel, enter the `Username` and `Password` you will use to deploy the plan with, and then click **Next**. You can choose to enable the option of using the same password as the default user password value in all panels of the middleware installer by enabling the **Use this password as the value for all subsequent passwords** option at the top of this panel.
11. Enter the following configuration parameters for IBM DB2 Enterprise Server Edition 9.5 and then click **Next**.

Install location
Enter the location to install DB2 (*db2_install_dir*).

Windows **Windows :**
Default is C:\Program Files\IBM\SQLLIB

Linux **Linux :**
Default is /opt/IBM/db2/V9.5

DB2 Administration Server username
Enter the DB2 administrative account name.

Windows **Windows :**
Default is `db2admin`

Linux **Linux :**
Default is `dasusr1`

DB2 Administration Server password
Enter the password for the DB2 administrative account. If you marked in Step 10 to use the password in all subsequent windows, this password will be used.

Linux AIX **Fenced user**
Enter a system user ID that can be used as a DB2 fenced user account. Default fenced user is `db2fenc1`.

12. Enter the following configuration parameters for **the Default Database Instance** and click **Next**:

    Default Instance name
    Enter the name of the Asset Management for IT database instance.

    Default for is `DB2`.

    Default Instance Port
    Enter the port that the Asset Management for IT database instance will use.

    Default for all platforms is *50000*.

    Default Instance Username
    Enter the user name for the Asset Management for IT database instance.

    Windows **Windows :**
    Default is `db2admin`

    Linux **Linux :**
    Default is `ctginst1`

    Default Instance user password
    Enter the password for the Asset Management for IT database instance user name. If you marked in Step 10 on page 33 to use the password in all subsequent windows, this password will be used.

13. Enter the following configuration parameters for the Asset Management for IT **Database Instance**, and then click **Next**.

    Instance name
    Enter the name of the Asset Management for IT database instance.

    Default for all platforms is `ctginst1`.

    Port Enter the port that the Asset Management for IT database instance will use.

    Default for all platforms is *50005*.

    Instance username
    Enter the user name for the Asset Management for IT database instance.

    Windows **Windows :**
    Default is `db2admin`

    Linux **Linux :**
    Default is `ctginst1`

    Instance user password
    Enter the password for the Asset Management for IT database instance user name. If you marked in Step 10 on page 33 to use the password in all subsequent windows, this password will be used.

14. Enter information on the DB2 user groups (**DB2 Enterprise Server Edition**).

    DB2 administrators group
    Enter the name of the DB2 administrators group.

    Windows **Windows :**
    Default is `DB2ADMNS`

Linux **Linux :**
Default is `db2grp1`

Windows **DB2 users group**
Enter the name of the DB2 users group.

Default is `DB2USERS`

15. Enter the following configuration parameters for **IBM Tivoli Directory Server Version 6.2**, and then click **Next**.

Install location
Enter the location to install Directory Server.

Windows **Windows :**
Default is C:\Program Files\IBM\LDAP\V6.2

Linux **Linux :**
Default is /opt/IBM/ldap/V6.2

Administrator distinguished name
Enter the distinguished name of the Directory Server administrator.

Default for all platforms is `cn=root`.

Administrator password
Enter the password for the Directory Server administrator.

16. Enter the following configuration parameters for **IBM Tivoli Directory Server Version 6.2**, and then click **Next**.

Organizational unit
Enter the name of the Directory Server organizational unit to use with Asset Management for IT.

Default for all platforms is `ou=SWG`.

Organization and country suffix
Enter the name of the Directory Server organization and country suffix to use with Asset Management for IT.

Default for all platforms is `o=IBM,c=US`.

Directory server port
Enter the port number of the Directory Server.

Default for all platforms is *389*.

Directory server secure port
Enter the secure port number of the Directory Server.

Default for all platforms is *636*.

Administration port
Enter the administration port number of the Directory Server.

Default for all platforms is *3538*.

Administration secure port
Enter the secure administration port number of the Directory Server.

Default for all platforms is *3539*.

17. Enter the following configuration parameters for **IBM Tivoli Directory Server Database Instance**, and then click **Next**.

Database name
Enter the name of the DB2 database you are using to hold Directory Server data.

Default for all platforms is `security`.

Instance name
Enter the name of the Directory Server database instance.

Default for all platforms is `idsccmdb`.

Port Enter the port number used by the Directory Server database instance.

Default for all platforms is *50006*.

Instance user password
Enter the password for the instance user ID.

18. Enter the following configuration parameters for **IBM Rational Agent Controller Version 7.0.3.3**, and then click **Next**.

    Install location
    Enter the location to install Agent Controller.

    Windows **Windows :**
    Default is C:\Program Files\IBM\AgentController

    Linux **Linux :**
    Default is /opt/IBM/AgentController

    AIX **AIX :**
    Default is /opt/IBM/AgentController

19. Specify the location of the Asset Management for IT middleware images, and then click **Next**.

    Copy the middleware install images from the source media to a specified directory
    Select this option to copy the Asset Management for IT middleware images from the product media to a directory that you will specify.

    Specify a directory containing all the required middleware install images
    Select this option if you intend to specify a file system directory that already contains all of the Asset Management for IT middleware installation images.

    - If you selected the option to copy install images from the source media, specify the source and destination directories, and then click **Next**.
    - If you selected the option to specify a directory that already contained the middleware images, specify that directory, and then click **Next**.

    Note: Make sure you specified all the required files. If you did not, an error message is displayed.

20. Specify a directory to use for middleware installer temporary files and extracted middleware installation images, and then click **Next**.
21. From the Deployment Plan Operation panel, select **Deploy the plan**, and then click **Next**. You can also choose to make changes to the deployment plan or parameters you have previously configured from this panel.
22. From the Deployment Plan and Parameter Configuration summary panel, review the contents of the summary, and then click **Deploy** to initiate the installation and configuration of the middleware you selected. The installation might take up to 2 hours.

23. Once the deployment completes successfully, click **Finish** to exit. All the installed components are displayed in the deployment summary window.

Tivoli middleware installer logs

Tivoli middleware installer log files are located in the workspace directory (*workspace_dir*) that was defined in the middleware installer. Compare the different types of log files described in this section.

User interface logs

The logs generated by the middleware installer user interface are located in the workspace directory.

The mwi.log file is the high-level log file that was generated by the most recent invocation of the middleware installer. If an error occurs, examine this log file first. An entry in this log file might direct you to a lower-level log file.

Log files named mwi.log*X*, where *X* is a number, are copies of the mwi.log file from earlier invocations of the middleware installer So, for example, mwi.log0 is produced after the first invocation of the middleware installer, mwi.log1 is produced after the second invocation of the middleware installer, and so on.

Logs for steps run by the user interface

In addition to collecting input from the user, the user interface of the middleware installer also performs several system checks. Examples of system checks run by the user interface runs include:

- dependency checking to ensure the operating system meets the deployment requirements
- inventorying the software on the system to locate existing instances of middleware products deployed by the middleware installer
- checking the available disk space to ensure there is enough for the deployment

Each of these checks is produced in the form of a step so that it can also be run as part of the deployment plan. When the user interface runs a step, it copies the step into a subdirectory of the workspace directory. The log files generated by a step are located in the same subdirectory and follow the same pattern as a step that is run as part of the deployment plan.

Logs for the deployment plan

The deployment plan is located in the directory *workspace_dir*/*host_name*/deploymentPlan, where host name is the host name of the current system. Each time the deployment plan is used to install or uninstall middleware products, a process ID is assigned and log files are generated.

The log files for the deployment plan are located in the subdirectory logs/*process_ID*. The primary log file for the deployment plan is DeploymentPlan.log, a high-level log file that lists the steps invoked as part of the deployment plan.

Logs for the computer plan

The computer plan is located in the directory *workspace_dir*/*host_name*/deploymentPlan/computerPlan_*host_name*. The log files for the computer plan are located in the logs subdirectory. The primary log files for the computer plan are named computerPlan_*host_name_process_ID*. These log files contain the output generated by ANT when running the computer plan ANT script.

Logs for steps in the deployment plan

Each step in the deployment plan is located in a directory named *workspace_dir*/*host_name*/deploymentPlan/MachinePlan_*host_name*/*step_num_step_ID*, where *step_num* is the sequence number of this step in install processing order of the deployment plan and *step_ID* identifies the step. The log files for the step are located in the logs subdirectory.

Some steps might provide a message log file named *step_ID_process_ID*.message, which contains a few entries that summarize the result of invoking the step. All steps will provide a trace log file named *step_ID_process_ID*.log, which contains many entries, usually including information about the input parameters and the substeps invoked.

Logs for substeps

Each step contains one or more substeps. The substeps perform the actual install, uninstall and checking work for the middleware installer.

Each substep is located in the directory *workspace_dir*/*hostname*/deploymentPlan/MachinePlan_*host_name*/*step_num_step_ID*/*operation*/*substep_num_substep_ID*, where operation is the ANT target in the step ANT script that invokes this substep.

- *substep_num* is the sequence number of this substep in the processing order of the step
- *substep_ID* identifies the substep

Typical values for operation are install, uninstall, and check.

The log files for the substep are usually located in a subdirectory named *process_ID*/logs.

Log files generated by the native middleware installation programs will also be kept here.

Incorrect db2admin password

If you encounter error `CTGIN9042E Errors were encountered during the execution of the step DB2 Enterprise Server Edition Version 9.1.4.` through the normal use of the middleware installation program, it might be related to the fact that there is an existing user named db2admin on the system, but with a different password than the one entered in the middleware installation program.

Check the db2_91_inst.log file for an error similar to the following:

```
ERROR:The password specified is invalid. Enter a valid password.
```

The db2_91_inst.log file is located at: *Workspace**computer_name*\deploymentPlan\MachinePlan_*computer_shortname*\00004_DB2_9.1\install\01_BASE\[INSTALL_*processing.req.id*]/logs/ db2_91_inst.log

So, for example, if the workspace is located at: C:\ibm\tivoli\workspace, the machine name is mymachine, and the processing.req.id is created as a date_timestamp, then the db2_91_inst.log file would be located in:C:\ibm\tivoli\mwi\workspace\mymachine.ibm.com\deploymentPlan\MachinePlan_mymachine\00004_DB2_9.1\install\01_BASE\[INSTALL_0424_09.32]\logs

Check the de_processreq.log file for an error similar to the following:

```
<errorMessages>
    <errorMessage>[com.ibm.ac.si.ap.action.ExternalCommandActionException:
ACUOSI0050E External command action failed with return code 87. Invocation
```

```
string: [C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\1/DB2-ESE_9.1.0/ESE/setup.exe,
/f, /l, C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\1\[INSTALL_0424_09.32]/db2_91_inst.log,
/u, C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\1\[INSTALL_0424_09.32]/
    Decrypted_ResponseFile.txt],
com.ibm.ac.common.hosts.CreationFailedException: : ]</errorMessage>
    <errorMessage>[com.ibm.ac.common.hosts.CreationFailedException: : ]
    </errorMessage>
</errorMessages>
    <actionErrorEvents>
      <actionErrorEvent actionID="InstallProduct" actionName="externalCommand">
       ACUCME1100E
      </actionErrorEvent>
    </actionErrorEvents>
```

The de_processreq.log file is located at:*Workspace**computer_name*\deploymentPlan\MachinePlan_*computer_shortname*\00004_DB2_9.1\install\01_BASE\[INSTALL_*processing.req.id*]/logs/ de_processreq.log

So, for example, if the workspace is located at: C:\ibm\tivoli\workspace, the machine name is mymachine, and the *processing.req.id* is created as a `date_timestamp`, then the de_processreq.log file would be located in: C:\ibm\tivoli\mwi\workspace\mymachine.ibm.com\deploymentPlan\MachinePlan_mymachine\00004_DB2_9.1\install\01_BASE\[INSTALL_0424_09.32]\logs

These errors indicate that the existing system user db2admin has different password than the one entered in the middleware installation program.

To resolve this issue, complete the following steps:

1. If you have not done so, click **Finish** to exit out of the of the middleware installation program install wizard.
2. Resolve the issue using one of the following methods:
   - If you are the Administrator for that machine/user and if you know the password for the user db2admin you can use the same password for the middleware installation program installation.
   - You can delete the user db2admin and restart the middleware installation program .
   - You can set or change the password for existing DB2 user db2admin.

     To set the password follow these steps

     a. Right click the My Computer icon and select **Manage**.
     b. From the Computer Management console, select Local Users and Groups in System Tools.
     c. Expand Local Users and Groups and then select **Users**
     d. Right-click the db2admin user and then click **Set password**.
     e. Enter the password, confirm it, and then click **OK**
     f. Click **OK** once again.
3. Navigate to the directory containing the middleware installation program DVD image and restart the middleware installation program.
4. Select **Restart the Plan** and click **Next**.
5. Specify the directory for the middleware install images and click **Next**.
6. Specify the temporary directory and click **Next**.
7. After disk space checks are completed, click **Deploy** to start the install.
8. After install completes click **Finish** to exit the wizard.

Invalid DB2 password value

While installing the middleware, you might encounter a problem with the DB2 password that is not compliant with the password policy of the system.

If you encounter the following error while using the middleware installation program:

```
CTGIN9042E: Errors were encountered during the execution of the step DB2
Enterprise Server Edition Version 9.1
```

it could be attributed to the use of a password value entered for the DB2 user in the middleware installation program that is incompatible with the password policy of the system.

Check the db2_91_inst.log file for an error similar to the following:

```
1: ERROR:The installation program has been unable to create the user
"db2admin" on computer "mymachine" because the password specified is too short.

1: ERROR:The response file specified "C:\WINNT\TEMP\2\_INSTA~1.18_/DECRYP~1.TXT"
is not valid.
```

The db2_91_inst.log file is located at: <Workspace>\<machine name>\deploymentPlan\MachinePlan_<machine shortname>\00004_DB2_9.1\install\01_BASE\[INSTALL_<processing.req.id>]/logs/ db2_91_inst.log

So, for example, if the workspace is located at: C:\ibm\tivoli\workspace, the machine name is mymachine, and the processing.req.id is created as a date_timestamp, then the db2_91_inst.log would be located in:C:\ibm\tivoli\mwi\workspace\mymachine.ibm.com\deploymentPlan\MachinePlan_mymachine\00004_DB2_9.1\install\01_BASE\[INSTALL_0424_09.32]\logs.

Also check the de_processreq.log file for an error similar to the following:

```
<errorMessages>
    <errorMessage>[com.ibm.ac.si.ap.action.ExternalCommandActionException:
       ACUOSI0050E External command action failed with return code 87.
       Invocation string: [C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\1/DB2-ESE_9.1.0/
       ESE/setup.exe, /f, /l, C:\DOCUME~1\ADMINI~1\LOCALS~1\Temp\1\
       [INSTALL_0424_09.32]/db2_91_inst.log, /u, C:\DOCUME~1\ADMINI~1\LOCALS~1\
       Temp\1\[INSTALL_0424_09.32]/Decrypted_ResponseFile.txt],
       com.ibm.ac.common.hosts.CreationFailedException: : ]</errorMessage>
    <errorMessage>[com.ibm.ac.common.hosts.CreationFailedException: : ]
   </errorMessage>
</errorMessages>
    <actionErrorEvents>
       <actionErrorEvent actionID="InstallProduct"
      actionName="externalCommand">ACUCME1100E
       </actionErrorEvent>
    </actionErrorEvents>
```

The de_processreq.log file is located at: *Workspace**computer_name*\deploymentPlan\MachinePlan_*computer_shortname*\00004_DB2_9.1\install\01_BASE\[INSTALL_*processing.req.id*]/logs/ de_processreq.log.

So, for example, if the workspace is located at: C:\ibm\tivoli\workspace, the computer name is *mymachine*, and the *processing.req.id* is created as a `date_timestamp`, then the de_processreq.log would be located in: C:\ibm\tivoli\mwi\workspace\mymachine.ibm.com\deploymentPlan\MachinePlan_mymachine\00004_DB2_9.1\install\01_BASE\[INSTALL_0424_09.32]\logs.

This would indicate that the password provided for the DB2 user db2admin in the middleware installation program is not supported by the policy of the operating system.

To resolve this issue, complete the following steps:

1. If you have not done so, click **Finish** to exit out of the of the middleware installation program install wizard.
2. Check the system rules defined for passwords by navigating to **Start** → **Control Panel** → **Administrative Tools** → **Local Security Policy** → **Security Settings** → **Account Policies** → **Password Policy**.
3. Restart the middleware installation program, by running the launchpad.[exe|sh] command.
4. Proceed through the panels until you reach the option to select **Undeploy the Plan** and then click **Finish** to exit the wizard.
5. Restart the middleware installation program.
6. Select **Edit the Configuration parameters**.
7. Enter a valid password for the DB2 user based upon the password policy rules you observed earlier.
8. Specify the directory for the middleware install images and click **Next**.
9. Specify the temporary directory and click **Next**.
10. After disk space checks are completed, click **Deploy** to start the install.
11. After install completes, click **Finish** to exit the wizard.

Starting IBM Tivoli Asset Management for IT middleware on Windows

Windows This procedure describes how to start middleware on Windows, should you need to restart any middleware services.

About this task

To properly start middleware products on Windows, perform the following steps:

1. Log in as a user with Administrative permissions.
2. Start servers by executing the following scripts in the order in which they are listed:

   Start ctginst1

   a. Click **Start**, and select **Run**.
   b. Type `services.msc`, and click **OK**.
   c. Select **DB2 - DB2COPY1 - CTGINST1-0**, and click **Start the service**.

   Alternatively, you can use the `db2start` command from a command line to start `CTGINST1`.

   Start ITDS Admin Daemon

   a. Click **Start**, and select **Run**.
   b. Type `services.msc`, and click **OK**.
   c. Select **IBM Tivoli Directory Admin Daemon V6.2 - idsccmdb** , and click **Start the service**.

   Alternatively, you can use the following command from the command line to start the ITDS admin daemon:

   ```
   idsdiradm -I idsccmdb
   ```

Start the ITDS instance:

a. Click **Start**, and select **Run**.

b. Type `services.msc`, and click **OK**.

c. Select **IBM Tivoli Directory Server Instance V6.2 - idsccmdb**, and click **Start the service**.

Alternatively, you can use the following command from the command line to start the ITDS instance:

```
idsslapd -I idsccmdb
```

Important: The Directory Server instance must remain as a manual startup type. It must be started manually in order to synchronize correctly with the database in the context of Asset Management for IT.

Start HTTP Server and webserver1

a. Click **Start** and select **Run**

b. Type `services.msc`, and click **OK**.

c. Select **IBM HTTP Server 6.1**, and click **Start the service**.

Alternatively, you can type `apache` from the command line to start the HTTP Server .

Start Domain Manager

was_install_dir\profiles\ctgDmgr01\bin\startManager.bat

Start Node

was_install_dir\profiles\ctgAppSvr01\bin\startNode.bat

Start MXServer

was_install_dir\profiles\ctgAppSrv01\bin\startServer.bat MXServer

Starting IBM Tivoli Asset Management for IT middleware on UNIX

UNIX This procedure describes how to start middleware on Linux and UNIX platforms, should you need to restart any middleware services.

About this task

To properly start middleware products on Linux and UNIX systems, perform the following steps:

1. Log in as root.
2. Start servers by executing the following scripts in the order in which they are listed:

Start `ctginst1` instance

```
su - ctginst1 -c db2start
```

Start ITDS Admin Daemon

itds_install_dir/sbin/idsdiradm -I idsccmdb

Start ITDS server daemon: ibmslapd

itds_install_dir/sbin/ibmslapd -I idsccmdb

Reusing middleware

If you intend to reuse existing middleware servers with the Asset Management for IT instance, they must be configured before running the Asset Management for IT installation program. This section contains information about configuring existing DB2 and IBM Tivoli Directory Server servers for use with Asset Management for IT using the middleware installer.

You cannot use the middleware installer to configure existing Oracle, Microsoft SQL Server, or Microsoft Active Directory servers. Refer to Chapter 6, "Installing IBM Tivoli Asset Management for IT with manual middleware configuration," on page 65 for more information about those servers. Information found in this section also applies if you decide that you want to reuse existing middleware servers, but you want to configure them to work with Asset Management for IT manually instead of allowing the Asset Management for IT installation program to configure them.

Ensure that all of your middleware is at the level described in "Hardware and software requirements" on page 2.

Reusing IBM DB2

If you have an existing IBM DB2 installation that you would like to reuse for IBM Tivoli Asset Management for IT, run the Tivoli middleware installer on the system. The middleware installer will identify instances of middleware that already exist on the system that are compatible with Asset Management for IT, and it will configure the existing instance for use with Asset Management for IT.

About this task

To have the middleware installer configure an existing database instance for reuse with Asset Management for IT, complete the following steps:

1. Log in as a user with administrative authority.
2. Launch the middleware installer from the Launchpad.
3. Proceed through the middleware installer panels as instructed in "Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer" on page 30, until you reach the Deployment Choices panel.
4. From the Deployment Choices panel, select **Database Server**, and then click **Next**. The middleware installer will display any instances of DB2 found on the system.
5. From the Installation drop-down menu, select the appropriate instance to reuse, and then click **Next**.
6. Complete the installation by proceeding through the remainder of the middleware installer panels.

   Note: If you are reusing an existing DB2 server with Asset Management for IT, the following users and groups must already exist on the system:

   Users

   - `db2admin`
   - UNIX `dasusr1`
   - UNIX `db2fenc1`

   Groups

- Windows `db2admns`
- UNIX `dasadm1`
- UNIX `dbgrp1`
- UNIX `db2fgrp1`

If these users do not exist on the system, you will have to create them prior to running the Asset Management for IT installation program.

Reusing Oracle

If you have an existing Oracle 10g instance that you would like to reuse for Asset Management for IT, configure it manually.

About this task

Refer to

- "Manually configuring Oracle 11g" on page 74
- "Manually configuring Oracle 10g" on page 76 for information.
- For an existing Oracle 9.2 instance, refer to "Manually configuring Oracle9i Rel2" on page 78

Reusing IBM Tivoli Directory Server

If you have an existing IBM Tivoli Directory Server installation that you would like to reuse for Tivoli Asset Management for IT, run the Tivoli middleware installer on the system. The middleware installer will identify middleware that already exists on the system that is compatible with Asset Management for IT, and it will configure it for use with Asset Management for IT.

Before you begin

The middleware installer will create a new instance on the existing Directory Server that you identify. This new instance will contain default Asset Management for IT LDAP information. If you intend to use Asset Management for IT with an existing Directory Server instance that contains your organization's LDAP information, do not run the middleware installer to configure the existing Directory Server.

About this task

To have the middleware installer configure an existing Directory Server instance for reuse with Asset Management for IT, complete the following steps:

1. Log in as a user with administrative authority.
2. Launch the middleware installer from the Launchpad.
3. Proceed through the middleware installer panels as instructed in "Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer" on page 30, until you reach the Deployment Choices panel.
4. From the Deployment Choices panel, select **Directory Server**, and then click **Next**. The middleware installer will display any instances of Directory Server found on the system.
5. From the Installation drop-down menu, select the appropriate instance to reuse, and then click **Next**.

6. Complete the installation by proceeding through the remainder of the middleware installer panels. Refer to “Installing and configuring Tivoli Asset Management for IT middleware with the Tivoli middleware installer” on page 30 for more information.

Installing middleware silently

provides the option of installing middleware silently. The middleware silent installation option allows you to interface with the middleware installation program using a command prompt (not the), and a response file. It can be used to deploy, undeploy, or restart the deployment of an existing deployment plan. It can also be used to select deployment choices, generate a deployment plan and enter configuration parameters provided you have a valid response file with the appropriate entries.

Before you begin

The middleware installation program includes a record option that allows you to record the responses entered when installing, and then produces a response file. By providing a text-based response file and invoking the middleware installation program silently, a deployment plan can be processed without the use of the middleware installation program user interface and without requiring user interaction.

You need to create a separate silent installation response file for each combination of the features that you want deployed. For example, you can create one silent response file for an all inclusive installation which includes the deployment and configuration of a database, J2EE server, and directory server, or you can create one silent response file for each piece of middleware, where only one server type is selected to be deployed and configured.

Note: Passwords are encrypted strings in response files. If you are modifying password values in a response file, you enter clear text values. The middleware installation program silent installation feature can work with either encrypted or clear text values.

An error can occur when reinstalling middleware silently after it has been uninstalled. This error occurs if you use the same command window you used to uninstall middleware to reinstall using the middleware installation program. To avoid this error, after a successful uninstall operation, close the command window you used to invoke the installation program and use a new command window to run the middleware installation program.

About this task

To install middleware silently, complete the following steps:

1. Create a response file by generating a deployment plan and making configuration choices using the middleware installation program.
   a. Open a command window, and invoke the middleware installation program user interface using the following command:

      Windows **Windows:**

      - 32-bit

        ```
        mwi-console.exe -options -record
        ```

      - 64-bit

```
mwi-AMD64.exe -options -record
```

Linux **Linux:**

```
mwi.bin -options -record
```

AIX **AIX:**

```
mwi_aix.bin -options -record
```

b. Navigate the middleware installation program user interface, making deployment and configuration choices.

c. When you reach the Deployment Preview Panel, select one of the following:

Finish The **Finish** button generates a response file containing the choices you made.

Cancel
The **Cancel** button quits the installation.

The middleware installation program executable files are located in the middleware directory of the " " product DVD.

2. Open the response file in a text editor and make any necessary changes. Changes might include supplying different passwords or installation paths.
3. Copy the response file to the target system.
4. Launch the middleware installation program silently and identify the response file to be used.

Windows **Windows:**

- 32-bit:

```
mwi-console.exe -options   -silent
```

- 64-bit

```
mwi-AMD64.exe -options   -silent
```

Linux **Linux:**

```
mwi.bin -options   -silent
```

AIX **AIX:**

```
mwi_aix.bin -options   -silent
```

The value for needs to contain the fully qualified path and name of the response file being used.

The middleware installation program executable files are located in the middleware directory of the " " product DVD.

What to do next

When the installation is complete, you receive a success message output to the console.

Silent middleware installation program options

Response files contain a number of options that you can edit before invoking the middleware installation program silent installation program.

Response file options are detailed in comments contained in the response file itself.

Each option exists as an entry in the middleware installation program response file, in the following format:

```
-V option_name option_value
```

The following text is an excerpt of a response file:

```
#################################################################################################
date time
# Replay feature output
# ---------------------
# This file was built by the Replay feature of InstallAnywhere.
# It contains variables that were set by Panels, Consoles or Custom Code.



#Has the license been accepted
#-----------------------------
LICENSE_ACCEPTED=TRUE

#Choose Install Folder
#---------------------
USER_INSTALL_DIR=C:\\IBM\\SMP

#Choose Deployment
#-----------------
SIMPLE=0
ADVANCED=1

#Import Middleware Configuration Information
#-------------------------------------------
MWI_IMPORT_DATA=1
MWI_HOSTNAME=127.0.0.1
MWI_USER_ID=Administrator
MWI_PASSWORD=
MWI_LOCATION=C:\\ibm\\tivoli\\mwi\\workspace

#Database Type
#-------------
DB_TYPE_DB2=1
DB_TYPE_ORACLE=0
DB_TYPE_SQLSERVER=0

#Database
#--------
DB_HOST_NAME=127.0.0.1
DB_PORT=50005
DB_NAME=maxdb71
DB_INSTANCE=ctginst1
DB_SCHEMA=maximo
DB_USER=maximo
DB_PASSWORD=

#Automate Database Configuration
#-------------------------------
AUTOMATE_DB=1
DO_NOT_AUTOMATE_DB=0

#Remote Access Authorization
#---------------------------
DB_RXA_USER=administrator
DB_RXA_PASSWORD=

#DB2 Administration
#------------------
DB_INSTALL_DIR=C:\\Program Files\\IBM\\SQLLIB
DB_ADMIN_USER=db2admin
DB_ADMIN_PASSWORD=
DB_WIN_SERVICE_USER=db2admin
DB_WIN_SERVICE_PASSWORD=

#DB2 Tablespace
#--------------
```

```
DB_TABLE_SPACE_NAME=MAXDATA
DB_TABLE_SPACE_SIZE=5000
DB_TEMP_TABLE_SPACE_NAME=MAXTEMP
DB_TEMP_TABLE_SPACE_SIZE=1000
DB_INDEX_TABLE_SPACE_NAME=MAXDATA
DB_INDEX_TABLE_SPACE_SIZE=5000

#Application Server Type
#----------------------
APPLICATION_SERVER_TYPE_WAS=1
APPLICATION_SERVER_TYPE_BEA=0

#WebSphere Connectivity
#----------------------
WAS_HOSTNAME=127.0.0.1
WAS_SOAP_PORT=8879

#Automate WebSphere Configuration
#-------------------------------
AUTOMATE_WAS_CLIENT=1
DO_NOT_AUTOMATE_WAS_CLIENT=0

#WebSphere Remote Access Authorization
#------------------------------------
WAS_CLIENT_RXA_USER=administrator
WAS_CLIENT_RXA_PASSWORD=

#WebSphere Deployment Manager Configuration
#-----------------------------------------
WAS_HOME_DIR=C:\\Program Files\\IBM\\WebSphere\\AppServer
WAS_USER=wasadmin
WAS_PASSWORD=
WAS_PROFILE=ctgDmgr01

#WebSphere Application Server Configuration
#-----------------------------------------
WAS_VIRTUAL_HOST_PORT=80
WAS_WEB_SERVER_NAME=webserver1
WAS_NODE_NAME=ctgNode01
WAS_CLUSTER_NAME=MAXIMOCLUSTER
WAS_APPLICATION_SERVER_NAME=MXServer

#Security
#--------
LDAP_OPTION1=0
LDAP_OPTION2=0
LDAP_OPTION3=1

#Integration Adapter JMS Configuration
#------------------------------------
WAS_SIB_DS_NAME=intjmsds
WAS_JMS_PERSIST_DATASTORE=0
WAS_JMS_DO_NOT_PERSIST_DATASTORE=1

#SMTP Configuration
#------------------
SMTP_SERVER=
ADMIN_EMAIL=

#Run Configuration Step
#----------------------
RUN_CONFIG_YES=1
RUN_CONFIG_NO=0
DEPLOY_EAR_YES=1
DEPLOY_EAR_NO=0

#Choose Shortcut Folder
```

```
#----------------------
USER_SHORTCUTS=C:\\Documents and Settings\\All Users\\Start Menu\\Programs\\Tivoli Asset Managemer

#Language Support
#----------------
INSTALL_LANGUAGE_VALUE=0
DO_NOT_INSTALL_LANGUAGE=1
```

Uninstalling IBM Tivoli Asset Management for IT middleware

Uninstalling middleware consists of running the Tivoli middleware installer and using it to undeploy the previously deployed deployment plan.

Before you begin

Note: You need to use the middleware installer to uninstall any IBM Tivoli Asset Management for IT middleware installed by the middleware installer. The middleware installer creates a registry when installing Asset Management for IT middleware. If you use the native middleware uninstall programs, this registry will be out of sync with what is deployed. This will cause errors if you then try to reinstall the middleware using the middleware installer.At points during the uninstall process, the middleware installer uninstall progress bar might appear to pause. This is normal behavior. In most cases, the middleware installer uninstall progress bar will resume shortly after pausing. If you suspect your uninstall process has experienced an error, refer to the middleware installer log files.

About this task

To uninstall the J2EE server, ensure the directory server (IBM Tivoli Directory Server or Microsoft Active Directory) is active. Do not uninstall the directory server until the J2EE server has been uninstalled.

To undeploy Asset Management for IT middleware, complete the following steps:

1. Login as Administrator on Windows and root on Linux, AIX and Sun Solaris.
2. Launch the middleware installer from the Launchpad.
   a. Start the Launchpad: On the DVD titled "Tivoli Asset Management for IT 7.2", navigate to the root directory of the product disc or the downloaded installation image, and run the command: launchpad.[exe|sh],, depending on the operating system.
   b. In the launchpad navigation pane, click **Install the Product**.
   c. Click the middleware link under **1. Install the middleware**.
3. Select a language for the installation and click **OK**.
4. From the Welcome panel, click **Next**. The middleware installer license agreement window is displayed.
5. Read the license information and select **I accept both the IBM and the non-IBM terms** if you agree with the terms. Click **Next**.
6. From the Choose Workspace panel, specify the workspace directory containing the currently deployed plan, and then click **Next**. The default location for the workspace will be the last workspace location specified. The default location for the workspace is c:\ibm\tivoli\mwi\workspace.
7. From the Select Operation panel, select **Undeploy the plan**, and then click **Next**.
8. From the undeployment preview panel, click **Next** to undeploy the plan.

9. From the successful undeployment panel, click **Next** to select a new operation, such as redeploying components, or click **Cancel** to exit the middleware installer.

Chapter 5. IBM Tivoli Asset Management for IT installation program overview

The IBM Tivoli Asset Management for IT installation program provides an interface for installing and deploying Asset Management for IT. The installation program records choices you make about your Asset Management for IT deployment and configuration parameters associated with those choices, and then installs and deploys Asset Management for IT based upon the information you entered.

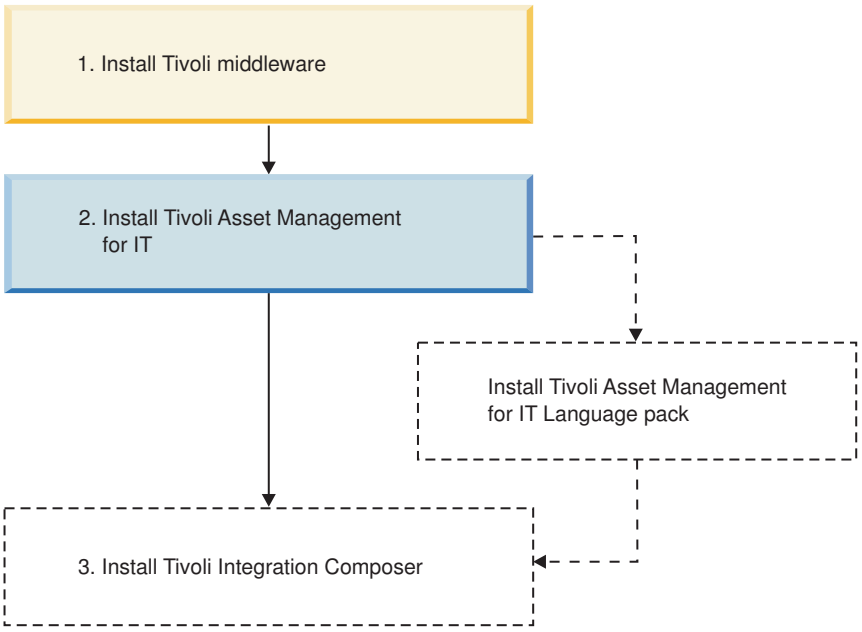


Figure 3. Tivoli Asset Management for IT installation flow - Tivoli Asset Management for IT installation.

There are two installation paths available to you when installing Asset Management for IT. Select Custom deployment when you use the WebLogic Server as your application server.

Custom

A custom deployment typically involves deploying Asset Management for IT across several systems, some of which probably already host middleware products that you wish to use with your Asset Management for IT deployment. Deploying through the custom installation path also allows you to modify default installation values.

This deployment option does not require you to spread the Asset Management for IT deployment across several systems. You can enter the name of the local host as the destination for all Asset Management for IT components that are to be installed .

The Asset Management for IT installation program can automate the configuration of middleware for use with Asset Management for IT. If you choose not to have

the Asset Management for IT installation program automatically configure middleware, configure that piece of middleware manually prior to the installation of Asset Management for IT.

Important: While you can deploy Asset Management for IT in a distributed environment consisting of predominately UNIX systems, the Asset Management for IT installation program must be run from a Windows system.

Important: When entering LDAP values for Asset Management for IT installation panel fields, entries in LDIF files, or values you enter directly into a directory instance using the directory server tools, be aware of the product-specific syntax rules for using special characters in an LDAP string. In most cases, in order to make them readable by the directory server, special characters must be preceded by an escape character. Failing to escape special characters contained in an LDAP string used with Asset Management for IT result in Asset Management for IT errors.

Many directory server products consider a blank space as a special character that is part of the LDAP string. Therefore, if you mistakenly enter an LDAP string that contains a blank, at the end of a field value, for example, and you do not precede the blank character with an escape character, you will encounter Asset Management for IT errors that are difficult to troubleshoot.

Refer to the product documentation for your directory server for more information on special characters in LDAP strings.

Information that you input into the Asset Management for IT installation program is stored in the maximo.properties file and the Maximo database. These values are populated into the panel fields of the Asset Management for IT installation program on subsequent uses of the program . Therefore, if you cancel the installation program after entering values across several installation panels, the installation program will recall the values the next time you start up the Asset Management for IT installation program (except for the Asset Management for IT install directory and the shortcut option chosen). You can restore the default values in the Asset Management for IT installation program by deleting *tamit_install_dir*/maximo/applications/maximo/properties/maximo.properties.

Performing IBM Tivoli Asset Management for IT installation

In addition to configuring new instances of IBM Tivoli Asset Management for IT middleware products, the Asset Management for IT installation program can configure existing instances of prerequisite products, including those from other vendors, that you want to use with Asset Management for IT. The instructions provided are for a *multiple computer* installation using default values and assume that you choose to have the Asset Management for IT installation program automatically configure middleware across multiple computers to work with Asset Management for IT.

Before you begin

If you do not allow the Asset Management for IT installation program to configure middleware automatically, it still performs programmatic checks to verify that the documented manual steps were performed properly. If any errors are encountered, a dialog box detailing the error appear. You will not be permitted to continue in the Asset Management for IT installation task until the errors are resolved.

Attention: Windows The Asset Management for IT installation program can only be run from a Windows-based system.

Before you begin, ensure you have addressed the following prerequisite conditions:

Table 9. Asset Management for IT installation prerequisite conditions.

Operating system or database management system	Requirements
Linux	Ensure that the command `hostname -f` returns a fully qualified host name. If it does not, consult the appropriate documentation for your operating system to ensure that the `hostname` command returns a fully qualified host name.
Windows	If the remote system is a Windows computer, configure RXA to work over SMB. If you are using DB2 with Asset Management for IT, and you want to use the fully automated database configuration capabilities of the Asset Management for IT installation program, ensure that the following conditions are met: • The user ID specified as the Instance administrator user ID that you enter on the DB2 Administration panel of the Asset Management for IT installation program must have DB2 administration authority, which is referred to as `SYSADM` authority in the DB2 product documentation. • The user ID specified on the Remote Access Authorization panel of the Asset Management for IT installation program must have DB2 administration authority. It is used to create the DB2 instance, database, and schema. It must have `SYSADM` authority, as defined by DB2. This requires the ID to be a member of the group defined by the sysadm_group configuration parameter for the DB2 instance you plan to use. For example, on Windows, the user must belong to the `DB2ADMNS` group. For more information on creating DB2 users, refer to the IBM DB2 product documentation: http://publib.boulder.ibm.com/infocenter/db2luw/v9r5/index.jsp

Table 9. Asset Management for IT installation prerequisite conditions. (continued)

Operating system or database management system	Requirements
	If you are using DB2 with Asset Management for IT, and you want to use the fully automated database configuration capabilities of the Asset Management for IT installation program, ensure that the following conditions are met: • For DB2 UNIX installations, create the instance user on the DB2 server before starting the Asset Management for IT installation program. For example if you plan to create the Maximo database in a DB2 instance (`ctginst1` is recommended), create a user (including the home directory for the user) on the UNIX DB2 server prior to starting the install. • The user ID specified as the Instance administrator user ID that you enter on the DB2 Administration panel of the Asset Management for IT installation program must have DB2 administration authority, which is referred to as `SYSADM` authority in the DB2 product documentation. • The user ID specified on the Remote Access Authorization panel of the Asset Management for IT installation program must have DB2 administration authority. It is used to create the DB2 instance, database, and schema. It must have `SYSADM` authority, as defined by DB2. This requires the ID to be a member of the group defined by the **sysadm_group** configuration parameter for the DB2 instance you plan to use. • The fenced user must be `db2fenc1`. • Add root to the `DB2GRP1` group prior to starting the Asset Management for IT installation program. For more information on creating DB2 users, refer to the IBM DB2 product documentation:
UNIX	http://publib.boulder.ibm.com/infocenter/db2luw/v9r5/index.jsp
AIX	Default installations of AIX systems might not include a suitable protocol and must have RXA compatible protocols enabled.
	If you plan to take advantage of the Asset Management for IT installation program feature that automates the configuration of Asset Management for IT middleware, enable a Remote Execution and Access (RXA) service for each system on which you intend to install the middleware. RXA requires that the target system enable at least one of the protocols supported by RXA, which includes rsh, REXEC, SSH, and Windows SMB. Before you start the Asset Management for IT installation program, ensure that one of these protocols is running and accepting remote logins using a user name and password configured on the target computer.
	The middleware environment is installed and running properly.
	Avoid using `localhost` for host name values in the install program. Specify the actual fully qualified host name of the system for all host name values.
All DB2 installations	You might encounter ever increasing system memory usage linked with DB2. If you experience this behavior, set the following DB2 property and then restart the DB2 server: `db2 update dbm cfg using KEEPFENCED NO`
Oracle installations	Ensure that Oracle 9i, 10g or 11g are installed (see "Hardware and software requirements" on page 2 for comparison).

Table 9. Asset Management for IT installation prerequisite conditions. (continued)

Operating system or database management system	Requirements
Microsoft SQL Server installations	Ensure: • Microsoft SQL Server 2008 is installed. • Asset Management for IT uses port *1433* when configured with SQL Server. By default, this port is not enabled. Enable this port. Refer to http://msdn.microsoft.com/en-us/library/ms177440.aspx for instructions.

About this task

To install Asset Management for IT, follow these steps:

1. Log in as Administrator on the Asset Management for IT administrative system.
2. Launch the Asset Management for IT installation program from the Launchpad:
   a. Start the Launchpad: On the DVD titled "Tivoli Asset Management for IT 7.2", navigate to the root directory of the product disk or the downloaded installation image, and run the following command: launchpad.exe.
   b. In the launchpad navigation pane, click **Install the Product**.
   c. Click **Tivoli Asset Management for IT**.
3. Select a language for the installation and click **OK**.
4. From the Introduction panel, click **Next**. The Pre-installation Progress window is displayed.

   Note: This is the moment the installer analyzes whether to install or upgrade the IBM Autonomic Computing Deployment Engine and detects the existing instances.
5. In the Package Summary window, there are **Packages Analyzed** displayed and their status. When installing for the first time, the status **Not installed** shows up. If there were any other Asset Management for IT instances detected, they would be marked **Installed** along with their version.
6. From the License Agreement panel, choose the **I accept both the IBM and non-IBM terms**, if you agree with them, and then click **Next**.
7. From the Choose Install Folder panel, specify the directory you use to install Asset Management for IT, and then click **Next**.

   Where Would You Like to Install?
   Enter the path to install Asset Management for IT.

   By default, this value is C:\IBM\SMP.

   The path you specify must not contain spaces.
8. From the Choose Deployment panel, select the **Custom** deployment topology, and then click **Next**.

   Custom
   Select custom if you want to deploy Asset Management for IT components across several systems. This deployment option is typically used in a production environment. This option is recommended.

   As a result, the Asset Management for IT configuration for your system processing window is displayed.

9. From the Import Middleware Configuration Information panel, specify you do not want to use field values you input into the middleware installer as default values for those same fields in the Asset Management for IT installation program.
10. From the Maximo Database Type panel, select the product that you use for the Maximo database, and then click **Next**.

    DB2 Select this choice to use DB2 as the Maximo database.

    Oracle Select this choice to use Oracle as the Maximo database.

    SQL Server
    Select this choice to use Microsoft SQL Server 2008 as the Maximo database.

    Each database will have its own unique set of configurable parameters and values.
11. From the Maximo Database panel, enter configuration information on the database, and then click **Next**.

    DB2

    Host name
    Enter the host name of the computer hosting DB2.

    The host name must be fully qualified.

    Port Enter the port being used by DB2 instance.

    The default is *50005*.

    Database name
    Enter the name of the database to use with Maximo.

    The default database name is `maxdb71`. The database is created if it does not exist.

    Instance
    Enter the name of the database instance to be used with Maximo.

    The default instance name is `ctginst1`. This instance is created if it does not exist, however, the user and its associated home directory must exist on the DB2 server.

    Database user ID
    Enter the user ID used for Maximo to access DB2.

    Default for all platforms is `maximo`.

    This user ID is created if it does not exist.

    This user ID cannot be the same one used as the instance administrator user ID.

    Database password
    Enter the password for the user ID used to access DB2.

    Oracle

    Host name
    Enter the host name of the computer hosting Oracle.

    The host name must be fully qualified.

    Port Enter the port being used by Oracle.

The default is *1521*.

Instance
Enter the name of the database instance to be used with Maximo.

The default instance name is `ctginst1`.

Database user ID
Enter the user ID used for Maximo to access Oracle.

Default for all platforms is `maximo`.

This user ID is created if it does not exist.

Database password
Enter the password for the user ID used to access Oracle.

SQL Server

Host name
Enter the host name of the computer hosting SQL Server.

The host name must be fully qualified.

Port Enter the port being used by SQL Server.

The default is *1433*.

Database Name
Enter the name of the database to use with Maximo.

The default database name is `maxdb71`.

Database user ID
Enter the user ID used to access SQL Server.

Default for all platforms is `maximo`.

This user ID is created if it does not exist.

Database password
Enter the password for the user ID used to access SQL Server.

12. From the Automate Database Configuration panel, select **Automate database configuration**, and then click **Next**.

    This step allows the Asset Management for IT installation program to configure the database automatically for use by Asset Management for IT. Examples of automated tasks include creating table spaces, creating database tables, creating database schemas, creating users, and so on.

    If you choose not to have the Asset Management for IT installation program automatically configure the database, you must configure a database manually prior to the installation of Asset Management for IT.

    If you do not choose to automate the database configuration and you have not manually configured the database prior to selecting Do not automate database configuration from within the Asset Management for IT installation program, the installation will verify that you have not completed these pre-install tasks and you will receive errors. Complete these manual tasks prior to restarting the Asset Management for IT installation program.

13. From the Remote Access Authorization panel, enter authorization information for the automatic database configuration feature, and then click **Next**.

    User ID
    Enter a valid user ID that gives the Asset Management for IT

installation program access to the system that is hosting the database to be used with Asset Management for IT.

This user ID must have administrative rights on the computer you are accessing.

If you are using DB2 for the Maximo database, you need to be a member of the:

- Windows: `DB2ADMNS` group, or the
- UNIX: `db2grp1` group.

Password
Enter the password for the user ID.

Refer to Asset Management for IT for details about how to ensure successful remote access between the Asset Management for IT installation program and the remote server.

14. From the Database Administration panel, enter configuration information on the database, and then click **Next**.

DB2

Installation directory (*db2_install_dir*)
Enter the directory where DB2 is installed.

Windows **Windows**
This value might be C:\Program Files\IBM\SQLLIB.

Linux **Linux**
This value might be /opt/IBM/db2/V9.5.

AIX **AIX**
This value might be /opt/IBM/db2/V9.5.

Instance administrator user ID
Enter the administrator user ID for the DB2 instance.

Windows **Windows**
This value might be `db2admin`.

Linux **Linux**
This value might be `ctginst1`.

AIX **AIX:**
This value might be `ctginst1`.

This user ID cannot be the same one as is as the database user ID.

Instance administrator password
Enter the password for the DB2 instance administrator user ID.

Windows **Windows service user ID**
Enter the user ID used to start the DB2 service. The default is `db2admin`. This user ID must have administrative authority on the system.

Windows **Windows service password**
Enter the password for the user ID used to start the DB2 service.

Oracle

Installation directory (*oracle_install_dir*)
Enter the directory where Oracle is installed.

Windows **Windows**
This value might be C:\oracle\product\10.2.0\oradata.

Linux **Linux**
This value might be /opt/app/oracle/product/10.2.0/oradata.

AIX **AIX**
This value might be /opt/app/oracle/product/10.2.0/oradata.

Solaris **Sun Solaris**
This value might be /opt/app/oracle/product/10.2.0/oradata.

Administrator User ID
Enter the administrator user ID for Oracle. For all platforms, the default is `sys`.

Administrator Password
Enter the password for the administrator user ID for Oracle.

Oracle Software Owner ID
Enter the user ID of the user that was used to install Oracle. For all platforms, the default is `oracle`.

Oracle Owner Password
Enter the password for the user ID of the user that was used to install Oracle.

SQL Server

SQL Server administrator
Enter the administrator user ID for Microsoft SQL Server Default is `sa`.

SQL Server administrator password
Enter the password for the administrator user ID for SQL Server.

Data file name
Enter the name of the SQL Server data file. Default value is `maxdb71_dat`.

Data file initial size
Select the initial size of the SQL Server data file. Default is set to Medium (1000 MB).

Log file name
Enter the name for the SQL Server log file. Default is `maxdb71_log`.

15. From the Database Tablespace panel, enter information on the table space of the database, and then click **Next**.

DB2

Data tablespace name
Enter the name of the table space that will be created in DB2 for Maximo.

For all platforms, the default is `MAXDATA`.

If the table space does not exist, it is created.

Data tablespace size
Enter a size for the table space by selecting one of the following values:

- *small* (3000Mb)

  Select this size if supporting between 1-20 users
- *medium* (5000Mb)

  Select this size if supporting between 20-100 users
- *large* (8000Mb)

  Select this size if supporting 100+ users

Table space size is measured in Mb.

Temporary tablespace name
Enter the name for the temporary table space to be created for DB2.

Temporary table spaces hold data during sorting or collating actions.

For all platforms, the default is `MAXTEMP`.

If the table space does not exist, it is created.

Temporary tablespace size
Enter a size for the temporary table space.

Temporary table space size is measured in Mb.

This value must be set to 1000Mb.

Oracle

Instance Location
Enter the path where the database instance is loaded.

Windows **Windows**
This value might be C:\oracle\product\10.2.0\oradata\dbs.

Linux **Linux**
This value might be /opt/app/oracle/product/10.2.0/oradata.

AIX **AIX**
This value might be /opt/app/oracle/product/10.2.0/oradata.

Solaris **Sun Solaris**
This value might be /opt/app/oracle/product/10.2.0/oradata.

tablespace name
Enter the name of the table space that is created in Oracle for Maximo.

For all platforms, the default is `maxdata`.

tablespace Size
Enter a size for the table space by selecting one of the following values:

- *small* (500Mb)

  Select this size if supporting between 1-2 users
- *medium* (1000Mb)

  Select this size if supporting between 20-100 users
- *large* (5000Mb)

  Select this size if supporting 100+ users

Table space size is measured in Mb.

Temporary tablespace name
Enter the name for the temporary table space to be created for Oracle.

Temporary table spaces hold data during sorting or collating actions.

For all platforms, the default is `maxtemp`.

Temporary tablespace size
Enter a size for the temporary table space, which will be used for sort operations.

Temporary table space size is measured in Mb.

For all platforms, the default is 100Mb.

Index tablespace name

For all platforms, the default is `MAXDATA`.

Index tablespace size

For all platforms, the default is 3000Mb.

The Asset Management for IT installation program now connects to the database server and validate all of the information you have entered.

16. From the Application Server Type panel, select Oracle WebLogic Server.
17. From the Choose Shortcut Folder panel, select the type of shortcut you would like to arrange for Asset Management for IT, and then click **Next**.

In a new Program Group
Select this option and enter the name of a new program group if you would like to create Asset Management for IT shortcuts in a new program group.

In an existing Program Group
Select this option and choose the name of an existing program group to store Asset Management for IT shortcuts.

In the Start Menu
Select this option to create shortcuts for Asset Management for IT in the Start menu.

In order to use the Start Menu shortcut with Microsoft Internet Explorer, ensure that you have added the Asset Management for IT URL to the trusted sites Web content zone and disable the option of requiring server verification for all sites in the zone.

On the Desktop
Select this option to create shortcuts for Asset Management for IT on the desktop.

In the Quick Launch Bar
Do not select this option. Selecting this option does not create a shortcut in the Quick Launch bar.

Other Select this option and use the **Choose...** button to select another location to create Asset Management for IT shortcuts.

Don't create icons
Select this option if you do not want any Asset Management for IT shortcuts created.

Create Icons for All Users
Select this option if you would like Asset Management for IT desktop icons to appear on the desktop for all system users.

18. From the Input Summary panel, review the information you have provided to the Asset Management for IT installation program, and then click **Next**.

    Use the **Previous** button to return to previous panels to change anything.
19. From the Pre-Installation Summary panel, review the installation information presented, and then click **Install**. The installation now begins. Progress can be monitored by viewing messages displayed above the progress bar.
20. From the Install Complete panel, click **Done**.
21. From the Maximo panel, enter the following configuration information, and then click **Next**.

    Installation directory
    Select the folder where Maximo application will be installed. C:\IBM\maximo is the default value. The path you specify must not contain spaces.

    SMTP server
    Enter the mail server configured to work with Asset Management for IT. This server will be used to send workflow and process notifications. This field is optional.

    Workflow administrator e-mail
    Enter the e-mail address of the person assigned to the role of Asset Management for IT Workflow Administrator. This address will be used for workflow notifications. This field is optional.

    Administrator e-mail
    Enter the e-mail address of the person assigned to the role of Asset Management for IT Administrator This field is optional.

    If you choose to not configure optional properties at this time, you can configure them in the Asset Management for IT user interface using the System Properties application. The relevant properties are:

    - **mail.smtp.host**
    - **mxe.workflow.admin**
    - **mxe.adminEmail**

What to do next

Once the Tivoli Asset Management for IT installation program has completed installation and configuration tasks, it exits. Logs can be found at *tamit_install_dir*/logs.

After the installation completes, you need to deploy the EAR file manually. Copy the c:\ibm\smp\maximo\deployment\default\maximo.ear file to the computer with the middleware installed, and then upload it to WebLogic application server directories. See also Chapter 8, “Deploying ear files,” on page 95.

Chapter 6. Installing IBM Tivoli Asset Management for IT with manual middleware configuration

You can have one or more IBM Tivoli Asset Management for IT middleware components configured automatically by the Asset Management for IT installation program. Alternatively, you can choose to manually configure one or more of the middleware servers to work with Asset Management for IT. Configure the components before you install the product.

Manually configured installations involve configuring:

- middleware components,
- the database server,
- the directory server,
- the J2EE server

to work with IBM Tivoli Asset Management for IT prior to using the Asset Management for IT installation program.

The information contained in this section provides details on how to manually configure Asset Management for IT middleware prior to running theAsset Management for IT installation program. Also included in this section is a procedure describing how to advance through the Asset Management for IT installation program to complete the Asset Management for IT deployment.

Before you begin, ensure you have addressed the following prerequisite conditions:

- You have designated a Windows-based computer that will be used to launch the Asset Management for IT installation program.

You must complete the manual configuration of each server you plan to not configure using the autoconfigure feature of the Asset Management for IT installation program before you actually install Asset Management for IT.

Ensure that all of your middleware is at the level described in “Hardware and software requirements” on page 2.

Related concepts

“Reusing existing middleware components” on page 12
You can reuse some existing middleware installations as Tivoli Asset Management for IT components. If you plan to do so, ensure that they are at the level supported by Asset Management for IT. The Asset Management for IT installation programs do not provide a mechanism for patching unsupported servers, nor do these programs provide remote prerequisite checks to ensure they are at the right level.

Manually configuring the database server

If you choose to not have the Asset Management for IT installation program automatically configure the database server, you must complete the manual configuration before you use the Asset Management for IT installation program .

- UNIX For DB2 on UNIX systems, ensure you have a minimum of 8 GB (binary) free of space in the DB2 database instance home directory (/home/ctginst1) in order to meet the default table space disk space requirements of the DB2 install.

- Windows For DB2 on Windows, ensure you have a minimum of 8 GB of free space in the DB2 installation directory.

Manually configuring DB2 9.x

For better performance, you might need to manually configure DB2 9.1 before running the Tivoli Asset Management for IT installer to set the preferable environment on different operating systems.

About this task

To configure an existing DB2 9.x server for use with Asset Management for IT, complete the following steps **prior** to launching the Asset Management for IT installation program:

1. Create system users:
   a. Log into the system as a user that has administrative permissions on the system.
   b. DB2 requires user accounts that are operating system user accounts. Create operating system users named `ctginst1` and `maximo`, using user management tools available on the system.
   c. AIX For AIX, use SMIT to add the users. For the `ctginst1` user, assign the primary group as `db2grp1` and secondary groups of staff and `dasadm1`. For the `maximo` user, it is not necessary to assign a specific group. After the user IDs have been created, log into the system using the user IDs and change the password for each account.
2. Create the DB2 instance:
   a. Use the following command to create the DB2 instance:

      Windows **Windows:**
      ```
      db2icrt -s ese -u db2admin,password -r 50005,50005 ctginst1
      ```

      Linux **Linux:**
      ```
      db2icrt -a SERVER -s ese -p 50005 -u db2fenc1 ctginst1
      ```

      AIX **AIX:**
      ```
      db2icrt -a SERVER -s ese -p 50005 -u db2fenc1 -w 64 ctginst1
      ```

   b. Set the listening port for the instance. For example, for Windows Windows:
      ```
      db2 update dbm cfg using svcename 50005
      ```
   c. Set instance service to start automatically. For example, for Windows Windows:
      ```
      sc config ctginst1-0 start= auto
      ```
   d. Start the `ctginst1` database instance:

      Windows **Windows:**
      ```
      db2start
      ```

      UNIX **UNIX:**
      ```
      su - ctginst1
      db2start
      ```
3. Create a new database:
   a. Open up the DB2 Control Center for the instance you plan to use:

      Windows **Windows:**

1) Open a command window.
2) Type the following command:

```
set DB2INSTANCE=ctginst1
db2set DB2COMM=tcpip
```

3) Type the following command:

```
db2cc
```

UNIX **UNIX:**

1) Open a command window.
2) Source the instance you plan to use.
3) Type the following command:

```
db2cc
```

b. From the DB2 Control Center, navigate to **All Systems** → ***System hosting the database instance*** → **Instances**.
c. Right-click the Databases folder located below the instance name, and then select **Create Database** → **With Automatic Maintenance**.
d. From the Specify a name for your new database panel, enter `maxdb71` for both the **Database name** and **Alias** fields.
e. Enable the **Enable database for XML** option. This will create a Unicode database with a code set of UTF-8.
f. Click **Next**.
g. From the Specify where to store your data panel, click **Next**. Alternatively, if you don't want to use the database path as the storage path, specify a different directory. If you specify a path, the directory must already exist.
h. From the Select your maintenance strategy panel, select **Yes, I can specify an offline maintenance window of at least an hour when the database is inaccessible**, and then click **Next**.
i. From the Specify when offline automatic maintenance activities can run, provide scheduling details for offline maintenance, and then click **Next**.
j. From the Provide a valid SMTP server panel, enter the name of the SMTP server that is used to communicate DB2 messages concerning this database, and then click **Next**.
k. From the Review the actions that will take place when you click **Finish** panel, review the choices you have made, and then click **Finish**.

The database will be created.

AIX For AIX 5.3 systems, you can use the following command to create the DB2 instance.

```
db2icrt –a SERVER –s ese –p 50005 –u db2fenc1 ctginst1
```

To create the database on AIX 5.3 systems, switch the user to ctginst1, and use the following command:

```
db2 create database maxdb71 using codeset UTF-8 territory us pagesize 32 K
```

4. Configure the database.
   a. Right-click the **maxdb71** database created in the previous step, and choose **Configure Parameters**.
   b. From the Database Configuration panel, select the **LOGFILSIZ** value and click the button labeled with the ellipsis **(...)** in the **Value** column.
   c. Enter `4096`, and then click **OK**.

d. From the Database Configuration panel, select the **APP_CTL_HEAP_SZ** value and click the button labeled with the ellipsis **(...)** in the **Value** column.
e. Enter `1024`, and then click **OK**.
f. From the Database Configuration panel, select the **APPLHEAPSZ** value and click the button labeled with the ellipsis **(...)** in the **Value** column.
g. Enter `1024`, and then click **OK**.
h. From the Database Configuration panel, select the **LOCKLIST** value and click the button labeled with the ellipsis **(...)** in the **Value** column.
i. Enter `30000`, and then click **OK**.
j. From the Database Configuration panel, select the **LOGSECOND** value and click the button labeled with the ellipsis **(...)** in the **Value** column.
k. Enter `4`, and then click **OK**.
l. From the Database Configuration panel, click **OK**.
m. Click **Close**.
n. Restart the database by right-clicking the ctginst1 instance, clicking **Stop**, and then clicking **Start**.

Note: AIX For AIX 5.3 systems, you cannot launch the DB2 Control Center locally. The best way to configure the database on AIX 5.3 systems is to configure it remotely from a system that can run the DB2 Control Center, using the DB2 client.

5. Add users to the database.
   a. Once the database has restarted, right-click it and select **Authorities**.
   b. From the User tab of the Database Authorities window, click **Add User**.
   c. From the Add User dialog, select the user maximo, and then click **OK**.
   d. Highlight the user, maximo in the Database Authorities window, and click **Grant All**.
   e. Click **OK**.
6. Create table space:
   a. From the DB2 Control Center, locate and right-click the **Table Spaces** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify`MAXDATA` as your new table space, and then click **Next**.
   d. Select **Regular** as the type of table space and then click **Next**.
   e. Click **Create** to create a buffer pool for the table space.
   f. Specify `MAXBUFPOOL` as your new buffer pool, and then change the **Page size** value to `32` and the **Size in 32 KB pages** value to `4096`.
   g. Ensure the Create buffer pool immediately choice is selected, and then click **OK**.
   h. Highlight the newly created buffer pool and click **Next**.
   i. From the Specify the extent and prefetch sizes for this table space panel, choose the **Between 200 MB and 2 GB** option, and leave **Extent size** as `32`, and then click **Next**.
   j. Define a hard drive specification by choosing **Server (SCSI)**, and then click **Next**.
   k. Click **Finish**.

Note: By default, index data is stored in the data table space. If you would rather create a separate index table space, you could create one at this point.

7. Grant permissions for the table space:
   a. From the DB2 Control Center, locate and right-click the `MAXDATA Table Spaces` entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Privileges**.
   c. Click **Add User**.
   d. Select the user `maximo`, and then click **OK**.
   e. From the **Privileges** drop-down menu, select **Yes**, and then click **OK**.

   Note: If you created a separate index table space, you will have to grant permissions for it at this time.
8. Create a schema:
   a. From the DB2 Control Center, locate and right-click the **Schema** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify a name for your new schema, and then click **OK**. This name must be the same as was used for the Database User ID.
   d. Right-click on the new schema name and select **Privileges**.
   e. From the **Privileges** drop-down menus, select **Add User**, and then select the `maximo` user.
   f. Click **OK**.
   g. Select the `maximo` user and then click **Grant all**.
   h. From the dialog box, select **No Grant**, and then click **OK**.
9. Create a temporary table space:
   a. From the DB2 Control Center, locate and right-click the **Table Spaces** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify `MAXTEMP` for your new table space, and then click **Next**.
   d. Select **System temporary** as the type of table space and then click **Next**.
   e. Select the previously created bufferpool (`MAXBUFPOOL`), and click **Next**.
   f. From the Specify the extent and prefetch sizes for this table space panel, choose the **Between 200 MB and 2 GB** option, and leave **Extent size** as `32`, and then click **Next**.
   g. Define a hard drive specification by choosing **Server (SCSI)**, and then click **Next**.
   h. Specify the dropped table recovery option for the table space by enabling the Enable dropped table recovery option, and then click **Next**.
   i. Click **Finish**.
10. Refer to the tables presented in “Hardware and software requirements” on page 2 and install the appropriate fix pack. Ensure you review and complete all of the installation and post-installation tasks contained within the fix pack readme file. Failure to do so can potentially cause the Asset Management for IT installation to fail. Refer to the appropriate product support page for more information.

What to do next

After you have installed the fix pack, run the dasupdt command to update the DB2 Administration Server to the applied fix pack.

Also run the db2iupdt command to update the DB2 instance. Start by first stopping all processes that are running for the database instance (`ctginst1`), and then run the following command:

Windows **Windows:**

```
C:\Program Files\IBM\SQLLIB\BIN\db2iupdt ctginst1
```

UNIX **UNIX:**

```
DB2DIR/instance/db2iupdt ctginst1
```

Manually configuring DB2 8.2

This section contains instructions for manually configuring DB2 8.2 servers for use by Tivoli Asset Management for IT. Asset Management for IT supports DB2 8.2 only when manually configured.

About this task

To configure an existing DB2 8.2 server for use with Asset Management for IT, complete the following steps prior to launching the Asset Management for IT installation program:

1. Create system users:
   a. Log into the system as a user that has administrative permissions on the system.
   b. DB2 requires user accounts that are operating system user accounts. Create operating system users named `ctginst1` and `maximo`, using user management tools available on the system.

      AIX For AIX, use SMIT to add the users. For the `ctginst1` user, assign the primary group as `db2grp1` and secondary groups of staff and `dasadm1`. For the `maximo` user, it is not necessary to assign a specific group. After the user IDs have been created, log into the system using the user IDs and change the password for each account.
2. Create the DB2 instance:
   a. Use the following command to create the DB2 instance:

      Windows **Windows:**

      ```
      db2icrt -s ese -u db2admin,password -r 50005,50005 ctginst1
      ```

      Linux **Linux:**

      ```
      db2icrt -a SERVER -s ese -p 50005 -u db2fenc1 ctginst1
      ```

      AIX **AIX:**

      ```
      db2icrt -a SERVER -s ese -p 50005 -u db2fenc1 -w 64 ctginst1
      ```

   b. Set the listening port for the instance:

      Windows **Windows:**

      ```
      db2 update dbm cfg using svcename 50005
      ```

   c. Set instance service to start automatically:

      Windows **Windows:**

      ```
      sc config ctginst1-0 start= auto
      ```

d. Start the `ctginst1` database instance:

Windows **Windows:**

```
db2start
```

UNIX **UNIX:**

```
su - ctginst1
db2start
```

3. Create the database:

Windows **Windows:**

a. Open a command window and type the following command:

```
set DB2INSTANCE=ctginst1
```

b. Type `db2cmd` to open the DB2 Command Window.

c. From the new instance window issue the following commands:

```
db2start
db2 create db maxdb71 using codeset utf-8 territory us pagesize
32 k
```

UNIX **UNIX:**

a. Open a command window and type the following command:

```
su - ctginst1
```

b. From the new instance window issue the following commands:

```
db2start
db2 create db maxdb71 using codeset utf-8 territory us pagesize
32 k
```

4. Configure the database:

a. From the DB2 Command Window, type the following command:

```
db2cc
```

b. From the DB2 Control Center, navigate to **All Systems** → *DB2_server* → **Instances** → **CTGINST1** → **Databases** → **MAXDB71**.

c. Right-click the `maxdb71` database and choose **Configure Parameters**.

d. From the Database Configuration panel, select the *LOGFILSIZ* value and click the button labeled with the ellipsis (**...**) in the **Value** column.

e. Enter `4096`, and then click **OK**.

f. From the Database Configuration panel, select the *APP_CTL_HEAP_SZ* value and click the button labeled with the ellipsis (**...**) in the **Value** column.

g. Enter `1024`, and then click **OK**.

h. From the Database Configuration panel, select the *APPLHEAPSZ* value and click the button labeled with the ellipsis (**...**) in the **Value** column.

i. Enter `1024`, and then click **OK**.

j. From the Database Configuration panel, select the *LOCKLIST* value and click the button labeled with the ellipsis (**...**) in the **Value** column.

k. Enter `30000`, and then click **OK**.

l. From the Database Configuration panel, select the *LOGSECOND* value and click the button labeled with the ellipsis (**...**) in the **Value** column.

m. Enter `4`, and then click **OK**.

n. From the Database Configuration panel, click **OK**.

o. Click **Close**.

p. Restart the database by right-clicking the `ctginst1` instance, clicking **Stop**, and then clicking **Start**.

5. Add users to the database:
   a. Once the database has restarted, right-click it and select **Authorities**.
   b. From the **User** tab of the Database Authorities window, click **Add User**.
   c. From the **Add User** dialog, select the user `maximo`, and then click **OK**.
   d. Highlight the user, `maximo` in the Database Authorities window, and click **Grant All**.
   e. Click **OK**.
6. Create table space:
   a. From the DB2 Control Center, locate and right-click the **Table Spaces** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify `MAXDATA` as your new table space, and then click **Next**.
   d. Select **Regular** as the type of table space, and then click **Next**.
   e. Click **Create** to create a new buffer pool for the table space.
   f. Specify `MAXBUFPOOL` as your new buffer pool, and then change the **Page size** value to `32` and the **Size in 32 KB** pages value to `4096`.
   g. Ensure the **Create buffer pool immediately** choice is selected, and then click **OK**.
   h. Highlight the newly created buffer pool and click **Next**.
   i. From the Space management panel, specify Database-managed space and click **Next**.
   j. From the Containers panel, click **Add**.
   k. Set the **Type** to `File`, **Size** to `5000 Mb`, and **File name** to `CTGDAT`. UNIX For UNIX, enter `/home/ctginst1` as the location of the file.
   l. Click **OK**, and then click **Next**.
   m. From the Specify the extent and prefetch sizes for this table space panel, click **Next**.
   n. Define a hard drive specification by choosing Server (SCSI), and then click **Next**.
   o. Specify the dropped table recovery option for the table space by enabling the Enable dropped table recovery option, and then click **Next**.
   p. From the Summary panel, click **Finish**.

   Note: By default, index data is stored in the data table space. If you would rather create a separate index table space, you could create one at this point.
7. Create a temporary table space:
   a. From the DB2 Control Center, locate and right-click the **Table Spaces** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify `MAXTEMP` for your new table space, and then click **Next**.
   d. Select **System temporary** as the type of table space and then click **Next**.
   e. Select the previously created bufferpool (`MAXBUFPOOL`), and click **Next**.
   f. From the Space management panel, specify Database-managed space, and then click **Next**.

g. From the Containers panel, click **Add**.

h. Set the **Type** to `File`, **Size** to `3000Mb`, and **File name** to `CTGTMP`. UNIX For UNIX, enter `/home/ctginst1` as the location of the file.

i. Click **OK**, and then click **Next**.

j. From the Specify the extent and prefetch sizes for this table space panel, click **Next**.

k. Define a hard drive specification by choosing **Server (SCSI)**, and then click **Next**.

l. From the Summary panel, click **Finish**.

8. Grant permissions for the table space:
   a. From the DB2 Control Center, locate and right-click the MAXDATA table spaces entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Privileges**.
   c. Click **Add User**.
   d. Select the user `maximo`, and then click **OK**.
   e. From the Privileges drop-down menu, select **Yes**, and then click **OK**.

   Note: If you created a separate index table space, you will have to grant permissions for it at this time.
9. Create a schema:
   a. From the DB2 Control Center, locate and right-click the **Schema** entry under the DB2 database that you created for use with Asset Management for IT.
   b. From the right-click menu, select **Create**.
   c. Specify a name for your new schema, and then click **OK**. This name should be the same as was used for the Database User ID.
   d. Right-click on the new schema name and select **Privileges**.
   e. From the **Privileges** drop-down menus, select **Add User**, and then select the `maximo` user.
   f. Click **OK**.
   g. Select the `maximo` user and then click **Grant all**.
   h. From the dialog box, select No Grant, and then click **OK**.
10. Install the appropriate fix pack. Refer to the tables presented in "Hardware and software requirements" on page 2.

What to do next

If you installed a fix pack, run the dasupdt command to update the DB2 Administration Server to the applied fix pack.

After you have installed a fix pack, you will also need to run the db2iupdt command to update the DB2 instance. Start by first stopping all processes that are running for the database instance (`ctginst1`), and then run the following command:

Windows **Windows:**

```
C:\Program Files\IBM\SQLLIB\BIN\db2iupdt ctginst1
```

UNIX **UNIX:**

```
db2_install_dir/instance/db2iupdt ctginst1
```

Manually configuring Oracle 11g

Use the following instructions to manually configure Oracle 11g for use with Asset Management for IT.

Before you begin

The **max_cursors** size for the Asset Management for IT database should be set to 1000 before Asset Management for IT installation.

About this task

To configure an existing Oracle 11g server for use with Asset Management for IT, complete the following steps before launching the Asset Management for IT installation program:

1. Log in as the Oracle software user. Typically this user is named `oracle`.
2. Create the database listener. The listener manages requests to connect to the database.
   a. Open the Oracle Network Configuration Assistant application.
   b. From the Welcome panel, select **Listener configuration**, and then click **Next**.
   c. From the action panel, select **Add**, and then click **Next**.
   d. Enter a name for the listener or accept the default value, and then click **Next**.
   e. Accept the default Selected Protocols listed by clicking **Next**.
   f. From the port panel, select **Use the standard port of 1521**, and then click **Next**.
   g. Select **No** to indicate that you are finished configuring listeners, and then click **Next**.
   h. From the Listener Configuration Done panel, click **Next**.
   i. Click **Finish**.
3. Create a new database for use by Asset Management for IT.
   a. Open the Oracle Database Configuration Assistant.
   b. Click **Next**.
   c. Select **Create a Database**, and then click **Next**.
   d. Select **General Purpose or Transaction Processing**, and then click **Next**.
   e. Enter `ctginst1` for both the Global Database Name value and the SID value, and then click **Next**.
   f. Leave the defaults selected, and click **Next**.
   g. Ensure **Use the Same Administrative Password for All Accounts** is selected, enter a password for Oracle users, and then click **Next**
   h. Ensure **File System** is selected as the storage mechanism to use for the database, and then click **Next**.
   i. Ensure **Use Database File Locations from Template** is selected as the value to use for database file location, and then click **Next**.
   j. Leave defaults selected for the database recovery options panel, and then click **Next**.
   k. From the Sample Schemas panel, click **Next**.
   l. From the memory allocation panel, select **Custom**, provide the following values (measured in bytes), and then click **Next**.

Memory Management
Set this value to **Manual Shared Memory Management**.

Shared Pool
Set this value to `157286400`.

Buffer Cache
Set this value to `36000000`.

Java Pool
Set this value to `33554432`

Large Pool
Set this value to `8388608`.

PGA Size
Set this value to `37748736`.

m. From the Character Sets tab, select **Use Unicode (AL32UTF8),**
n. Click **All Initialization Parameters...**.
o. Click **Show Advanced Parameters**.
p. Locate the following parameters, change them to the values indicated, and then click **Close**.

nls_length_semantics
Change this value to `CHAR`

open_cursors
Change this value to `1000`

cursor_sharing
Set this value to `SIMILAR`.

q. From the Security Settings panel, accept the defaults, and then click **Next**.
r. From the Automatic Maintenance Tasks panel, accept the defaults, and then click **Next**.
s. From the Initialization Parameters panel, click **Next**.
t. From the Database Storage panel, click **Next**.
u. From the Creation Options panel, click **Finish**.
v. Once the database has been successfully created, click **Password Management**.
w. Unlock the `CTXSYS` account by clearing the check mark in the Lock Account? column for that entry, enter a password for the account, and then click **OK**.
x. Click **Exit** to exit the Database Configuration Assistant. The database has been successfully created.

Note: The Oracle Database Configuration Assistant executes the *oracle_install_dir*/ctx/admin/defaults/drdefus.sql script as part of the configuration of the `CTXSYS` user. This needs to be executed manually if the Oracle Database Configuration Assistant is not used.

4. Create a table space using the following command in SQL*Plus:

```
Create tablespace maxdata datafile
'C:\oracle\product\11.1.0\db_1\dbs\maxdata.dbf'
size 1000M autoextend on;
```

The directory specified in the example should be changed to the location where the database will reside. If the directory does not already exist, this command will fail.

5. Create a temporary table space using the following command in SQL*Plus

```
create temporary tablespace maxtemp tempfile
'C:\oracle\product\11.1.0\db_1\dbs\maxtemp.dbf'
size 1000M autoextend on maxsize unlimited;
```

The directory specified in the example should be changed to the location where the database will reside. If the directory does not already exist, this command will fail.

6. Create the maximo user and grant permissions using the following command in SQL*Plus:

```
create user maximo identified by maximo default tablespace maxdata temporary
tablespace maxtemp;
grant connect to maximo;
grant create job to maximo;
grant create trigger to maximo;
grant create session to maximo;
grant create sequence to maximo;
grant create synonym to maximo;
grant create table to maximo;
grant create view to maximo;
grant create procedure to maximo;
grant alter session to maximo;
grant execute on ctxsys.ctx_ddl to maximo;
alter user maximo quota unlimited on maxdata;
```

Manually configuring Oracle 10g

If you want to use the existing Oracle 10g server instance for Asset Management for IT, make sure you complete these steps before installing Asset Management for IT.

Before you begin

If you are using Oracle 10g Rel2, ensure the Oracle 10g Rel2 patch 3 is installed.

About this task

To configure an existing Oracle 10g Rel2 or 10g Rel1 server for use with Tivoli Asset Management for IT, complete the following steps prior to launching the Asset Management for IT installation program:

1. Log in as a user designated as a `dba`, such as `sys` or `system`.
2. Create a new database for use by Asset Management for IT.
   a. Open the Oracle Database Configuration Assistant, and click **Next**.
   b. Select **Create a Database**, and then click **Next**.
   c. Select **General Purpose**, and then click **Next**.
   d. Enter `ctginst1` for both the **Global Database Name** value and the **SID** value, and then click **Next**.
   e. Leave the defaults selected, and click **Next**.
   f. Ensure **Use the Same Password for All Accounts** is selected, enter a password for Oracle users, and then click **Next**.
   g. Ensure **File System** is selected as the storage mechanism to use for the database, and then click **Next**.
   h. Ensure **Use Database File Locations from Template** is selected as the value to use for database file location, and then click **Next**.
   i. Leave defaults selected for the database recovery options panel, and then click **Next**.
   j. From the Sample Schemas panel, click **Next**.

k. From the **Memory** tab, select **Custom**, provide the following values (measured in bytes), and then click the **Character Sets** tab:

   Shared Memory Management
   Set this value to `Manual`.

   Shared Pool
   Set this value to `157286400`.

   Buffer Cache
   Set this value to `36000000`.

   Java Pool
   Set this value to `33554432`.

   Large Pool
   Set this value to `8388608`.

   PGA Size
   Set this value to `37748736`.

l. From the **Database Character Set** tab, select **Use Unicode** (`AL32UTF8`),

m. Click **All Initialization Parameters...**.

n. Click **Show Advanced Parameters**.

o. Locate the following parameters, change them to the values indicated, and then click **Close**:

   cursor_sharing
   Change this value to `FORCE`

   nls_length_semantics
   Change this value to `CHAR`

   open_cursors
   Change this value to `1000`

p. From the Initialization Parameters panel, click **Next**.

q. From the Database Storage panel, click **Next**.

r. From the Creation Options panel, click **Finish**.

s. From the Confirmation panel, click **OK**.

t. Click **Exit** to exit the Database Configuration Assistant.

The database has been successfully created.

3. Log into SQL *Plus using the following information:

   User Name
   `system`

   Password
   Password you entered in step 2f.

   Host String
   `ctginst1`

4. Create a table space using the following command in SQL*Plus:

```
Create table space maxdata datafile
'C:\oracle\product\10.2.0\oradata\ctginst1\maxdata.dbf'
size 1000M autoextend on;
```

   The directory specified in the example should be changed to the location where the database will reside.

5. Create a temporary table space using the following command in SQL*Plus:

```
Create temporary tablespace maxtemp tempfile
'C:\oracle\product\10.2.0\oradata\ctginst1\maxtemp.dbf'
size 1000M autoextend on maxsize unlimited;
```

The directory specified in the example should be changed to the location where the database will reside.

6. Create the Maximo user and grant permissions using the following command in SQL*Plus:

```
Create user maximo identified by maximo default table space maxdata temporary
tablespace maxtemp;
grant create job to maximo;
grant create trigger to maximo;
grant create session to maximo;
grant create sequence to maximo;
grant create synonym to maximo;
grant create table to maximo;
grant create view to maximo;
grant create procedure to maximo;
grant alter session to maximo;
grant execute on ctxsys.ctx_ddl to maximo;
alter user maximo quota unlimited on maxdata;
```

Manually configuring Oracle9i Rel2

If you want to use the existing Oracle Oracle9i Rel2 server instance for Tivoli Asset Management for IT, make sure you complete these steps before installing Asset Management for IT.

Before you begin

If you are using Oracle9i Rel2, ensure Oracle 9.2.0.8 is installed.

About this task

To configure an existing Oracle Oracle9i Rel2 server for use with Asset Management for IT, complete the following steps prior to launching the Asset Management for IT installation program:

1. Create a new database for use by Asset Management for IT:
   a. Open the Oracle Database Configuration Assistant, and click **Next**.
   b. Select **Create a database**, and then click **Next**.
   c. Select **General Purpose**, and then click **Next**.
   d. Enter `ctginst1` for both the **Global Database Name** value and the **SID** value, and then click **Next**.
   e. Leave the default of **Dedicated Server Mode** selected, and click **Next**.
   f. From the **Memory** tab, select **Custom**, enter the following values (M Bytes), and then click **Next**:

      Shared Pool
      Set this value to `150`.

      Buffer Cache
      Set this value to `36`.

      Java Pool
      Set this value to `32`.

      Large Pool
      Set this value to `8`.

PGA Size
Set this value to 36.

g. Select the **Character Sets** tab and select **Use Unicode** (AL32UTF8) as the **Database Character Set**.
h. Click **All Initialization Parameters**.
i. Locate the following parameters, change them to the values indicated, and then click **Close**, and then **Next**:

nls_length_semantics
Change this value to CHAR.

open_cursors
Change this value to 1000.

j. From the Database Storage panel, click **Next**.
k. From the Creation Options panel, select the **Create Database** option, and click **Finish**.
l. From the Confirmation panel, click **OK**.
m. Once the database has been successfully created, click **Password Management**.
n. Unlock the CTXSYS account by removing the check mark in the **Lock Account?** column for that entry, enter a password for the account, and then click **OK**.
o. Click **Exit** to exit the Database Configuration Assistant.

The database has been successfully created.

2. Create a table space using the following command in SQL*Plus:

```
Create table space maxdata datafile
'C:\oracle\oradata\maxdata\maxdata.dbf'
size 1000M autoextend on;
```

The directory specified in the example should be changed to the location where the database will reside.

3. Create a temporary table space using the following command in SQL*Plus:

```
create temporary table space maxtemp tempfile
'C:\oracle\oradata\maxtemp\maxtemp.dbf'
size 1000M autoextend on maxsize unlimited;
```

The directory specified in the example should be changed to the location where the database will reside.

4. Create the Maximo user and grant permissions using the following command in SQL*Plus:

```
create user maximo identified by maximo default table space maxdata temporary
table space maxtemp;
grant connect to maximo;
grant create job to maximo;
grant create trigger to maximo;
grant create session to maximo;
grant create sequence to maximo;
grant create synonym to maximo;
grant create table to maximo;
grant create view to maximo;
grant create procedure to maximo;
grant alter session to maximo;
grant execute on ctxsys.ctx_ddl to maximo;
alter user maximo quota unlimited on maxdata;
```

Manually configuring SQL Server

Windows If you want to use the existing SQL Server instance for Tivoli Asset Management for IT, make sure you complete these steps before installing Asset Management for IT.

Before you begin

Note that because Microsoft SQL Server does not support UTF-8, Asset Management for IT does not have multilingual support when deployed with Microsoft SQL Server.

Microsoft SQL Server collation settings must be set to the following options:

- Dictionary order
- Case-insensitive
- For use with 1252 Character set

About this task

To configure an existing SQL Server 2008 for use with Asset Management for IT, complete the following steps prior to launching the Asset Management for IT installation program:

1. Configure the listener port.

   If enabled, the default instance of the Microsoft SQL Server Database Engine listens on TCP port *1433*. Named instances of the SQL Server Database Engine and SQL Server Compact Edition are configured for dynamic ports, which means they select an available port when the SQL Server service is started. When connecting to a named instance through a firewall, configure the Database Engine to listen on a specific port, so that the appropriate port can be opened in the firewall.

   a. Open **Programs** → **Microsoft SQL Server 2008** → **Configuration Tools** → **Microsoft SQL Server Configuration Manager**.

   b. From the Microsoft SQL Server Configuration Manager navigation pane, expand **SQL Server 2008 Network Configuration** → **Protocols for *your_instance_name*** for the instance name to be used with Asset Management for IT, and then double-click **TCP/IP**.

   c. In the TCP/IP Properties dialog box, click the **IP Addresses** tab.

   d. For each IP address listed, ensure the **TCP Dynamic Ports** field is blank. If the **TCP Dynamic Ports** field contains a value of `0`, that IP address is using dynamic ports. Since Asset Management for IT requires SQL Server to listen on a static port, this field must be blank.

   e. For each IP address listed, enter `1433` for the **TCP Port** field, and click **OK**.

   f. From the SQL Server Configuration Manager navigation pane, click **SQL Server 2008 Services**.

   g. Right-click **SQL Server *instance_name*** and then click **Restart**, to stop and restart SQL Server.

2. Verify that you enabled the Full-text Search setting during the installation of Microsoft SQL Server 2008. To determine if Full-text Search is installed on your existing Microsoft SQL Server database, perform the following steps:

   a. Open SQL Query Analyzer. You can run SQL Query Analyzer from the Start menu, from inside SQL Server Enterprise Manager, or from the command prompt by executing isqlw.

b. Type the following command:

```
select FULLTEXTSERVICEPROPERTY ( 'IsFulltextInstalled' )
```

In the event that you did not install Full-text Search (the resulting value is zero), you must do so at this time. The following steps provide a general guideline describing how you can change this and other settings after having installed SQL Server.

a. Insert the "Microsoft SQL Server 2008" CD-ROM onto the server where you had it installed originally.
b. Navigate through the installation dialog boxes and from the **Setup Type** dialog box, select **Custom**.
c. Check the **Full-Text Search** option.
d. Complete remaining installation steps. You finish the installation process by choosing to restart the server.

3. Create a SQL Server Database for Maximo
   a. Open SQL Server Enterprise Manager Studio: **Start** → **Programs** → **Microsoft SQL Server 2008** → **SQL Server Management Studio**.
   b. Right-click the **Databases** folder from the tree view, and select **New Database**.
   c. In the Database Properties dialog box, in the **General** tab, specify a unique database name (for example `maxdb71`).
   d. For the `maxdb71` **Logical Name**, change the Initial size attribute to `500` (MB), and also set the value of the **Autogrowth** field to By 1MB, unrestricted growth.
   e. If you prefer, modify the log settings to accommodate your production environment.
   f. Click **Add**.
4. Create the Maximo user for SQL Server:
   a. Open SQL Server Enterprise Manager Studio: **Start** → **Programs** → **Microsoft SQL Server 2008** → **SQL Server Management Studio**.
   b. Click **New Query**.
   c. Select the **Tivoli Asset Management for IT database** (`maxdb71`) from the **Available Databases** drop-down menu.
   d. Enter the following script to create the Maximo user.

```
sp_addlogin MAXIMO,MAXIMO
go
```

   e. Click **Execute**.
   f. Enter the following script to change the database owner to `maximo`.

```
sp_changedbowner MAXIMO
go
```

   g. Click **Execute**.

What to do next

Note: If you add additional logical names to the database and set their file group to a value other than `PRIMARY`, you will have to complete the following steps after you have completed setting up the database and created the Maximo user:

1. Run the Asset Management for IT installation program and choose the **Do not run the configuration step now** option.
2. Add the following property to the *tamit_install_dir*\maximo\applications\maximo\properties\maximo.properties file:

`Database.SQL.DataFilegroupName=`*`your_logical_name`*

3. Execute the configuration steps outside of the Asset Management for IT installation program by using the taskrunner utility, located in the *tamit_install_dir*\scripts directory.

Note that these additional steps must be completed only if you have added additional logical names to the database and set their file group to a value other than *PRIMARY*.

Manually configuring WebLogic Server

If you indicate that you are using an existing WebLogic Server as your J2EE server during Asset Management for IT installation, the Asset Management for IT installation process will prepare EAR files on the Asset Management for IT administrative workstation that will have to be manually deployed to your WebLogic Server.

About this task

The Asset Management for IT installation program will not automatically configure a WebLogic Server environment for use by Asset Management for IT, nor will it install or otherwise deploy Asset Management for IT applications into a WebLogic Server. Also to consider is that if you are choosing to use WebLogic Server with Asset Management for IT, you are committing to using Maximo database security instead of application server security using Virtual Member Manager and a directory server.

Prior to manually configuring an existing WebLogic Server, ensure the system is currently using the latest update of Sun JDK 1.5.0.

Manually configuring WebLogic Server consists of the following tasks:

1. "Creating the `MAXIMOSERVER` domain"
2. "Starting the `MAXIMOSERVER` WebLogic Server domain and deploying the Maximo applications" on page 83

Creating the `MAXIMOSERVER` domain

This section details how to create the `MAXIMOSERVER` domain within WebLogic Server.

About this task

To create the `MAXIMOSERVER` domain within WebLogic Server, complete the following steps:

1. Launch the Configuration Wizard tool.
   - Windows For Windows systems, select **Start** → **Programs** → **BEA Products** → **Tools** → **Configuration Wizard**.
   - UNIX For UNIX systems, launch the Configuration Wizard using the config.sh command located in *weblogic_install_dir*/weblogic92/common/bin.
2. From the Welcome panel, select **Create a new WebLogic Server domain**, and then click **Next**.
3. From the Select a Domain Source panel, select **Generate a domain configured automatically to support the following BEA products**, and then click **Next**.

4. From the Configure Administrator Username and Password panel, enter an administrator user ID and password, and then click **Next**.
5. From the Configure Server Start Mode and JDK panel, enter the following information, and then click **Next**.

   WebLogic Server Domain Startup Mode
   Select **Production**.

   Selecting this option requires that you provide a user ID and password in order to deploy applications.

   JDK Selection
   Select **JDK supplied by BEA**.

   Select a Sun JDK with a version number 1.5.0 or greater from the supplied JDKs.
6. From the Customize Environment and Services Settings panel, select the default option **No**, and then click **Next**.
7. From the Create WebLogic Server Domain panel, change the **Domain Name** value to `MaximoServer`, and then click **Create** to create the domain.
8. Once the domain has been created, ensure that the **Start Admin Server** option is NOT selected, and then click **Done** to close the Configuration Wizard.

   UNIX On UNIX systems, this option will not be displayed.

Starting the `MAXIMOSERVER` WebLogic Server domain and deploying the Maximo applications

This section details how to start the `MAXIMOSERVER` WebLogic Server domain and deploy the Maximo and Maximo help applications.

Before you begin

If the WebLogic Server is not hosted on the same system as the Asset Management for IT administrative workstation, you will have to copy the maximo.ear and maximohelp.ear

About this task

To start the `MAXIMOSERVER` WebLogic Server domain and deploy the `Maximo` and `Maximohelp` applications, complete the following steps:

1. Log into the WebLogic Server system as an administrator.
2. Open a Windows command prompt and change directory to the MAXIMOSERVER directory.
   - Windows For Windows systems, change directory to the *weblogic_install_dir*\user_projects\domains\MaximoServer directory.
   - UNIX For UNIX systems, change directory to the *<weblogic_install_dir*/user_projects/domains/MaximoServer directory.
3. Start the application server by initiating the startWebLogic command.
   - Windows For Windows systems, *weblogic_install_dir*\user_projects\domains\MaximoServer\bin\startWebLogic.cmd.
   - UNIX For UNIX systems, *weblogic_install_dir*/user_projects/domains/MaximoServer/bin/startWebLogic.sh.

   The application server should start with no password prompts. Monitor the output in the command prompt shell session and verify that you see entries

stating `<Notice> <WebLogicServer> <BEA-000360> <Server started in RUNNING mode>`. The WebLogic Server is now ready to accept requests.

4. Use your Web browser to connect to http://*my_weblogic_server*:7001/console. This is the administration URL for the MaximoServer WebLogic Server domain.
5. Login to the WebLogic Server Administration Console with the username of `weblogic` and the password of `weblogic`.
6. From the WebLogic Server Administration Console, click **Lock & Edit** in the Change Center section of the console in order to set the server to edit mode.
7. Click the **Deployments** link in the Domain Structure section of the console.
8. From the Summary of Deployments section of the console, click **Install**. This launches the Install Application Assistant.
9. Click the **upload your file(s)** link and then next to the Deployment Archive field, click **Browse**.
10. Browse to the maximo.ear file, select the file, and then click **Open**.
11. Click **Next** to upload the file to the WebLogic Server.
12. Select the radio button adjacent to the maximo.ear file, and then click **Next** to continue the deployment.
13. Accept the default value of **Install this deployment as an application** and click **Next** to continue the deployment.
14. Accept the defaults and click **Finish** to complete the deployment process. The Maximo application is deployed. You are now ready to deploy the Maximo help application.
15. From the Summary of Deployments section of the console, click **Install**. This launches the Install Application Assistant.
16. Click the **upload your file(s)** link and then next to the Deployment Archive field, click **Browse**.
17. Browse to the maximohelp.ear file, select the file, and then click **Open**.
18. Click **Next** to upload the file to the WebLogic Server.
19. Select the radio button adjacent to the maximohelp.ear file, and then click **Next** to continue the deployment.
20. Accept the default value of **Install this deployment as an application** and click **Next** to continue the deployment.
21. Accept the defaults and click **Finish** to complete the deployment process. The Maximo Help application is deployed. You are now ready to deploy the Eclipse help application.
22. From the Summary of Deployments section of the console, click **Install**. This launches the Install Application Assistant.
23. Click the **upload your file(s)** link and then next to the Deployment Archive field, click **Browse**.
24. Browse to the maximoeclipse.ear file, select the file, and then click **Open**.
25. Click **Next** to upload the file to the WebLogic Server.
26. Select the radio button adjacent to the maximoeclipse.ear file, and then click **Next** to continue the deployment.
27. Accept the default value of **Install this deployment as an application** and click **Next** to continue the deployment.
28. Accept the defaults and click **Finish** to complete the deployment process.
29. When deployment is complete, in the Change Center, click **Activate Changes** to apply the changes. In the Messages section of the Administrative Console

once changes are activated, you should see the message **All changes have been activated. No restarts are necessary**.

30. Select the check boxes next to the maximo, maximo help, and eclipse help applications. From the Start button drop-down menu, select **Servicing all requests**. The Start Application Assistant will prompt you select **Yes** in order to start the applications.
31. Click **Yes** to start the Maximo and Maximo help applications.
32. Create the confhelp.properties file
    - Windows For Windows systems, create *weblogic_install_dir*/user_projects/properties/confhelp.properties.
    - UNIX For UNIX systems, create *weblogic_install_dir*/user_projects/properties/confhelp.properties.

    This file contains information that details which copy of the product information center will be accessible from the product.
33. Add content to the confhelp.properties and then save and close the file:
    - If you want to use the information center hosted on the external product information Web site, add the following content:

      ```
      #Path for redirect files
      help.redirectpath=/infocenter/tivihelp/v10r1/

      # This is the host of the Infocenter system
      help.redirecthost=publib.boulder.ibm.com

      # This is the port of the Infocenter system
      help.redirectport=80
      ```

    - If you want to use a local copy of the information center hosted on the WebLogic Server, add the following content:

      ```
      #Path for redirect files
      help.redirectpath=/help/

      # This is the host of the Infocenter system
      help.redirecthost=fully_qualified_weblogic_hostname

      # This is the port of the Infocenter system
      help.redirectport=59233
      ```

Configuring JMS for the E-mail listener in WebLogic Server

You use the E-mail Listeners application to receive and process requests through e-mail in the form of e-mail messages.

About this task

To configure JMS queues for the WebLogic Server, complete the following steps:

1. Log into the WebLogic Server administration console.
2. Create a persistent store.
   a. In the Domain Structure panel, expand **Services** and then click **Persistent Stores**.
   b. Click **New** and select the option to create a new file store.
   c. Enter `lsnrstore` for the name of the file store and c:\bea9 as the directory, and then click **Finish**.
3. Create a JMS Server
   a. In the Domain Structure panel, under **Services** → **Messaging** , click **JMS Servers**, enter the following information, and then click **Next**.

Name Enter a name for a new JMS server, for example, `lsnrserver`.

Persistent Store
Select **lsnrstore**.

b. For the **Target**, select **AdminServer**, and then click **Finish**.

4. Create a JMS System Module
   a. In the Domain Structure panel, under **Services** → **Messaging** , click **JMS Modules**, and then click **New**.
   b. Enter a value for the **Name** field, such as `lsnrjmsmodule`, and then click **Next**.
   c. Select the option for **AdminServer**, and then click **Next**.
   d. Select the option for **Would you like to add resources to the JMS system module?**, and then click **Finish**.
5. Add a connection factory to the JMS module.
   a. From the Summary of Resources table of the lsnrjmsmodule module, click **New** to add a resource.
   b. Select the **Connection Factory** option, and then click **Next**.
   c. From the Connection Factory Properties panel, enter the following information, and then click **Next**.

      Name Enter a name for the new connection factory. For example, `lsnrconnfact`.

      JNDI Name
      Enter **jms/mro/lsnr/lsnrcf**.

   d. Ensure AdminServer is selected, and then click **Finish**
6. Add a queue to the JMS module.
   a. From the Summary of Resources table of the lsnrjmsmodule module, click **New** to add a resource.
   b. Select the **Queue** option, and then click **Next**.
   c. From the JMS Destination Properties panel, enter the following information, and then click **Next**.

      Name Enter a name for the new queue. For example, `lsnrqueue`.

      JNDI Name
      Enter **jms/mro/lsnr/qin**.

      Template
      No template is necessary.

   d. Click **Create a new Subdeployment**, select `lsnrserver`, and then click **Finish**.
7. Set the XA option for the connection factory.
   a. Select `lsnrconnfact`, and then select the Transactions tab.
   b. Ensure that the XA Connection Factory Enabled option is selected, and then click **Save**.
8. Click **Activate Changes** to save and activate all changes.
9. To enable an e-mail listener to use JMS queues, a Message Driven Bean must be configured through a deployment descriptor file that is part of the installation. This is achieved by removing comment lines from specific sections within the deployment descriptor files. Edit the ejb-jar.xml and weblogic-ejb-jar.xml files.

a. Open the \harrier\applications\maximo\mboejb\ejbmodule\META-INF\ ejb-jar.xml file in an editor, uncomment the following sections, and then save the file:

```
Email Listener JMS is not deployed by default
<message-driven id="MessageDriven_LSNRMessageBean">
<ejb-name>LSNRMessageBean</ejb-name>
ejb-class>psdi.common.emailstner.LSNRMessageBean</ejb-class>
transaction-type>Container</transaction-type>
<message-destination-type>javax.jms.Queue</messagedestination-
type>
</message-driven>
```

```
Email Listener JMS is not deployed by default
<container-transaction>
<method>
<ejb-name>LSNRMessageBean</ejb-name>
<method-name>*</method-name>
</method>
<trans-attribute>Required</trans-attribute>
</container-transaction>
```

b. Open the harrier\applications\maximo\mboejb\ejbmodule\META-INF\ weblogic-ejb-jar.xml file in an editor, uncomment the following section, and then save the file:

```
Email Listener JMS is not deployed by default
<weblogic-enterprise-bean>
<ejb-name>LSNRMessageBean</ejb-name>
<message-driven-descriptor>
<destination-jndi-name>jms/mro/lsnr/qin</destination-jndiname>
<connection-factory-jndi-name>jms/mro/lsnr/lsnrcf</
connection-factory-jndi-name>
</message-driven-descriptor>
<transaction-descriptor>
<trans-timeout-seconds>600</trans-timeout-seconds>
</transaction-descriptor>
<jndi-name>LSNRMessageBean</jndi-name>
</weblogic-enterprise-bean>
```

Related concepts

"Configuring and managing Oracle WebLogic Server"
This section describes common tasks on configuring and administering the Oracle WebLogic Server.

Configuring and managing Oracle WebLogic Server

This section describes common tasks on configuring and administering the Oracle WebLogic Server.

For more comprehensive information on running and administering WebLogic Server visit the Oracle Web site.

Related tasks

"Configuring JMS for the E-mail listener in WebLogic Server" on page 85
You use the E-mail Listeners application to receive and process requests through e-mail in the form of e-mail messages.

"Configuring JMS options for integration framework"
This procedure provides details on steps to configure JMS queues. If you have received the integration framework Product Enabler and plan to implement the integration framework, define the required *Java Message Service* (JMS) options at this time.

Configuring JMS options for integration framework

This procedure provides details on steps to configure JMS queues. If you have received the integration framework Product Enabler and plan to implement the integration framework, define the required *Java Message Service* (JMS) options at this time.

Before you begin

You must be familiar with the Oracle WebLogic Server Administration Console to complete the following procedure. See your Oracle WebLogic Server documentation on how to navigate through the WebLogic Server Administration Console.

1. Launch Internet Explorer and open the MAXIMOSERVER Administration Console by typing the following URL:

   `http://host_name:7001/console`
2. Sign in by entering your User ID and password.
3. Create three persistent file stores with the following configuration parameters:

Option	Description
Option	Description
File Store Name	`sqinstore`, `sqoutstore`, `cqinstore`
File Store Target	MAXIMOSERVER
File Store Directory	C:\bea92, or another directory of your choice

   File stores have better performance in general. However, you can choose to create database-based stores. To choose between file stores and database-based stores, consult your WebLogic documentation.
4. Create three JMS servers with the following configuration parameters:

Option	Description
Option	Description
Properties Name	`sqinserver`, `sqoutserver`, `cqinserver`
Server Target	MAXIMOSERVER
Bytes Maximum	20% or below of the allotted JVM heap size

   It is recommended that you configure the Bytes Maximum for the JMS servers to a value of 20% or below of the allotted JVM heap size to prevent the WebLogic Server from running out of memory.
5. Create a JMS system module named `intjmsmodule` with MAXIMOSERVER as the target server.

6. Add a connection factory resource to the JMS module:

Option	Description
Option	Description
Name	intjmsconfact
JNDI Name	jms/maximo/int/cf/intcf
Target	MAXIMOSERVER

7. Add three queue resources to the JMS Module:
   a. Create the queue resource type.
   b. Create a new subdeployment with the same name as the queue.
   c. Assign the *subdeployment_name*`server` server target to the subdeployment.

Option	Description
Option	Description
Queue 1	Name: sqin JNDI Name: jms/maximo/int/queues/sqin
Queue 2	Name: sqout JNDI Name: jms/maximo/int/queues/sqout
Queue 3	Name: cqin JNDI Name: jms/maximo/int/queues/cqin
Template	None

8. Enable the JMS connection factory for integration framework:
   a. Select the intjmsconfact link.
   b. From the **Transactions** tab, check the **XA Connection Factory Enabled** check box.
   c. Set the Maximum Messages per Session to `-1`.
9. Save and activate the changes.

What to do next

You must now stop and restart the MAXIMOSERVER application server for the update to take effect.

Related concepts

"Configuring and managing Oracle WebLogic Server" on page 87
This section describes common tasks on configuring and administering the Oracle WebLogic Server.

Starting integration framework cron tasks

You can start the integration framework cron tasks from the Cron Task Setup application.

About this task

To start the integration framework cron tasks, log in to Maximo and access the Cron Task Setup application.

1. Choose **JMS Sequential Queue Consumer** (`JMSQSEQCONSUMER`).
2. Click **Active** for `SEQIN` and `SEQOUT`, and the click **Save**.
3. Choose the menu action Reload Request, select **SEQQOUT** and **SEQQIN** cron tasks, and click **OK**.

Starting the WebLogic Server

An application server named MAXIMOSERVER was created during installation.

About this task

To start the MAXIMOSERVER application, complete the following steps:

1. Open a command prompt window and change the directory to :

   Windows **Windows:**
   C:\bea\user_projects\domains\mydomain

   UNIX **UNIX:**
   weblogic_install_dir/user_projects/domains/mydomain

2. Launch:

   Windows **Windows:**
   startWebLogic.cmd

   UNIX **UNIX:**
   ./startWebLogic.sh

3. If prompted, type the administrator user name and password. Once you see the phrase: `server started in RUNNING Mode` or `Started weblogic Admin Server MAXIMOSERVER for domain` *`mydomain`* `running in production mode` (depending on your operating system), the WebLogic Server is running.

Stopping the WebLogic Server

You can use the Administrative Console to stop the WebLogic Server.

About this task

To stop the MAXIMOSERVER from the Administrative Console, complete the following steps:

1. Open a browser window and enter the URL: http://*localhost*:7001/console This URL is the administration URL for WebLogic domain you created.
2. Log in to the Administration Console with the administrator user name and password.
3. In the Domain Structure section, click **Environment** → **Servers**.
4. In the main section of the console, click the **AdminServer** link.
5. Click the **Control** tab.
6. Click **Shutdown** and then **Force Shutdown Now**. The MAXIMOSERVER is stopped.

Chapter 7. Installing IBM Tivoli Asset Management for IT language pack

This procedure provides task information for installing the IBM Tivoli Asset Management for IT language pack.

Related concepts

Installing and refreshing language support files for a package
A process solution package might define one or more language support features.

"Planning language support" on page 14
Language support refers to the languages you plan to support in the product user interface.

Installing IBM Tivoli Asset Management for IT language pack with the Launchpad

After you installed Tivoli Asset Management for IT, set the Maximo language. Tivoli Asset Management for IT installation program does not install languages, so you need to add them.

Before you begin

Because language pack installation can take several hours to complete, decide which additional languages you need prior to starting installation. Each additional language selected increases the amount of time to complete the installation. Also, do not add as an additional language the language you select as your base. This is not necessary and only increases the installation time.

Important:

- `MAXIMOSERVER` must be started prior to running the Asset Management for IT language pack installation.
- If you plan to add language support to Asset Management for IT, use the Asset Management for IT language pack installation **before** you perform post installation steps described in Chapter 10, "IBM Tivoli Asset Management for IT post installation tasks," on page 113.

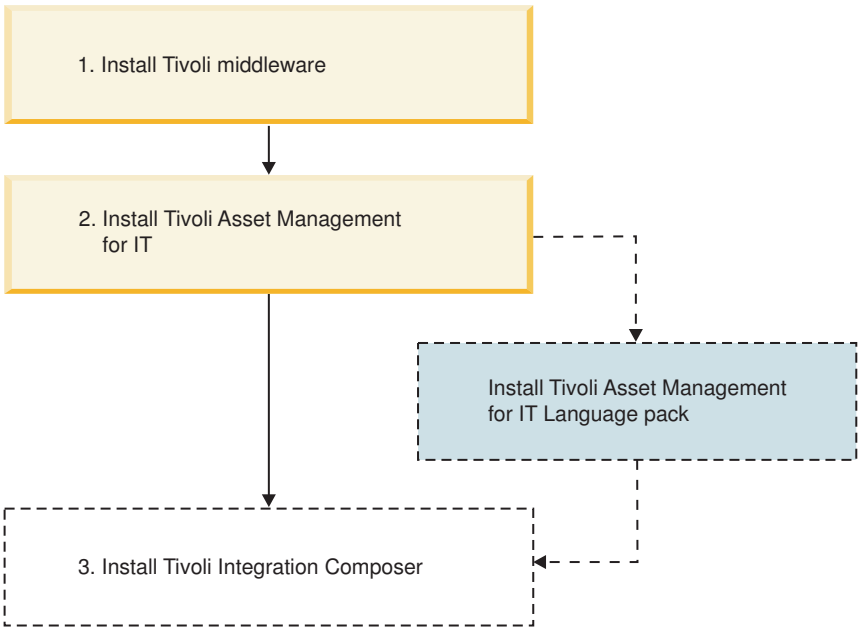


Figure 4. Asset Management for IT installation flow- Installing Asset Management for IT language pack.

About this task

To use the Asset Management for IT language pack installation program to install the Asset Management for IT language pack, complete the following steps:

1. Ensure all Asset Management for IT middleware servers and services are running. If you encounter a failure resulting from an inactive the middleware server or service, start that server or service, and then rerun the language pack installation program. The language pack installation program first uninstalls the base and additional languages installed by the process solution installation wizard from the failed installation attempt, and perform a reinstall.
2. Login as Administrator on the Asset Management for IT administrative system.
3. On the Launchpad, click the **Asset Management for IT Language Pack Installer** link under 2.
4. Select a language for the install, and then click **OK**. This choice is only for use during the installation and its selection will not affect the languages being installed.
5. From the Welcome panel, click **Next**.
6. From the Base Language panel, select a base language that is to be used with Asset Management for IT, and then click **Next**.

   Attention: This is the only opportunity you can select a base language. You cannot change the base language at a later time.
7. From the Additional language selection panel, select `0` or more additional languages to be supported, and then click **Next**. You are not prevented from selecting the language you specified in the Base Language panel as an Additional Language. While no error will occur during installation, in practice, do not specify the base language as an additional language. Doing so would be redundant.
8. From the language selection summary panel, review the information and then click **Next**.
9. From the Pre-install Summary Panel, click **Install**.

Results

Even if you added additional languages through the language pack installation program, and you set the locale of your computer to a language that was installed as an additional language, you might still encounter instances in the Asset Management for IT user interface where items are displayed in the language you identified as the base language of the computer. This problem is a known limitation and does not indicate that the Asset Management for IT language pack installation failed.

In some cases, shortcut elements appearing in the Asset Management for IT user interface, for example, menu choices, only display in the base language designated or in English only.

Installing language packs with Process Solution Installer

The Process Solution Installer guides you through the installation of a process manager product (PMP) or Integration Module. Use the Process Solution Installer to refresh languages to synchronize them with Maximo languages.

Before you begin

If you have run the language pack installation, you have Maximo languages set. The next step is to refresh languages on newly created IBM Tivoli Asset Management for IT 7.2.

About this task

Note: Perform this task *after* you installed Asset Management for IT and Integration Composer. To pick up language packs for Asset Management for IT and Integration Composer, install **ITIC_PMP_7.2.0.zip** and **TAMIT_ENG_7.2.0.zip** packages *again*, after running the launchpad.

To install additional languages with Process Solution Installer, launch the Process Solution Installer and follow the instructions on the consecutive windows. In the Choose PSI Package window, you are prompted to choose PMP archive files.

By default, the packages are located in the C:/IBM/SMP/pmp directory.

To choose and install *any* PSI package, perform these steps:

1. On the Administrative workstation, launch the Process Solution Installer (PSI): Click **Start** → **Programs** → **IBM Tivoli base services** → **Process Solution Installer**.
2. Select a language for your installation, and then click **OK**.
3. On the Introduction panel, click **Next**.
4. On the Choose PSI Package panel, click **Choose** and:
   a. Navigate to the temporary directory where you downloaded and uncompressed the fix pack.
   b. Select a PSI archive package and click **Open**.
5. On the Package Validation Results panel, review and verify the information displayed, and then click **Next**.
6. On the Middleware Login Information panel, enter the credentials for which you are being prompted, and then click **Next**.

The contents of this panel are constructed dynamically, depending on the type of package you are installing. The package is queried to determine which middleware login credentials are necessary to complete the installation of the package.

After you enter the requested user IDs and passwords, the Process Solution Installer validates the credentials by connecting to the middleware servers using the supplied credentials.

7. After the credentials have been verified, a package options panel is displayed that details the deployment options that the package supports.

   Note: When installing any of the fix pack PSI packages using PSI, the updatedb step cannot be deferred. *DO NOT* select the option to **Defer the Upgrade of the Maximo Database**.
   After you specify which options will be used, the Process Solution Installer performs a system check to ensure that all system requirements necessary for the package to be installed are present. Click **Next**.
8. On the "Pre-Install Summary" panel, review and verify the information displayed, and then click **Next**. The Process Solution Installer begins installing the PSI package. A progress panel informs you of the progress of the deployment. When the installation is complete, the Package Successfully Deployed panel is displayed. Click **Next**.
9. On the Install Another Package panel, do one of the following:
   - If you want to install another PSI package, select **Install Another Package?** and click **Done**. Then repeat the preceding steps of this procedure, starting with 4 on page 93.
   - If you are finished installing PSI packages, deselect **Install Another Package?** and click **Done** to exit the Process Solution Installer.

Related concepts

"Planning language support" on page 14
Language support refers to the languages you plan to support in the product user interface.

Chapter 8. Deploying ear files

You are now ready to deploy the EAR files from the WebLogic Console. Deploying the EAR files starts the Maximo Application Server.

Before you begin

Windows **Windows**

If MAXIMOSERVER is not running, start it from a command prompt.

UNIX **UNIX**

Ensure that the WebLogic daemon is running.

About this task

In order to view the Oracle WebLogic Server Administration Console, you must also install a Java Virtual Machine (JVM). Newer versions of Windows might not ship with JVM.

1. Change to the mydomain directory:

   Windows **Windows**

   From a command prompt, change directory path to:

   drive_name:*weblogic_install_dir**user_projects*\domain\mydomain

   UNIX **UNIX**

   Open a Terminal window (or a command prompt, if you are telneting from a Windows computer) and change directory as follows:

   cd /home/mxadmin/*weblogic_install_dir*/*user_projects*/domains/mydomain

2. Type

   Windows **Windows**

   startWebLogic.cmd

   UNIX **UNIX**

   ./startWebLogic.sh

   and press Enter. Once the phrase: Server started in RUNNING mode displays, the WebLogic Server is running.
3. Start the MAXIMOSERVER Administration Console by typing the following URL in the address bar of your browser : http://*host_name*:7001/console.
4. Log into the Administration Console with the administrative user name and password.
5. In the left pane, click the **Lock&Edit** button in the **Change Center** section to set the server to edit mode.
6. In the left pane, click the **Deployments** link in the **Domain Structure** section.
7. In the Summary of Deployments section, click the **Install** button. The Install Application Assistant opens.
8. Click the **upload your file(s)** link.
9. Click the **Browse** button next to the **Deployment Archive** field. Browse to where you have maximo.ear file installed, select the file and click **Open**.
10. Click **Next** to upload the file to the WebLogic server.

11. Click the radio button next to the maximo.ear file, and **Next** to continue the deployment.
12. Accept the default value “Install this deployment as an application” and click **Next** to continue the deployment.
13. Accept all other default values and click **Finish** to start the deployment process.
14. When the deployment process is complete, click the **Activate Changes** button in the Change Center to apply the changes. The following message displays: `All changes have been activated. No restarts are necessary.`
15. Repeat Steps 8 on page 95 through 14 to deploy maximohelp.ear.
16. Click the checkbox next to the maximo application.
17. Click the dropdown arrow of the **Start** button and select **Servicing all requests**. The Start Application Assistant displays.
18. Click **Yes** to start the system.

Chapter 9. Installing IBM Tivoli Integration Composer

After you successfully installed IBM Tivoli Asset Management for IT components, install optionally IBM Tivoli Integration Composer, an integration tool that imports information technology (IT) data into the Maximo database.

Asset Management for IT installations should use the Asset Management for IT Launchpad as an interface for installing Integration Composer, unless you have a 64-bit operating system.

When you install Integration Composer and Asset Management for IT from the launchpad, the Asset Management for IT installer automatically updates the Integration Composer database tables in the Integration Composer repository for you.

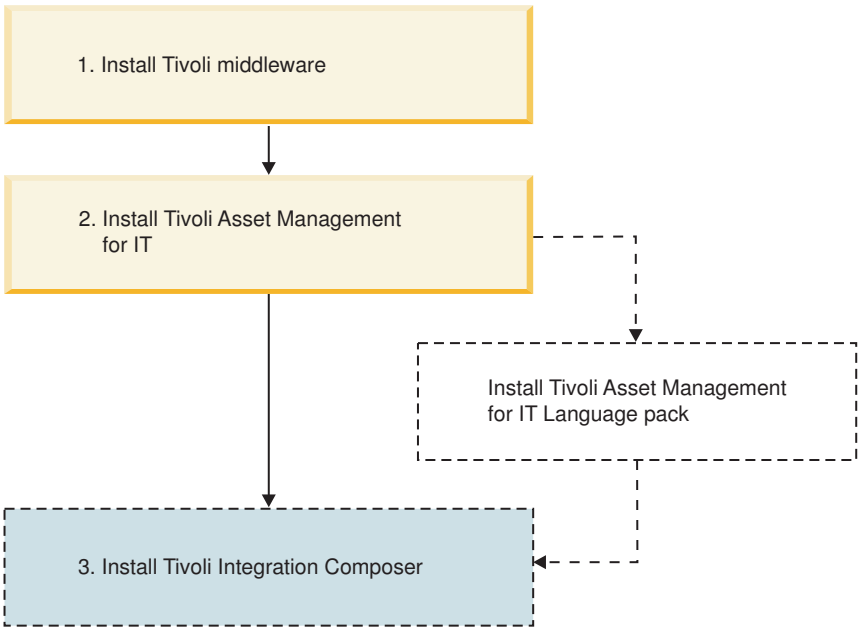


Figure 5. Asset Management for IT installation flow last step - Installing Integration Composer.

IBM Tivoli Integration Composer overview

This section introduces you to IBM Tivoli Integration Composer. Integration Composer is the IBM Tivoli application for transforming and importing inventory data about deployed hardware and software. This inventory data is imported from a discovery or system management tool database into the Maximo database tables for deployed assets or configuration items.

With Integration Composer, an enterprise can aggregate data collected by external discovery tools and integrate it into the Maximo database, creating a central repository for enterprise IT asset management, reporting, and decision support. The Maximo database is the repository used by

- IBM Tivoli Asset Management for IT,
- IBM Tivoli Service Request Manager,
- IBM Tivoli Change and Configuration Management Database

To collect the data about deployed assets or configuration items, a discovery tool scans computers, network devices, and network printers deployed in an enterprise and records information about the hardware and software it finds there. Integration Composer uses an integration adapter to transform the data collected by the discovery tool and move it from the discovery tool database into the Maximo database. For more about creating your own integration adapter, see the book *IBM Tivoli Integration Composer Administrator Guide*.)

You can view imported data from various applications on your system. The data is also used to generate reports.

Note: Integration Composer is used to import hardware and software inventory data from a discovery tool database into the Deployed Asset, Actual CI, or (for the purposes of asset initialization) Asset tables in the Maximo database. The import or export of data into or out of other tables within the Maximo database is accomplished using a different tool, the integration framework. Refer to the related book, *IBM Tivoli Asset Management for IT 7.2 Integration Guide*, for more on this subject.

Integration Composer backward compatibility

Several different Tivoli products and product combinations can use Integration Composer 7.2 to import data. Although Integration Composer 7.2 is backward compatible with these products, integration adapters and their associated data schemas and mappings might not be.

Table 10 shows the products or product combinations that can use Integration Composer 7.2, where to install it from, and what integration adapters to use.

Note: If you install Asset Management for IT 7.2 or other products that include it, you should install Integration Composer 7.2 from the Asset Management for IT 7.2 launchpad or as described (in subsequent topics) for 64-bit operating systems. *Everyone else* should install Integration Composer 7.2 from the IBM Software Support Web site.

Table 10. Product compatibility with Integration Composer 7.2 and integration adapters

Product or product combination	InstallIntegration Composer 7.2 from:	Use any of these compatible integration adapters from Tivoli:
Asset Management for IT 7.2	Asset Management for IT 7.2 Launchpad (or as described in "Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems" on page 103 or "Installing Tivoli Integration Composer on UNIX operating systems" on page 105)	The integration adapters included with Asset Management for IT 7.2
Asset Management for IT 7.1, running on Base Services 7.1.1.4 or 7.1.1.5	IBM Tivoli Asset Management for IT Support site	The optional integration adapters made available for Asset Management for IT 7.1

Table 10. Product compatibility with Integration Composer 7.2 and integration adapters (continued)

Product or product combination	InstallIntegration Composer 7.2 from:	Use any of these compatible integration adapters from Tivoli:
Tivoli Service Request Manager 7.1.x, running on Base Services 7.1.1.4 or 7.1.1.5	IBM Tivoli Asset Management for IT Support site	The optional integration adapters made available for Tivoli Service Request Manager 7.1.x
Tivoli Change and Configuration Management Database 7.1	IBM Tivoli Asset Management for IT Support site	The integration adapters included with Tivoli Change and Configuration Management Database 7.1.
Tivoli Service Request Manager 7.1.x *and* Asset Management for IT 7.2	Asset Management for IT 7.2 Launchpad (or as described in "Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems" on page 103 or "Installing Tivoli Integration Composer on UNIX operating systems" on page 105)	The integration adapters included with Asset Management for IT 7.2
Tivoli Change and Configuration Management Database 7.1 *and* Asset Management for IT 7.2	Asset Management for IT 7.2 Launchpad (or as described in "Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems" on page 103 or "Installing Tivoli Integration Composer on UNIX operating systems" on page 105)	The integration adapters included with Tivoli Change and Configuration Management Database 7.1.

Hardware and software requirements

This section describes the products and versions supported by Integration Composer, plus the hardware and software requirements for the corequisite applications.

The hardware and software requirements for Integration Composer and its corequisites are as follows:

Integration Composer

Integration Composer 7.2 has the following minimum requirements:

- 3 GB memory
- 70 MB disk space
- IBM Java Software Development Kit 5.0 Service Release 5

Asset Management for IT,

Service Request Manager, or

Change and Configuration Management DatabaseChange and Configuration Management Database

Either IBM Tivoli Asset Management for IT 7.2, IBM Tivoli Asset Management for IT 7.1, IBM Tivoli Service Request Manager 7.1.x, or IBM Tivoli Change and Configuration Management Database 7.1 is required.

Integration Composer server

A dedicated server is required for running the Integration Composer application and Java components. Integration Composer can run on any of the following operating systems:

- Microsoft Windows 2003 Server with Service Pack 2
- IBM AIX 5L™ 5.3, AIX Technology Level 5300-06
- Red Hat Enterprise Linux 4 (Intel)
- SUSE SLES 9 (z/OS®)
- Sun Solaris 9 or 10 (SPARC processor-based systems)

Database servers

The customer is responsible for the database servers, which contain and manage one or more source databases and a target (Maximo) database.

The following databases are supported:

- IBM DB2 Version 9.5.1 for Linux, UNIX, and Windows
- IBM DB2 Universal Database 9.1 with Fix Pack 2
- IBM DB2 Universal Database 8.2 with Fix Pack 14
- Oracle Database 11*g* Release 1
- Oracle Database 10*g* Release 2
- Oracle Database 10*g* Release 1
- Oracle Database 9*i* Release 2
- Microsoft SQL Server 2008
- Microsoft SQL Server 2005

See the appropriate database documentation for the database server hardware requirements.

Web browser

To display its help information, Integration Composer requires a Web browser.

Installation prerequisites

Before installing, you must have the IBM Java SDK prerequisite for Integration Composer on your system, and any software that adversely affects the InstallAnywhere installation program must be removed.

IBM Java SDK 5.0 Service Release 5 for the appropriate operating system is an installation prerequisite that must be present on the Integration Composer computer. The IBM Java SDK is provided on the IBM Tivoli Asset Management for IT Support site.

UNIX In addition, on UNIX based operating systems, be sure the PATH environment variable includes the location of the Java Virtual Machine (for example, Java50).

Because the following software can adversely affect InstallAnywhere—the installation program used by Integration Composer—disable the following programs before attempting to install Integration Composer:

- Antivirus software, such as Norton Antivirus or Symantec Client Firewall
- Dell OpenManage

- Search software, such as pcAnywhere

Use of these software programs affects the ability of InstallAnywhere to install programs; however, the problem is not specific to Integration Composer.

Before beginning your installation, make sure you have on hand the information on the *target* (Maximo) database described in "Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems" on page 103.

Performing the Tivoli Integration Composer installation

Asset Management for IT installations that want to use Integration Composer must install it from the launchpad—unless you have a 64-bit operating system.

Results

When the installation completes successfully, you can access Integration Composer as follows:

Windows: From the **Start** menu, or by entering the command: `startFusion.bat`

UNIX: By entering the command: `./startFusion.sh`

Installing Tivoli Integration Composer on 32-bit Windows using the launchpad

Windows For Asset Management for IT installations using 32-bit Windows operating systems, the recommended way to install Integration Composer is from the launchpad.

Before you begin

If you have a 64-bit operating system, follow the instructions in "Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems" on page 103 or "Installing Tivoli Integration Composer on UNIX operating systems" on page 105.

Installing Integration Composer 7.2, as described in this section, will upgrade the previous version of Integration Composer. You do not need to remove the previous version first. When upgrading, you might not be required to perform every step in this section; the installation program will bypass any unnecessary steps. To avoid losing any of your current data, back up your Integration Composer data\dataschema and data\mappings directories before installing.

Make sure you have up to 70 MB of free space for the installation directory.

About this task

To install Integration Composer with the Launchpad, complete the steps that follow.

1. Insert the Launchpad DVD into the server where you will install Integration Composer, and, from the Launchpad, launch the Integration Composer installation program by clicking the link under **3. Install Tivoli Integration Composer**.

Note: If you do not have the prerequisite IBM Java SDK 5.0 Service Release 5 currently installed on the Integration Composer server, an error window displays and the installation ends.

2. In the IBM Tivoli Integration Composer window, select your language from the drop-down list at the bottom and click **OK**.
3. In the Introduction window, review the information and click **Next**.
4. In the Choose IBM SDK Location window, type the directory where IBM Java SDK 5.0 Service Release 5 is located, or click **Choose** to browse and select the directory. Then click **Next**.
5. In the Choose Install Folder window, accept the default location or type a file path to specify the directory where you want to install Integration Composer. (Alternatively, you can click **Choose** to browse and select the location you want.) Then click **Next**.
6. In the Database Type window, select your Maximo database type (the Maximo database is where the Integration Composer repository will be installed) and click **Next**. **IBM DB2** is the default.

   The Database Login Information window is displayed.
7. On the Database Login Information window, type login specifications for the database and click **Next**.

   The Database Login Information window is where you define the parameters for connecting to the Maximo database. The fields displayed in this window vary slightly, depending on the type of database you chose in the previous step. The following table defines the fields that the installation program displays for the supported databases.

Table 11. Login specifications for the Maximo database

Field	Description
Database Server Name	Name of the server on which the Maximo database resides
Port Number	Port number of the server on which the Maximo database resides
Database Name (SID) or Database Name	For Oracle databases, this is the session identifier (SID) for the database; that is, the database instance For SQL Server or IBM databases, this is simply the name of the database
Database Username	Valid user name for signing in to the Maximo database
Database/Schema Owner	Database or schema owner

Tip: Make note of the values that you specified here. Later, when you launch Integration Composer, use the values entered in these fields to define connection parameters for the Maximo database.

8. On the Update Software Instances window, select one of the following options and click **Next**:

   Yes, disable software updates
   If you select this option, when Integration Composer imports data into the Maximo database, Integration Composer inserts or deletes software records but does not update software records. This option is preferred.

No, don't disable software updates

If you select this option, when Integration Composer imports data into the Maximo database, Integration Composer updates existing software records.

In the **Software Class Name** field, it is recommended to accept the default value **Software**. The Software Class name is used to identify the class that you do not want to update based on the choice above. In the Deployed Assets target schema, the name is `Software`.

9. On the Preinstallation Summary window, review the installation details and click **Next**.
10. On the Begin Installing window, click **Install** to begin installing Integration Composer. The Installing Integration Composer progress window displays during installation.

    When installing is finished, the Installation Complete window is displayed.
11. In the Installation Complete window, click **Done**.

Installing IBM Tivoli Integration Composer on 64-bit Windows operating systems

Windows Use the procedure described here to install Tivoli Integration Composer on a 64-bit Windows computer without using the launchpad. Instead, you perform this installation from the command line.

Before you begin

Installing Integration Composer 7.2, as described in this section, will upgrade the previous version of Integration Composer. You do not need to remove the previous version first. When upgrading, you might not be required to perform every step in this section; the installation program will bypass any unnecessary steps. To avoid losing any of your current data, back up your Integration Composer data\dataschema and data\mappings directories before installing.

Make sure you have 70 MB of free space for the installation directory.

About this task

The Integration Composer files are located on the Tivoli Asset Management for IT 7.2 DVD in the \Installs\ITIC directory. Choose the setup.exe command from the DVD layout to start the installation process.

To install Integration Composer on a Windows 64-bit operating system, complete the steps that follow.

1. Run the setup command to begin your installation. Due to an installer problem with InstallAnywhere, 64-bit operating system users must specify the location of the IBM Java SDK in their setup command. From the DOS prompt, enter:

   ```
   setup.exe LAX_VM "C:\Program Files\IBM\Java50\jre\bin\java.exe"
   ```

   Note: If you do not have the prerequisite IBM Java SDK 5.0 Service Release 5 currently installed on the Integration Composer server, a LaunchAnywhere Error window displays and the installation ends. The error states: `Windows error 3 occured while loading the Java VM.` To correct the problem, install

IBM Java SDK5.0 Service Release 5 on your operating system and run the setup command again. The IBM Java SDK was provided with Integration Composer 7.1.*x*.

2. On the IBM Tivoli Integration Composer window, select your language from the drop-down list at the bottom and click **OK**. The Integration Composer user interface is mirrored when you select either of the `Arabic` or `Hebrew` bi-directional languages from the drop down list.
3. On the Introduction window, review the information and click **Next**.
4. On the Choose IBM SDK Location window, type the directory where IBM Java SDK 5.0 Service Release 5 is located, or click **Choose** to browse and select the directory. Then click **Next**.
5. On the Choose Install Folder window, accept the default location or type a file path to specify the directory where you want to install Integration Composer. (Alternatively, you can click **Choose** to browse and select the location you want.) Then click **Next**.
6. On the Database Type window, select your Maximo database type (the Maximo database is where the Integration Composer repository will be installed) and click **Next**. `IBM DB2` is the default database type. The Database Login Information window is displayed.

   This Database Login Information window is where you define the parameters for connecting to the Maximo database. The fields displayed in this window vary slightly, depending on the type of database you chose in the previous step.

   The following table defines the fields that the installation program displays for the supported databases.

Table 12. Login specifications for the target (Maximo) database

Field	Description
Database Server Name	Name of the server on which the target database resides
Port Number	Port number of the server on which the target database resides
Database Name (SID) or **Database Name**	For Oracle databases, this is the session identifier (SID) for the database; that is, the database instance For Microsoft SQL Server or IBM databases, this is simply the name of the database
Database Username	Valid user name for signing in to the target database
Database/Schema Owner	Database or schema owner

7. On the Database Login Information window, type login specifications for the database and click **Next**.

   Tip: Make note of the values that you specified here. Later, when you launch Integration Composer, use the values entered in these fields to define connection parameters for the target data source.
8. On the Update Software Instances window, select one of the following options and click **Next**:
   - **Yes, disable software updates**

If you select this option, when Integration Composer imports data into the target database, Integration Composer inserts or deletes software records but does not update software records. This option is preferred.

- **No, don't disable software updates**

  If you select this option, when Integration Composer imports data into the target database, Integration Composer updates existing software records.

9. On the Preinstallation Summary window, review the installation details and click **Next**.
10. On the Begin Installing window, click **Install** to begin installing Integration Composer. The Installing IBM Tivoli Integration Composer progress window displays during installation.

    Note: If necessary, you can click **Cancel** to end the installation.

    When installing is finished, the Installation Complete window is displayed.
11. On the Installation Complete window, click **Done**.

Installing Tivoli Integration Composer on UNIX operating systems

UNIX Use the procedure described here to install Tivoli Integration Composer on an UNIX computer without using the Launchpad. Instead, you perform this installing from the command line.

Before you begin

Installing Integration Composer 7.2, as described in this section, will upgrade the previous version of Integration Composer. You do not need to remove the previous version first. When upgrading, you might not be required to perform every step in this section; the installation program will bypass any unnecessary steps. To avoid losing any of your current data, back up your Integration Composer data\dataschema and data\mappings directories before installing.

Make sure you have up to 70 MB of free space for the installation directory.

About this task

The Integration Composer files are located on the "Tivoli Asset Management for IT 7.2" DVD in the \Installs\ITIC directory. Depending on the operating system, choose the setup.[bin|exe] command from the DVD layout to start the installation process:

```
setup.bin
setup.exe
```

To install Integration Composer on a UNIX-based operating system, complete the following steps:

1. Sign on to the server as an administrator (for example, as `root`).
2. Save the binary Integration Composer installation file, setup.bin, on the server where you intend to install Integration Composer.
3. Make sure IBM Java SDK is in your system path.

   To add IBM Java SDK to the path, enter the following commands (where *SDK_location* is the path for your IBM Java SDK; for example, `/opt/java1.5/bin`):

```
JAVA_HOME=SDK_location
export JAVA_HOME
PATH=$JAVA_HOME:$PATH
export PATH
```

4. Navigate to the location where you saved the setup.bin file.
5. Enter the following command to make the binary installation file executable:

   ```
   chmod +x setup.bin
   ```

6. Run the Integration Composer installation program either as an X Window application or in console mode, as follows:
   - To run the installation program as an X Window application, enter the following command at the shell prompt:

     ```
     sh ./setup.bin
     ```

   - To run the installation program in console mode, enter the following command at the shell prompt:

     ```
     sh ./setup.bin -i console
     ```

     In console mode, you are prompted to enter information line by line. The information you enter and the sequence in which you enter it are similar to the X Window process.

   Note: If you do not have the prerequisite IBM Java SDK 5.0 Service Release 5 currently installed on the Integration Composer server, a LaunchAnywhere Error window displays and the installation ends. The error states: `Windows error 3 occured while loading the Java VM.` To correct the problem, install IBM Java SDK 5.0 Service Release 5 on your operating system and run setup.bin again. The IBM Java SDK was provided with Integration Composer 7.1.1.

   The instructions that follow describe the remaining installation steps using console mode.
7. In the Choose Locale step, type the number of your locale from the list of locales and press Enter.
8. In the Introduction step, review the Introduction information and press Enter.
9. In the Select Install Type step, indicate whether you want to perform a new installation or upgrade Integration Composer from the previous release. Either type the number of your selection and press **Enter**, or just press **Enter** to accept the default (**New Install**).
10. [Upgrades only.] If you selected the **Upgrade** option in the previous step, type the location (absolute path) where Integration Composer is currently installed and press **Enter**. Or just press **Enter** to accept the default (`/Integration_Composer`).
11. [New installations only.] In the Choose Install Folder step, specify where you want to install Integration Composer by doing one of the following:
    - Accept the default location and press **Enter**.
    - Type a different file path for the location and press **Enter**; then type `y` to confirm the new location, and press **Enter** again.
12. [New installations only.] In the IBM SDK Location step, specify the file path where IBM Java SDK 5.0 Service Release 5 is installed by doing one of the following:
    - Accept the default location and press **Enter**.
    - Type a different file path for the location and press **Enter**.
13. [New installations only.] In the Database Type step, indicate your Maximo database type (the Maximo database is where the Integration Composer

repository will be installed) by typing the associated number; then press Enter. The Database Login Information step is displayed.

This Database Login Information step is where you define the parameters for connecting to the Maximo database. The fields displayed in this step vary slightly, depending on the type of database you chose in the previous step.

The following table defines the fields that the installation program displays for the supported databases.

Field	Description
Database Server Name	Name of the server on which the target database resides
Port Number	Port number of the server on which the target database resides
Database Name (SID) or **Database Name**	For Oracle databases, this is the session identifier (SID) for the database; that is, the database instance For SQL Server or databases provided by IBM, this is simply the name of the database
Database Username	Valid user name for signing in to the target database
Database/Schema Owner	Database or schema owner

14. In the Database Login Information step, type each login specification for the database, one at a time, pressing **Enter** after each entry to advance to the next specification.

    Tip: Make note of the values that you specified here. Later, when you launch Integration Composer, use the values entered in these fields to define connection parameters for the target data source.
15. In the Update Software Instances step, type a number to select one of the following options, and press **Enter**:
    - **Yes, disable software updates**

      If you select this option, when Integration Composer imports data into the target database, Integration Composer inserts or deletes software records but does not update software records. This option is preferred for performance reasons.
    - **No, don't disable software updates**

      If you select this option, when Integration Composer imports data into the target database, Integration Composer updates existing software records.
16. In the Software Class Name step, accept the default and press Enter.
17. In the Choose Internet Browser File step, accept the default browser, Netscape (only the Netscape browser is supported on UNIX-based operating systems); then press Enter.
18. In the Preinstallation Summary step, review the installation details and press Enter to begin installing Integration Composer. The Installing progress bar displays during installation.

    When installation is complete, the Installation Complete step is displayed.
19. In the Installation Complete step, press Enter. The installation is done and you are returned to the UNIX command prompt.

Confirming the installation

This section explains how to verify that your new Integration Composer installation is working properly.

About this task

To determine if Integration Composer is installed correctly, complete the following steps:

1. Open the Integration Composer application by doing one of the following things:

   Windows

   From the Windows **Start** menu, select **Start** → **Programs** → **IBM Tivoli** → **Integration Composer** → **IBM Tivoli Integration Composer**

   or

   from the command line, enter the command: `startFusion.bat`

   UNIX

   Enter the command: `./startFusion.sh`.

2. Sign in to the Integration Composer application using the database (or schema owner) username and password that you supplied during the installation.
3. From the **Help** menu in the Integration Composer main window, select **About**.
4. On the About Integration Composer window, check that the number in the **Version** field is 7.2. If this number is displayed, Integration Composer 7.2 was successfully installed.

Post-installation tasks

This section provides instructions for verifying that Integration Composer is configured correctly.

Verifying the settings in the Integration Composer fusion.properties file

The fusion.properties file is the properties file for Integration Composer. Among other things, these properties specify Maximo and Integration Composer database-related properties and application properties. This verification task is to ensure that, after you have installed Integration Composer, critical property settings in the fusion.properties file are correct.

Before you begin

The Integration Composer fusion.properties file is located as follows:

itic_install_dir\data\properties\fusion.properties

About this task

To review the critical settings in your fusion.properties file:

1. Locate the Integration Composer fusion.properties file in your Integration Composer installation directory, *itic_install_dir*..

2. In the IBM Tivoli Maximo Database–Related Properties section, verify that the database schema owner, JDBC driver specification, and JDBC URL specification are correct. Use the following table as a guide:

Property	Description	Value
mxe.db.schemaowner	Database schema owner	Enter the appropriate schema for your database; for example, `dbo`.

mxe.db.driver	JDBC driver specification	This varies depending on the database, for example:
		IBM DB2
		`com.ibm.db2.jcc.DB2Driver`
		Oracle JDBC Thin driver:
		`oracle.jdbc.driver.OracleDriver`
		i-net Opta driver (SqlServer):
		`com.inet.tds.TdsDriver`

mxe.db.url	JDBC database URL	This varies depending on the database, for example: **IBM DB2** `jdbc:db2://`*`host_name`*`:`*`host_port`*`/`*`database_name`* **Oracle JDBC Thin driver:** `jdbc:oracle:thin:@`*`host_name`*`:`*`host_port`*`:`*`host_SID`* **i-net Opta driver (SqlServer 7.0 or higher):** jdbc:inetdae7:*`host_name`*`:`*`host_port`*`?database=`*`database_name`*
mxe.db.user	Database user login name	

3. UNIX In the IBM Tivoli Integration Composer (ITIC) Application Properties section, users of UNIX-based operating systems should check that the **mxe.fusion.browser** property specifies `netscape`. For UNIX, Netscape is the *only* supported Web browser for Integration Composer:

   ```
   mxe.fusion.browser=netscape
   ```

   Note: Windows For Windows operating systems, the browser always defaults to Microsoft Windows Explorer.

Changing the memory allocation in the startFusion file (optional)

The *startFusion* file, named startFusion.bat in Windows operating systems or startFusion.sh in UNIX-based operating systems, is the startup file for the Integration Composer graphical user interface. This verification task is to ensure that, after you have installed Integration Composer, the memory allocation in the startFusion file is correct.

Before you begin

This task is optional. You need to perform it only if the Integration Composer graphical user interface does not start as described in “Confirming the installation” on page 108.

About this task

The Integration Composer startFusion file is located in the Windows and UNIX installation directories, as follows:

Windows *itic_install_dir*\bin\startFusion.bat

UNIX *itic_install_dir*/bin/startfusion.sh

When you install Integration Composer, the installation program assigns 1536 megabytes as the default amount of virtual RAM to allocate to the application. But, for example, if your server only has 1GB of physical memory, the `1536M` setting will not work for you.

Procedure

If the Integration Composer graphical user interface does not start, check the memory setting for the start javaw.exe command in the startFusion file, and decrease memory as necessary.

Example

For example, change `-Xmx1536M` to `-Xmx1024M`.

Changing the memory allocation in the commandLine file (optional)

The *commandLine* file, named commandLine.bat in Windows operating systems or commandLine.sh in UNIX-based operating systems, is the startup file for the Integration Composer command line interface. This verification task is to ensure that, after you have installed Integration Composer, the memory allocation in the commandLine file is correct.

Before you begin

This task is optional. You need to perform it only if the Integration Composer command line interface does not start.

About this task

The Integration Composer commandLine file is located in the Windows and UNIX-based installation directories, as follows:

Windows *itic_install_dir*\bin\commandLine.bat

UNIX *itic_install_dir*/bin/commandLine.sh

When you install Integration Composer, the installation program assigns 1536 megabytes as the default amount of virtual RAM to allocate to the application. But, for example, if your server only has 1GB of physical memory, the `1536M` setting will not work for you.

Procedure

If the Integration Composer command line interface does not start, check the memory setting for the java command in the commandLine file, and decrease memory as necessary.

Example

For example, change `-Xmx1536M` to `-Xmx1024M`.

Uninstalling Integration Composer

This section provides instructions for removing Integration Composer from Microsoft Windows and UNIX-based operating systems.

Uninstalling Integration Composer on Windows operating systems

1. In Microsoft Windows Explorer, go to the uninstall folder, *installation_dir*\Uninstall_Integration_Composer, where Integration Composer 7.2 was installed.
2. In the uninstall folder, double-click the uninstall file, Uninstall_Integration_Composer.exe. The Integration Composer utility for uninstalling the application displays the Uninstall IBM Tivoli Integration Composer window.
3. Click **Uninstall**. The Uninstall IBM Tivoli Integration Composer progress window is displayed as the uninstall utility removes the application.

   Note: If necessary, you can click **Cancel** to stop the uninstallation.

   When the removal of Integration Composer is finished, the Uninstall Complete window is displayed.
4. Click **Done**. The removal of Integration Composer is completed.
5. *Optional.* When the utility removes Integration Composer, one or more files sometimes remain in the installation directory. (For example, these files might be files that someone manually put into the directory, such as mapping files or schema files that the user imported, or they might be log files that Integration Composer created.) You can delete these files manually.

Uninstalling on UNIX operating systems

1. Go to the uninstall folder, *installation_dir*\Uninstall_Integration_Composer, where Integration Composer 7.1.1 was installed.
2. In the uninstall folder, do one of the following options:
   - If you installed the Integration Composer using the X Window application, type:

     ```
     sh ./Uninstall_IBM_Tivoli_Integration_Composer
     ```
   - If you installed the Integration Composer using console mode, type

     ```
     sh ./Uninstall_IBM_Tivoli_Integration_Composer -i console
     ```

   The instructions that follow describe the remaining uninstallation steps using console mode.
3. Press **Enter** to initiate the command from the previous step. The Uninstalling progress bar is displayed as the uninstall utility removes the application.

   When the removal of Integration Composer is finished, you are returned to the command prompt.
4. [Optional.] After the utility removes Integration Composer, one or more files sometimes remain in the installation directory. (For example, these files might

be files that someone manually put into the directory, such as mapping files or schema files that the user imported, or they might be log files that Integration Composer created.) You can delete these files manually.

Chapter 10. IBM Tivoli Asset Management for IT post installation tasks

There are some post installation tasks that must be completed following a successful Asset Management for IT deployment.

1. Provide values to Software Knowledge Base Toolkit cron task in Asset Management for IT user interface and load the software catalog from Software Knowledge Base Toolkit.
2. Provide values to Asset Discovery for z/OS cron task in Asset Management for IT user interface and load the software catalog from Asset Discovery for z/OS.
3. Load the Software Knowledge Base Toolkit catalog from Software Knowledge Base Toolkit into Asset Discovery for Distributed.
4. Define the launch-in-context to Software Knowledge Base Toolkit from Asset Management for IT user interface
5. Define the launch-in-context to Software Knowledge Base Toolkit from Asset Discovery for Distributed user interface
6. Define the Data sources/Mappings for Asset Discovery for Distributed in Integration Composer and import discovered data from Asset Discovery for Distributed
7. Define the Data sources/Mappings for Asset Discovery for z/OS in Integration Composer and import discovered data from Asset Discovery for z/OS.

The tasks include the following areas:

- "Initial data configuration" on page 115
- Chapter 7, "Installing IBM Tivoli Asset Management for IT language pack," on page 91

Performing post installation tasks for the J2EE server

Use this procedure to perform post installation steps for the WebLogic Server.

1. Install the updated Sun JDK 1.5.0.
   a. Obtain the latest Sun JDK 1.5.0 program, for example, JDK 1.5.0_14, from this URL: http://java.sun.com.
   b. Start the installation program. Windows On Windows, it is jdk-1_5_0_14–windows-i586–p.exe.
   c. Accept the license agreement.
   d. Change the installation destination path to be within your BEA Home folder, for example, c:\bea\jdk150_14, and click **OK** then **Next**.
   e. Accept any additional prompts to install the Sun JRE so that the installation process can complete successfully
2. Edit the domain configuration file for proper Java settings.

   Windows **Windows:**
   Navigate to C:*weblogic_install_dir*\user_projects\domains\mydomain\bin.

   UNIX **UNIX:**
   Navigate to *weblogic_install_dir*/bea/user_projects/domains/mydomain/bin.

a. Right-click and edit (do not double-click) setDomainEnv.cmd (Windows) or setDomainEnv.sh (UNIX).
b. Using your text editor, search for and replace jdk150_04 with jdk150_14 to point BEA to use the updated Sun JDK. Two instances must be replaced.
c. (Oracle only) Search for **PRE_CLASSPATH**. Set the parameter as follows:

```
set PRE_CLASSPATH=%WL_HOME%\server\lib\oraclethin.jar (Windows)
PRE_CLASSPATH={WL_HOME}/server/lib/oraclethin.jar (UNIX)
```

Note: This step is required for connecting to Oracle databases from the WebLogic Server.
d. Increase the Java Heap parameters by searching for **MEM_ARGS** and setting the parameter as follows:

```
set MEM_ARGS=-Xms512m -Xmx1024m -XX:MaxPermSize=512m (Windows)
MEM_ARGS=-Xms512m -Xmx1024m -XX:MaxPermSize=512m (UNIX)
```

These parameters are case sensitive. Ensure to include the minus (-) sign before each parameter and to include the m after each value.
e. Search for set JAVA_OPTIONS=%JAVA_OPTIONS% %JAVA_PROPERTIES%. Insert an option right after this string as follows:

```
-Dcom.sun.xml.namespace.QName.useCompatibleSerialVersionUID=1.0
```

The entry will look like this when complete:

```
set JAVA_OPTIONS=%JAVA_OPTIONS% %JAVA_PROPERTIES%
-Dcom.sun.xml.namespace.QName.useCompatibleSerialVersionUID=1.0
-Dwlw.iterativeDev=%iterativeDevFlag%
-Dwlw.testConsole=%testConsoleFlag%
-Dwlw.logErrorsToConsole=%logErrorsToConsoleFlag%
```

f. Save and close the setDomainEnv.cmd file.

3. Start the Server without being prompted for user name and password.

   If you are working in Production mode and do not want to be prompted for the WebLogic user name and password, create a boot.properties file. This procedure stores the user name and password in an encrypted format. Place the following two lines in a text file:

   ```
   username=administrator_username
   password=administrator_password
   ```

   The user name and password values must match an existing user account in the Authentication provider for the default security realm. If you save the file as boot.properties and locate it in the mydomain folder (for example: c:\bea\user_projects\domains\mydomain), the server automatically uses this file during its subsequent startup cycles. The first time you use this file to start a server, the server reads the file and then overwrites it with an encrypted version of the user name and password.
4. Verify settings by Starting the WebLogic Server.

What to do next

To ensure that the edits that you made to the previous WebLogic files were accurate, start the WebLogic Server. See “Starting the WebLogic Server” on page 90 for instructions.

Initial data configuration

Once you have successfully installed and configured Asset Management for IT components, there are several data configuration tasks you must complete prior to using Asset Management for IT.

Signing in using a default user ID

User management is managed through the application server or the directory server you have configured to use with Asset Management for IT. When first installed, Asset Management for IT contains the following default user IDs, which are members of the specified security groups described in this section.

Before you begin

When first installed, Asset Management for IT contains the following default user IDs, which are members of the specified security group:

Important: Before you begin this procedure, ensure you have the following users and groups created:

Table 13. Asset Management for IT users and groups

User	Groups
maxadmin (maxadminusr for Microsoft Active Directory)	`maxadmin`
`mxintadm`	`maxadmin`
`maxreg`	

The default password for each user ID is the same as the User Name (for example, `maxadmin` is both the user name and default password).

Note: User names and passwords are case sensitive. The default user names and passwords are lowercase.

About this task

To sign in, complete the following steps:

1. Open a browser window.
2. Navigate to the Asset Management for IT log in URL, for example:

   http://*host_name*:*port_number*/maximo.
3. Enter the user name `maxadmin` (lower case).
4. Enter the password `maxadmin` (lower case), and click Enter. The software displays an empty start center.

Configuring SMTP

If you did not configure SMTP parameters during installation, you will have to configure them through the product console.

Before you begin

This task **must** be completed before you begin the tasks described in "Applying changes to the database" on page 117.

About this task

To configure SMTP for Asset Management for IT, complete the following steps.

1. Login to the console as maxadmin.
2. Navigate to **Go To** → **System Configuration** → **Platform Configuration** → **System Properties**
3. Using the Filter feature, search for the **mail.smtp.host** Property Name.
4. Expand the **mail.smtp.host** property and set the Global Value attribute to your SMTP host.
5. Select the **mail.smtp.host** record checkbox.
6. Click the Live Refresh icon in the toolbar.
7. From the Live Refresh dialog, click **OK**.
8. Using the Filter feature, search for the **mxe.adminEmail** Property Name.
9. Expand the **mxe.adminEmail** property and set the Global Value attribute to your e-mail address.
10. Select the **mxe.adminEmail** record checkbox.
11. Click the Live Refresh icon in the toolbar.
12. From the Live Refresh dialog, click **OK**.

Create currency codes

You need to define a currency code for an organization.

About this task

To define a currency code for an organization, complete the following steps:

1. Open the Currency Code application for Users by selecting **Go to** → **Financial** → **Currency Code**.
2. Click **New Row**.
3. Enter a currency name. For example, `USD`.
4. Click **Save**.

Create item and company sets

You need to define item and company sets for an organization.

About this task

To define item and company sets for an organization, complete the following steps:

1. Open the Sets application for Users by selecting **Goto** → **Administration** → **Sets**.
2. Click **New Row**.
3. Enter a company set name. For example, `IT Comps`.
4. Enter `ITEM` in the **Type** field.
5. Click **New Row**.
6. Enter an item set name. For example, `IT Items`.
7. Enter `COMPANY` in the **Type** field.
8. Click **Save**.

Create an organization

Define at least one organization for Asset Management for IT.

About this task

To define an organization, complete the following steps:

1. Open the Organizations application by selecting **Goto >Administration >Organizations**
2. Click the **New Organization** icon in the toolbar.
3. Enter an organization name in the **Organization** field. For example, `ENGLENA`.
4. Enter the base currency you defined in the **Base Currency 1** field. For example, `USD`.
5. Enter the item set you defined in the **Item Set** field. For example, `IT Items`.
6. Enter the company set you defined in the **Company Set** field. For example, `IT Comps`.
7. Enter the default item status of PENDING in the **Default Item Status** field.
8. Click **Sites** tab.
9. Click **New Row**.
10. Enter a site name in the **Site** field. For example, `B901`.
11. Click **Save**.

Create a general ledger account component

You need to create a general ledger account component for Asset Management for IT.

About this task

To create a general ledger account component, complete the following steps:

1. Open the Database Configuration application by selecting **Goto** → **System Configuration** → **Platform Configuration** → **Database Configuration**.
2. Select **GL Account Configuration** from the **Select Action** drop-down menu.
3. Click **New Row**.
4. Enter a component name in the **Component** field. For example, `MYCOMPONENT`.
5. Enter a numerical length for the component. For example, `5`.
6. Enter a type for the component. For example, `ALN`.
7. Click **OK**.

Applying changes to the database

When you create a general ledger account component, it must be applied to the Maximo database.

About this task

To apply configuration changes to the Maximo database, complete the following steps.

1. Login to the Maximo console as `maxadmin`.
2. Navigate to **Go To** → **System Configuration** → **Platform Configuration** → **Database Configuration**. Every object that must be updated in the Maximo database will display a status of To Be Added.
3. On the Select Action drop-down list, select **Manage Admin Mode**.

4. Click **Turn Admin Mode ON**, and then click **OK** when prompted. This task will take several minutes to complete. You can use the **Refresh Status** button to view progress.
5. Once Admin Mode has been successfully enabled, select **Apply Configuration Changes**, which will apply the changes to the Maximo database. To Be Changed should not appear in the status column for objects listed.
6. Turn Admin Mode OFF.
   a. Navigate to **Go To** → **System Configuration** → **Platform Configuration** → **Database Configuration**.
   b. From the Select Action drop-down list, select **Manage Admin Mode**.
   c. Click **Turn Admin Mode OFF**, and then click **OK** when prompted. Failing to turn off Admin Mode within the application will cause cron tasks to fail.

Create a general ledger account

You need to create a general ledger account for Asset Management for IT.

About this task

To create a general ledger account, complete the following steps:

1. Open the Chart of Accounts application by selecting **Goto** → **Financials** → **Chart of Accounts**.
2. Click the name of your organization to select it. For example, click **ENGLENA**.
3. Select **GL Component Maintenance** from the **Select Action** drop-down menu.
4. Click **New Row**.
5. Add a GL Component value and then click **OK**. For example, `1234`.
6. Click **New Row**.
7. Select your General Ledger Account.
8. Click **Save**.
9. Open the Organizations application by selecting **Goto** → **Administration** → **Organizations**.
10. Click the organization name you created. For example, `ENGLENA`.
11. From the **Clearing Account** field, select the General Ledger Account you just created.
12. Select **Active**.
13. Click **Save**.

Update General Ledger Component Type Authorization

You need to update the general ledger component type authorization for Asset Management for IT

About this task

To authorize a Security Group to change a general ledge component type, complete the following steps:

1. Open the Security Groups application by selecting **Go To** → **Security** → **Security Groups**.
2. Select the Group that will be provided authorization (for example, PMSCOA).
3. Click the **GL Components** tab.

4. Click the **Authorized** checkbox for each GL Component.
5. Click **Save**

Create default insert site

You need to create a default insert site for Asset Management for IT.

About this task

To create a default insert site, complete the following steps:

1. Open the Users application by selecting **Goto** → **Security** → **Users**.
2. Search for maxadmin and then select it to open the record for maxadmin.
3. Enter the site you created earlier ("Create an organization" on page 116) in the **Default Insert Site** field. For example, `B901`.
4. Enter the site you created earlier in the **Storeroom Site for Self Service Requisitions** field. For example, `B901`.
5. Click **Save**.
6. Open the WebLogic Administrative Console and restart the MAXIMOSERVER application server.

Results

If you encounter an error message that indicates that the record is being updated by another user, log out as MAXADMIN and then log back in.

Create a Work Type

After you installed Asset Management for IT, you might need to optionally create a Work Type.

About this task

To create a Work Type:

1. Open the Organizations application by selecting **Go to** → **Administration** → **Organizations**.
2. Search for the organization you created, for example, `ENGLENA`.
3. Click the name of the organization to open the record for that organization.
4. Select **Work Order Options** → **Work Type** from the **Select Action** drop-down menu.
5. Click **New Row**.

What to do next

Depending on your product deployment configuration, select the Work Type of your choice from a drop-down list.

Specify a top-level class for IT assets and software

To distinguish IT assets from other types of assets, specify a top-level class for IT assets. Any asset that belongs to the hierarchy of the top-level IT asset class is an IT asset. Also, define a top-level class for software.

Before you begin

Before you can specify top-level classifications for IT assets and software, you must create a classification structure for IT assets and software in the Classifications application.

About this task

The class structure ID that is displayed in the System Settings window is a value stored in the database. If the classifications structure changes such that the top-level IT asset class no longer exists at the same place in the hierarchy, the **IT Asset Class Structure ID** field will remain populated, but the **IT Asset Top-Level Class** field will be blank or show the wrong class. Consequently, if changes are made to the database, and the classification is moved within the classification structure, or deleted and re-added, you must repeat this procedure to update the class structure ID.

The steps required to specify a top-level classification for IT assets and software follow.

1. On the navigation bar in Asset Management for IT, click **Go To** → **Administration** → **Organizations**.
2. From the Select Action menu in the Organizations application, select **System Settings**.
3. To specify the top-level IT asset, complete the following steps:
   a. In the IT Options section in the Systems Settings window, in the **IT Asset Top-Level Class** field, click the Detail Menu and select **Classify**. If necessary, you can select **Clear Classification** to clear the value displayed and then click **Classify**.
   b. In the Classify window, select the top-level asset class for IT assets by clicking the blue square to the left of the classification name. The application closes the Classify dialog box and populates the **IT Asset Top-Level Class** field.
4. To specify the top-level software classification, complete the following steps:
   a. In the IT Options section in the Systems Settings window, in the **IT Software Top-Level Class** field, click the Detail Menu and select **Classify**.
   b. In the Classify window, select the top-level asset class for IT assets by clicking the blue square to the left of the classification name. The application closes the Classify dialog box and populates the **IT Software Top-Level Class** field.
5. Click **OK** to save the settings and close the dialog box.

Create a classification structure for IT assets

Before you can implement IT asset management, you must define a classification structure for IT assets.

About this task

Asset Management for IT provides a Classifications application that lets administrators set up a nested, hierarchical structure in which to classify information on a company's assets. This structure lets you group assets with similar or common characteristics into categories or classes. You can use the classification to retrieve instances of assets that belong to the class. For example, you can specify that the class computers has the following subclasses: notebooks,

servers, desktops. If you want to analyze or review data about all notebooks in your enterprise, you can search for all assets classified as notebooks and retrieve instances of notebooks.

Best practices content for creating classifications is provided in the Open Process Automation Library.

The steps for creating classifications follow.

1. On the navigation bar in Asset Management for IT, click **Go To** → **Administration** → **Classifications**.
2. In the Classifications application, create classifications as needed. For instructions about creating classifications and other information related to classifications, see the integrated online help for the Classifications application in the Asset Management for IT user interface.

What to do next

After you create an IT asset classification structure, specify the top-level IT asset classification and the top-level software classification in the Organizations application.

Signing out and signing in

When you change a security group that your user ID is a member of, sign out and sign in again in order to see the changes.

Example

For example, even though you have granted the MAXADMIN group permission to create start center templates, the actions are not visible until you sign in again.

1. Sign out as MAXADMIN.
2. Sign in as MAXADMIN.

Tuning DB2

This section details how to tune DB2 after you have completed installation.

About this task

Asset Management for IT provides scripts that can be used to tune DB2. The use of these scripts is strictly optional and contain configuation parameters that might not be ideal for all environments. However, you can modify these scripts to suit your particular configuration and workload. Before modifying these scripts, you should make a backup copy of the original script.

The following database configuration parameters will be set:

- DFT_QUERYOPT 2
- LOCKLIST 15000 DEFERRED
- MAXLOCKS 60
- PCKCACHESZ 12600
- DBHEAP 2000
- CATALOGCACHE_SZ 800
- LOGBUFSZ 256
- UTIL_HEAP_SZ 10000

- APP_CTL_HEAP_SZ 16384 DEFERRED
- STMTHEAP 16384
- APPLHEAPSZ 2048
- STAT_HEAP_SZ 8196
- CHNGPGS_THRESH 40
- MAXFILOP 200
- LOGFILSIZ 2048 DEFERRED
- LOGPRIMARY 10
- LOGSECOND 15 DEFERRED

The following database manager configuration parameters will also be set:

- PRIV_MEM_THRESH 32767
- NUMDB 2

The DB2 tuning scripts are found in the *tamit_install_dir*/scripts/database directory, and must be run by a user with database administration authority.

Windows **Windows**

db2tuning.cmd [dbName [dbInstance]]

UNIX **UNIX**

db2tuning.sh [dbName [dbInstance]]

If the *dbName* is not provided, it will default to MAXDB71.

If the *dbInstance* is not provided it will default to ctginst1. If a database instance other than the default is needed, the dbName must also be provided.

Chapter 11. Uninstalling IBM Tivoli Asset Management for IT

The procedures and instructions provided here are based upon a scenario in which the IBM Tivoli Asset Management for IT installation program has experienced an error or failure.

Before you begin

Asset Management for IT uninstallation is a comprehensive procedure and does not support partial removal of individual components or process managers, including those deployed by other products. If you have deployed a product that includes process managers before you deployed Asset Management for IT, and you want to uninstall Asset Management for IT, be advised that you will also be removing the process managers deployed with the other product.

Note that you will only run the Asset Management for IT uninstallation program once. If there are errors, messages are generated that indicate conditions that you must resolve manually before attempting a reinstall. This also includes manually removing files from the administrative workstation.

Asset Management for IT can only be uninstalled using the Asset Management for IT uninstallation program as directed. Do not use other methods to attempt to uninstall Asset Management for IT, such as using the **Add/Remove Programs** panel.

About this task

The uninstall procedure you follow depends on the type of Asset Management for IT deployment you are uninstalling. For uninstallation purposes, Asset Management for IT deployments will fall into one of the following categories:

Manual configuration
In this scenario, you selected the option to manually configure middleware. You did not allow the Asset Management for IT installation program to automatically configure middleware during deployment.

What to do next

After the Asset Management for IT uninstall process is complete, you can reinstall Asset Management for IT by restarting the Asset Management for IT installation program.

Uninstalling a manually configured IBM Tivoli Asset Management for IT

Uninstalling a manually configured Asset Management for IT deployment consists of running the Asset Management for IT uninstallation program, and then manually dropping and recreating the database you intend to use with the reinstall process.

Running the IBM Tivoli Asset Management for IT uninstall program for a manually configured deployment

Running the Asset Management for IT uninstall program will revert the administrative system and middleware servers back to a state where you can rerun the Asset Management for IT installation program.

Before you begin

Ensure all applicable services are running and all middleware servers are accessible.

The Asset Management for IT uninstall program must be able to access the database used with Asset Management for IT to fetch installation properties and configuration data. If the Asset Management for IT uninstall program cannot access the database because it is unavailable, corrupt, or otherwise inaccessible, then the Asset Management for IT uninstall program will remove files from the administrative workstation and inform you that some manual recovery might be required before another Asset Management for IT installation can be successful.

If you have not changed passwords that were used for the initial installation, you do not have to enter values for password fields in the uninstall program.

About this task

To run the Asset Management for IT uninstall program:

1. Open a command prompt and issue the following command:
   *tamit_install_dir*_uninstall\uninstall.exe
2. From the Introduction panel, read the introductory information and then click **Next**.
3. From the application server information panel, enter the following information and then click **Next**.

   User ID
   Enter the password for the application server administrator.

   Password
   Enter the password for the application server administrator user ID.
4. Review the components that are listed in the uninstall summary panel, and then click **Uninstall**.
5. After the uninstall process has completed, click **Done** to exit the program.
6. Check to ensure the uninstall program removed the Asset Management for IT installation directory, for example, c:\ibm\smp. If the Asset Management for IT installation failed early in the process, the Asset Management for IT uninstall program might not remove the Asset Management for IT installation directory. If this directory still exists after you have completed the uninstall process, you will have to remove it manually before you proceed to the reinstallation process.
7. After the uninstall process has completed, specify whether or not you want to restart the computer now or later, and click **Done** to exit the program.
8. Using Windows services, stop **IBM ADE Service**.
9. To delete the service, use the following command: sc delete acsisrv.
10. Go to **Program Files** → **IBM** → **Common** and delete the asci folder.

11. Go to HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\acsisrv and remove the registry keys if any exist.
12. Restart the computer.

What to do next

You can now proceed with recovery of your manually configured database.

IBM Tivoli Asset Management for IT database configuration recovery

Database objects that you created before running the Asset Management for IT installation program must be deleted after a failed installation before you can rerun the Asset Management for IT installation program again.

Before you begin

Before rerunning the Asset Management for IT installation program, you must drop the Asset Management for IT database and recreate it.

Restoring the DB2 database server

In order to rerun the IBM Tivoli Asset Management for IT installation program, you must first restore the DB2 database server to the same state as before Asset Management for IT was installed.

Before you begin

Ensure that the `MAXIMOSERVER` application server on WebLogic Server is stopped before dropping the database.

About this task

Restoring the DB2 database server to the same state as before Asset Management for IT was installed, requires you to drop the Asset Management for IT database that you manually created and then recreate it before rerunning the Asset Management for IT installation program.

To restore the Asset Management for IT database, complete the following steps:

1. Log on to the system hosting the DB2 server.
2. Start a DB2 command session or run db2cmd from the command prompt.
3. First list and then force all applications connected to the database to close using the following commands:
   a. To list applications, type this command:

      ```
      db2 list applications
      ```

      You might see output like the following sample output:

      ```
      Auth Id Application Appl. Application Id DB # of
      Name Handle Name Agents
      -------- ----------- ------- ---------------------------- ------- -----
      CTGINST1 db2taskd 507 *LOCAL.DB2.071113150237            MAXDB71 1
      CTGINST1 db2stmm 506  *LOCAL.DB2.071113150236            MAXDB71 1
      CTGINST1 db2bp 504    *LOCAL.ctginst1.071113150234       MAXDB71 1
      ```

   b. If any connections exist, close the connect application using a command like the following sample command:

      ```
      db2 force application '( 507,506,504 )'
      ```

4. Drop the Asset Management for IT database (MAXDB71, by default):
   ```
   db2 drop database MAXDB71
   ```
5. Manually recreate the MAXDB71 database.

Restoring the Oracle database

In order to rerun the IBM Tivoli Asset Management for IT installation program, you must first restore the Oracle database server to the same state as before Asset Management for IT was installed.

Before you begin

Ensure that the MAXIMOSERVER application server on WebLogic Server is stopped before deleting the database.

About this task

Restoring the Oracle database server to the same state as before Asset Management for IT was installed, requires to drop the Asset Management for IT database that you manually created, and then recreate it before rerunning the Asset Management for IT installation program.

To restore the Asset Management for IT database, complete the following steps:

1. Log in to the Oracle database server as the Oracle software owner.
2. Log in to the Oracle instance using SQLPlus as a DBA user: Note that the Oracle SID for a clean install is ctginst1. If you are using an existing Oracle instance with Asset Management for IT, use the Oracle SID associated with the existing instance.

   Linux **UNIX:**

   a. Set the environment variable from the command line:
      ```
      ORACLE_SID=your_SID
      export ORACLE_SID
      ```
   b. Invoke SQLPlus from the command line:
      ```
      sqlplus /nolog
      ```
   c. Log in to SQLPlus as a DBA user:
      ```
      connect sys/sys_password as sysdba
      ```

   Windows **Windows:**

   a. Set the environment variable from the command line:
      ```
      ORACLE_SID=your_SID
      ```
   b. Invoke SQLPlus from the command line:
      ```
      sqlplus /nolog
      ```
   c. Log in to SQLPlus as a DBA user:
      ```
      connect sys/sys_password as sysdba
      ```
3. Delete the Asset Management for IT database user (maximo, by default) using an SQL command like the following sample command:
   ```
   drop user maximo cascade;
   ```
   Do not disconnect from the database. If you receive an error when issuing this command that you cannot drop a currently connected user, issue the following SQL commands and then try the SQL drop command again:
   ```
   shutdown immediate;
   startup;
   ```

4. Manually recreate the database. Refer to"Manually configuring Oracle 10g" on page 76 or "Manually configuring Oracle9i Rel2" on page 78 for more information.

Restoring the Microsoft SQL Server database

In order to rerun IBM Tivoli Asset Management for IT installation program, you must first restore the Microsoft SQL Server database server to the same state as before Asset Management for IT was installed.

Before you begin

Ensure that the `MAXIMOSERVER` application server is stopped before deleting the database.

About this task

Restoring the Microsoft SQL Server database server to the same state as before Asset Management for IT was installed, requires you to drop the Asset Management for IT database that you manually created and then recreate it before rerunning the Asset Management for IT installation program.

To restore the Asset Management for IT database, complete the following steps:

1. Open the Microsoft SQL Server Management Studio.
2. Log into the instance of Microsoft SQL Server that is used by Asset Management for IT install using the sa user ID, and then click **Connect**.
3. To delete the database, expand the instance tree down to the databases category, right-click the database name you created during installation (`MAXDB71` for example), and then click **Delete**.
4. In the Delete Object window, select **Delete backup and restore history information for databases** and **Close existing connections**, and then click **OK**.
5. Manually recreate the `MAXDB71` database. Refer to Manually configuring SQL Server for more information.

Troubleshooting the product uninstallation program

Use the information contained in this section to troubleshoot errors encountered when using the product uninstallation program.

Error CTG00001 when performing an uninstall

In certain instances, while performing a product uninstall from the administrative system, you might encounter error CTG00001 `The uninstall was unsuccessful. You will need to manually uninstall the Maximo product.`

About this task

Click **OK** on the error message dialog box to finish the automated uninstall process.

To complete the uninstall, you will need:

1. Manually delete installation directories located under C:\IBM\SMP\maximo.
2. Verify registry entries for the product and base services product are removed.

What to do next

Registry entries can be found under HKEY_LOCAL_MACHINE/SOFTWARE/IBM/Tivoli Base Services and under the of the ISM family product, for example, Asset Management for IT.

Uninstalling IBM Tivoli Asset Management for IT silently

In order to uninstall Asset Management for IT silently, you must have a valid response file to use with the uninstallation program.

Before you begin

Note: If the Asset Management for IT deployment included Oracle configuration, the response file must be edited to remove extraneous backslashes. Refer to "Silent middleware installation program options" on page 46 for more information.

1. Open the response file in a text editor and ensure the **INSTALLER_UI** property is set to **INSTALLER_UI=silent**.
2. Copy the response file to the target system.
3. Run the Asset Management for IT uninstall program in silent mode by opening a console window on the administrative workstation and using the following command:

   tamit_install_dir`_uninstall\uninstall.exe -f` *response_file_path*

   Include the whole path name while specifying the response file.
4. After the Asset Management for IT uninstall program completes, you can reinstall Asset Management for IT by restarting the Asset Management for IT installation program. After a successful installation, the server you are installing from, the administrative system will prompt you to reboot the system.
5. Check to ensure that the uninstall program removed the Asset Management for IT installation directory, for example, c:\ibm\smp. If the Asset Management for IT installation failed early in the process, the Asset Management for IT uninstall program might not remove the Asset Management for IT installation directory. If this directory still exists after you have completed the uninstall process, you will have to remove it manually before you proceed to the reinstallation process.

Uninstalling the maximo.ear file

After you uninstalled IBM Tivoli Asset Management for IT application, make sure you removed the maximo.ear file. This section describes how to manually remove the file.

1. Open WebLogic Server Administration Console: `http://`*host_name*`:7001/console`.
2. Provide WebLogic user name and password, and click **Log in**.
3. Click **Lock & Edit** button.
4. In the **Domain Structure** tree, click **Deployments** and select the checkbox corresponding to **MAXIMO** .
5. Click **Delete**.
6. Click **Release Configuration** button.

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Index

A

access collection 13
administrative workstation 6
AIX file size 21

C

configuration
  Asset Management for IT 1
configuring
  Oracle 44
confirming the Integration Composer installation 108

D

Database server
  manual configuration 65
DB2
  manual configuration, 8.2 70
  manual configuration, 9.1 66
DB2 database server
  restoring 125
deleting user environment variables 18
deploying ear files 95
deployment plan
  invoking 30
deployment topology
  multi-server 5
  single-server 5
Directory Server
  reusing 44

E

error CTG00001
  Asset Management for IT
    uninstallation 127

F

firewall
  disabling 18

G

general ledger account 118

H

hardware and software requirements, Integration Composer 99

I

IBM DB2
  reusing 43
IBM Tivoli Asset Management for IT
  uninstallation 123
    troubleshooting 127
installation 27
  Asset Management for IT 52
  Launchpad 23
  middleware installer logs 37
  middleware installer workspace 29
  paths 51
  post installation tasks 113, 115, 116, 117, 118, 119, 121
  Tivoli Asset Management for IT 51
Installation
  post installation tasks 119
installation prerequisites, Integration Composer 100
installer workspace 29
installing
  language pack 91
  prerequisite software products 31
  silently 45
Integration Composer installation prerequisites 100
Integration Composer installation, confirming 108
Integration Composer overview 98
Integration Composer requirements, hardware and software 99
Integration Composer, uninstalling 111
integration framework 24
  cron task
    starting 89
  Integration Composer 98
  JMS options
    configuring 88

J

JMS queuse
  setting up 24

L

language pack
  overview 91
launch-in-context 113
ledger account 117

M

Maximo Application Server
  starting 95
maximo.ear
  uninstallation 128
media
  installation 17
Microsoft SQL Server
  restoring 127
middleware 27, 29, 31
  installer logs 37
middleware *(continued)*
  installing 27
  planning 6
  reusing 12, 43
  starting on UNIX 42
  starting on Windows 41
  uninstalling 49
middleware configuration
  manual 65

O

Oracle
  manual configuration, 10g 76
  manual configuration, 9i 78
  reusing 44
Oracle database
  restoring 126
Oracle WebLogic Server
  configuring 87
  managing 87
organization 117
overview, Integration Composer 98

P

password policy
  system 15
planning
  Asset Management for IT 11
  middleware 6
  Tivoli Asset Management for IT 5
post-installation tasks 108
  top-level class for IT
    assets 120
    software 120
preparation
  IBM Tivoli Asset Management for IT installation 17
preparing to install
  middleware 21
prerequisite 31
prerequisites
  procedures 18, 19, 20
Prerequisites
  procedures 19
process ID 28
Process Solution Installer
  installing 93
    language packs 93
  language packs
    installing 93
    PMP 93

R

response file
  options 46
restoring
  DB2 database server 125

restoring *(continued)*
Oracle database 126
role 13

S

security
planning 13
security group 13
security groups 121
shared memory 20
silent
installation 45, 46
uninstallation 128
SQL Server
manual configuration 80
SQL Server 80
startFusion file
memory allocation 109
system password policy settings 15

T

Tivoli Asset Management for IT
deployment 5
Tivoli Asset Management for IT middleware
UNIX systems 21
Tivoli Integration Composer
installing
with Process Solution Installationpackage 105
with PSI package 103
UNIX systems 105
Windows 64-bit systems 103
troubleshooting middleware installer
invalid DB2 password 40

U

ulimit
setting 19
uninstallation
IBM Tivoli Asset Management for IT 128
uninstalling
IBM Tivoli Asset Management for IT
manually deployed 124
uninstalling Integration Composer 111
uninstalling Integration Composer on Unix-based operating systems 111
uninstalling Integration Composer on Windows operating systems 111

W

WebLogic Server
starting 90
stopping 90
work type 119

Printed in USA