

IBM® Security Privileged Identity Manager
Version 1.0.1

Virtual Appliance Deployment Guide



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Note

Before using this information and the product it supports, read the information in Notices.

Edition notice

Note: This edition applies to version 1.0.1 of *IBM Security Privileged Identity Manager* (product number 5725-H30) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Figures v

Tables vii

About this publication ix

Access to publications and terminology ix

Accessibility x

Technical training. x

Support information. x

Statement of Good Security Practices x

Chapter 1. Virtual appliance overview 1

Language support overview 1

Hardware and software requirements 2

Appliance format. 3

Roadmap to the IBM Security Privileged Identity

Manager virtual appliance setup. 3

Chapter 2. Getting started 5

Personas and use cases 5

Installation of prerequisite software 11

 Installing and configuring the database server. 12

 Installing and configuring the directory server. 13

Setting up the virtual machine 14

 Installing the IBM Security Privileged Identity

 Manager virtual appliance 15

 Setting up the initial IBM Security Privileged

 Identity Manager virtual appliance 15

 Configuring the IBM Security Privileged Identity

 Manager by using the Initial Configuration

 wizard 18

Logging on to the consoles from the Appliance

Dashboard. 20

Chapter 3. Appliance dashboard. 21

Viewing notifications 21

Viewing and using server controls. 21

Viewing deployment statistics 21

Viewing the middleware and server monitor widget 22

Viewing and using quick links 22

Viewing disk usage. 22

Viewing IP addresses 23

Viewing partition information 23

Chapter 4. Appliance command line interface 25

Appliance command line interface commands for IBM Security Privileged Identity Manager 25

Appliance command line interface commands. 26

Enabling trace for the appliance services. 28

Chapter 5. Managing the virtual appliance 31

Enabling the Session Recording feature in the virtual appliance 31

Managing the database configuration. 31

Managing the LDAP configuration 33

Managing mail configuration 34

Managing server properties 34

Managing feed files. 36

Managing log configuration 36

 Retrieving logs 36

 Configuring logs 37

Reconfiguring the data store connection 38

Reconfiguring the directory server connection 40

Chapter 6. Configuration 43

IBM Security Access Manager for Enterprise Single

Sign-On configuration 43

Shared access configuration 43

Session recording configuration. 44

Optional configuration tasks. 46

Chapter 7. Shared credential check-out and check-in 47

Automatic check-out and check-in with client

application logon 47

 Logging on with PuTTY 47

 Logging on with the Microsoft Remote Desktop

 Connection (RDP) client 47

 Logging on with IBM Personal Communications 48

 Logging on with the VMware vSphere Client 49

Manual check-out and check-in of shared credentials 50

 Checking out a credential or credential pool 50

 Checking in credentials in a credential pool 51

 Checking in credentials from a credential vault 53

Chapter 8. Setting up a secondary virtual appliance for active-passive configuration 55

Setting up a primary appliance. 55

Backing up the primary appliance. 55

Reverting the appliance to its backup. 56

Creating a snapshot of the primary virtual appliance 56

Setting up a secondary appliance 57

Enhancing availability using monitoring URLs 57

Chapter 9. Troubleshooting and support 59

Checking logs 59

Common issues 59

Limitations 61

Known issues and workarounds 63

 Troubleshooting dashboard panel widget display

 issues on Microsoft Internet Explorer 10. 63

Troubleshooting Logon to Session Reply Console	64
Value for a property is not retained if update_syslog command is executed without any value for other properties.	64
Bulkload command errors	65

Appendix. Sample configuration response file	67
---	-----------

Notices	69
----------------	-----------

Glossary	73
A.	73

C.	73
D.	73
E.	73
F.	74
I.	74
M.	74
P.	74
R.	74
S.	74
W.	74

Index	75
--------------	-----------

Figures

Tables

1. Supported language per product	1	10.	11
2. Server installation by using a virtual appliance roadmap	3	11. Data store configuration options	32
3. Main stages or tasks that are involved in using the IBM Security Privileged Identity Manager virtual appliance	5	12. Directory or LDAP server configuration details	33
4. Virtual Appliance Administrator tasks	6	13. Available IBM Security Identity Manager properties in the IBM Security Privileged Identity Manager virtual appliance.	35
5. Privileged Identity Manager Administrator tasks	7	14. Available logs to help you diagnose or troubleshoot.	37
6. Privileged Administrator tasks	10	15. Single Sign-On configuration tasks.	43
7. Privileged User tasks in the IBM Security Identity Manager self-service UI	10	16. Shared access configuration tasks	43
8. Privileged User task with AccessAgent	11	17. Session recording configuration tasks	45
9. Privileged User Manager task in the IBM Security Identity Manager self-service UI.	11	18. Optional configuration tasks	46

About this publication

IBM Security Privileged Identity Manager Virtual Appliance Deployment Guide describes the process of setting up, administering, and configuring the IBM® Security Privileged Identity Manager virtual appliance.

Access to publications and terminology

This section provides:

- A list of publications in the “IBM Security Privileged Identity Manager library.”
- Links to “Online publications.”
- A link to the “IBM Terminology website” on page x.

IBM Security Privileged Identity Manager library

The following documents are available online in the IBM Security Privileged Identity Manager library:

- *IBM Security Privileged Identity Manager Deployment Overview Guide*, SC27-4382-02
- *IBM Security Privileged Identity Manager Administrator Guide*, SC27-5619-01
- *IBM Security Privileged Identity Manager Virtual Appliance Deployment Guide*, SC27-5625-00

Online publications

IBM posts product publications when the product is released and when the publications are updated at the following locations:

IBM Security Privileged Identity Manager library

The product documentation site (http://pic.dhe.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.ispim.doc_1.0.1/kc-homepage.html) displays the welcome page and navigation for the library.

IBM Security Identity Manager library

The product documentation site (http://pic.dhe.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.isim.doc_6.0.0.2/kc-homepage.htm) displays the welcome page and navigation for the IBM Security Identity Manager product.

IBM Security Access Manager for Enterprise Single Sign-On library

The product documentation site (http://pic.dhe.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.itamesso.doc_8.2.1/kc-homepage.html) displays the welcome page and navigation for the IBM Security Access Manager for Enterprise Single Sign-On product.

IBM Security Systems Documentation central

IBM Security Systems Documentation Central provides an alphabetical list of all IBM Security Systems product libraries and links to the online documentation for specific versions of each product.

IBM Publications Center

The <http://www.ibm.com/e-business/linkweb/publications/servlet/pbi.wss> site offers customized search functions to help you find all the IBM publications you need.

IBM Terminology website

The IBM Terminology website consolidates terminology for product libraries in one location. You can access the Terminology website at <http://www.ibm.com/software/globalization/terminology>.

Accessibility

Accessibility features help users with a physical disability, such as restricted mobility or limited vision, to use software products successfully. With this product, you can use assistive technologies to hear and navigate the interface. You can also use the keyboard instead of the mouse to operate all features of the graphical user interface.

For additional information, see the *IBM Security Privileged Identity Manager Deployment Overview Guide*.

Technical training

For technical training information, see the following IBM Education website at <http://www.ibm.com/software/tivoli/education>.

Support information

IBM Support provides assistance with code-related problems and routine, short duration installation or usage questions. You can directly access the IBM Software Support site at <http://www.ibm.com/software/support/probsub.html>.

The *IBM Security Identity Manager Troubleshooting Guide* and *IBM Security Access Manager for Enterprise Single Sign-On Troubleshooting Guide* provides details about:

- What information to collect before contacting IBM Support.
- The various methods for contacting IBM Support.
- How to use IBM Support Assistant.
- Instructions and problem-determination resources to isolate and fix the problem yourself.

See *IBM Security Privileged Identity Manager Deployment Overview Guide* for instructions and problem-determination resources for IBM Security Privileged Identity Manager.

Note: The **Community and Support** tab on the product documentation can provide additional support resources.

Statement of Good Security Practices

IT system security involves protecting systems and information through prevention, detection and response to improper access from within and outside your enterprise. Improper access can result in information being altered, destroyed, misappropriated or misused or can result in damage to or misuse of your systems, including for use in attacks on others. No IT system or product should be considered completely secure and no single product, service or security measure can be completely effective in preventing improper use or access. IBM systems, products and services are designed to be part of a comprehensive security approach, which will necessarily involve additional operational procedures, and may require other systems, products or services to be most effective. IBM DOES

NOT WARRANT THAT ANY SYSTEMS, PRODUCTS OR SERVICES ARE IMMUNE FROM, OR WILL MAKE YOUR ENTERPRISE IMMUNE FROM, THE MALICIOUS OR ILLEGAL CONDUCT OF ANY PARTY.

Chapter 1. Virtual appliance overview

The IBM Security Privileged Identity Manager is a network appliance-based identity management solution that provides privileged identity management and session recording.

IBM Security Privileged Identity Manager virtual appliance features:

- A configuration wizard for the first time configuration of the IBM Security Privileged Identity Manager solution.
- A dashboard for viewing system status such as system notifications, component and application status, deployment statistics, and disk usage.
- Analysis and diagnostics tools such as memory statistics, and CPU utilization.
- Centralized management of IBM Security Privileged Identity Manager settings such as middleware components and log files.
- Control of system settings such as host name, date or time, and network settings.
- Most of the features are configurable by using the graphical management interface.

Language support overview

The IBM Security Privileged Identity Manager virtual appliance and its integrated products, are translated into the following languages:

Table 1. Supported language per product

Language	IBM Security Access Manager for Enterprise Single Sign-On	IBM Security Identity Manager	IBM Security Privileged Identity Manager virtual appliance
Arabic	Yes	Yes	No
Chinese (Simplified)	Yes	Yes	Yes
Chinese (Traditional)	Yes	Yes	Yes
Czech	Yes	Yes	No
Danish	Yes	No	No
Dutch	Yes	No	No
English (United States)	Yes	Yes	Yes
Finnish	Yes	No	No
French (Standard)	Yes	Yes	Yes
German	Yes	Yes	Yes
Greek	No	Yes	No
Hebrew	Yes	Yes	No
Hungarian	Yes	Yes	No
Italian	Yes	Yes	Yes
Japanese	Yes	Yes	Yes
Korean	Yes	Yes	Yes

Table 1. Supported language per product (continued)

Language	IBM Security Access Manager for Enterprise Single Sign-On	IBM Security Identity Manager	IBM Security Privileged Identity Manager virtual appliance
Polish	Yes	Yes	No
Portuguese (Brazilian)	Yes	Yes	Yes
Russian	Yes	Yes	Yes
Spanish	Yes	Yes	Yes

Note: To change the language for IBM Security Privileged Identity Manager virtual appliance console, select the required language from the **Language** drop-down menu at the top right corner of the console. For languages with right-to-left text orientation, for example, Hebrew or Arabic, the **Language** drop-down menu is on the upper left corner of the console.

Hardware and software requirements

The IBM Security Privileged Identity Manager has specific hardware and software requirements.

IBM Security Privileged Identity Manager, Version 1.0.1 Virtual Appliance Server

- VMware ESXi 5.0 and 5.1.
- CPU: Minimum 4 GHz, four cores (64-bit).
- Minimum 16 GB system memory.
- Disk space: At least 100 GB free hard disk space.

Data tier

Components: IBM DB2®, IBM Tivoli® Directory Server

- CPU: Minimum 4 GHz, four cores.
- At least 8 GB of RAM is required. However, use 16 GB of RAM for the three databases and one directory server instance.
- Minimum 16 to 24 GB¹ system memory.
- Disk space: At least 40 GB² free hard disk space per user and per year, depending on the typical screen size, recorded applications, and user activity.

Database and Directory Server support

- IBM DB2 Enterprise Server Version 10.1 Fix Pack 2
- IBM Tivoli Directory Server Version 6.3 Fix Pack 21

Notes:

¹ System Memory (RAM) to allocate for IBM Security Privileged Identity Manager Session Recorder WebSphere Application Server, and database.

² Allocate at least 40 GB to consider the indexing activity in the virtual appliance for data retention. By default, the IBM Security Privileged Identity Manager Session Recorder periodical index update action happens every 15 minutes. It is during that time that the Privileged Session Recorder indexer component detects that the index is outdated and must be updated.

Appliance format

The IBM Security Privileged Identity Manager comes in a virtual appliance format.

The IBM Security Privileged Identity Manager virtual appliance can be hosted on the following virtual hypervisors:

- VMware ESXi 5.0
- VMware ESXi 5.1

Roadmap to the IBM Security Privileged Identity Manager virtual appliance setup

Use the roadmap as a reference for a server deployment, IBM Security Privileged Identity Manager installation in the virtual appliance, and initial configuration settings.

Table 2. Server installation by using a virtual appliance roadmap

Procedure	Reference
Prepare the database server	"Installing and configuring the database server" on page 12
Prepare the directory server	"Installing and configuring the directory server" on page 13
Set up the virtual appliance on VMware ESXi	"Setting up the virtual machine" on page 14
Install IBM Security Privileged Identity Manager in the virtual appliance	"Installing the IBM Security Privileged Identity Manager virtual appliance" on page 15
Configure the virtual appliance	"Setting up the initial IBM Security Privileged Identity Manager virtual appliance" on page 15

Chapter 2. Getting started

This section provides an overview of how to get started with the IBM Security Privileged Identity Manager virtual appliance.

The following table describes the main stages or tasks that are involved in using the IBM Security Privileged Identity Manager virtual appliance

Table 3. Main stages or tasks that are involved in using the IBM Security Privileged Identity Manager virtual appliance

	Tasks	Action by
1.	Deploy and configure the Privileged Identity Management System.	Virtual Appliance Administrator
2.	Configure system-wide organizational structure and roles, and policies for password, single sign-on and session recording.	Privileged Identity Manager Administrator
3.	Create roles. Note: Skip this task if the role exists.	Privileged Identity Manager Administrator or Privileged Administrator
4.	On-board Privileged Administrators.	Privileged Identity Manager Administrator
5.	On-board Privileged Users.	Privileged Identity Manager Administrator
If you want to connect the credentials to the accounts on the managed systems, complete tasks 6, 7, and 8.		
If you do not want to connect the credentials to the accounts on the managed systems, complete tasks 7, and 8 only.		
6.	On-board service types, service instances, and accounts.	Privileged Identity Manager Administrator
7.	On-board credentials.	Privileged Identity Manager Administrator or Privileged Administrator
8.	Assign users to role.	Privileged Identity Manager Administrator or Privileged Administrator

Personas and use cases

There are different personas that are involved with the setup and usage of the virtual appliance. Each persona is responsible for a set of tasks or is privileged to do specific workflows.

Persona: Virtual Appliance Administrator

The Virtual Appliance Administrator is responsible for the following tasks.

Table 4. Virtual Appliance Administrator tasks

Tasks	Subtasks and references
Deploy and configure the Privileged Identity Management System.	<ol style="list-style-type: none"> 1. "Installing and configuring the database server" on page 12 2. "Installing and configuring the directory server" on page 13 3. "Setting up the virtual machine" on page 14 4. "Installing the IBM Security Privileged Identity Manager virtual appliance" on page 15 5. "Setting up the initial IBM Security Privileged Identity Manager virtual appliance" on page 15 6. "Configuring the IBM Security Privileged Identity Manager by using the Initial Configuration wizard" on page 18 <ol style="list-style-type: none"> a. "Enabling the Session Recording feature in the virtual appliance" on page 31 b. "Managing the database configuration" on page 31 c. "Managing the LDAP configuration" on page 33 d. "Managing mail configuration" on page 34 7. Deploy AccessAgent. See the <i>IBM Security Access Manager for Enterprise Single Sign-On Installation Guide</i>.
Back up and restore the virtual appliance by using snapshots	"Creating a snapshot of the primary virtual appliance" on page 56
Set up and enact disaster recovery for the virtual appliance	<ol style="list-style-type: none"> 1. "Setting up a primary appliance" on page 55 2. "Setting up a secondary appliance" on page 57
Applying Fix Pack	Use the <code>fixpack</code> command in the "Appliance command line interface commands for IBM Security Privileged Identity Manager" on page 25.
Upgrade Firmware	Use the <code>firmware_update</code> command in the "Appliance command line interface commands for IBM Security Privileged Identity Manager" on page 25.
Reconfigure the virtual appliance	<ul style="list-style-type: none"> • "Reconfiguring the data store connection" on page 38 • "Reconfiguring the directory server connection" on page 40

Persona: Privileged Identity Manager Administrator

The Privileged Identity Manager Administrator is responsible for the following tasks.

Table 5. Privileged Identity Manager Administrator tasks

Tasks	Subtasks and reference
Configure system-wide organizational structure and roles, and policies for password, single sign-on and session recording.	<ol style="list-style-type: none"> 1. Create a node in an organization tree. See "Creating a node in an organization tree" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. Create account ownership type ("shared"). Note: This step is required for subsequent on-boarding of connected credentials. See "Creating ownership types" in the <i>IBM Security Identity Manager Configuration Guide</i>. 3. Define password policies for the Privileged account. For example, Set password expiry. See "Enabling password expiration" in the <i>IBM Security Identity Manager Administration Guide</i>. For other policies, see "Password administration" in the <i>IBM Security Identity Manager Administration Guide</i>. 4. Review the IBM Security Access Manager for Enterprise Single Sign-On and IBM Security Privileged Identity Manager session recording policies. See "Configure additional IMS Server policies for session recording" in "Session recording configuration" on page 44.
Create roles. Note: Skip this task if the role exists.	See "Creating roles" in the <i>IBM Security Identity Manager Administration Guide</i> .
On-board Privileged Administrators.	<ol style="list-style-type: none"> 1. Create a Privileged Administrator profile. See "Creating user profiles" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. (Optional) Assign the user to a Privileged Administrator role if the role is already defined. See "Adding users to membership of a role" in the <i>IBM Security Identity Manager Administration Guide</i>. 3. Add user to the pre-defined Privileged Administrator group. See "Adding members to groups" in the <i>IBM Security Identity Manager Administration Guide</i>. 4. (Optional) Add an Administrator domain and make the Privileged Administrator user as Administrator to the Admin domain. See "Creating a node in an organization tree" in the <i>IBM Security Identity Manager Administration Guide</i>.

Table 5. Privileged Identity Manager Administrator tasks (continued)

Tasks	Subtasks and reference
On-board Privileged Users.	<ol style="list-style-type: none"> 1. Create a Privileged User profile. See "Creating user profiles" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. (Optional) Assign the user to a Privileged User role if needed or if the role is already defined. See "Adding users to membership of a role" in the <i>IBM Security Identity Manager Administration Guide</i>.
<p>On-board service types, service instances, and accounts.</p> <p>If the service type is not yet pre-configured</p>	<ol style="list-style-type: none"> 1. Create a Service Type by importing a service type profile. 2. Update the Service Type form with the erURI property. Note: This step is not required for pre-configured service type profiles such as POSIX, Windows Local, and Windows Active Directory. <p>See "Creating service types" and "Customizing the service form template to include the unique identifier (eruri)" in the <i>IBM Security Identity Manager Configuration Guide</i>.</p>
<p>On-board service types, service instances, and accounts.</p> <p>If the service type is already pre-configured</p>	<ol style="list-style-type: none"> 1. Create a specific Privileged Administrator Role. See "Creating roles" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. Create a provisioning policy for the appropriate Privileged Administrator role, which covers present Service Type or more, with type value "shared". See "Creating a provisioning policy" in the <i>IBM Security Identity Manager Administration Guide</i>. 3. Create a Service instance. See "Creating services" in the <i>IBM Security Identity Manager Administration Guide</i>. 4. Reconcile the accounts for the Service by using filters like erposixsecondgroup (for Linux) and ertlocalgroups (for Windows) where appropriate; See "Reconciling accounts immediately on a service" in the <i>IBM Security Identity Manager Administration Guide</i>. 5. Adopt and assign accounts, as shared type to be owned by Privileged Identity Manager Administrator or Privileged Administrator. See "Assigning an account to a user" in the <i>IBM Security Identity Manager Administration Guide</i>.

Table 5. Privileged Identity Manager Administrator tasks (continued)

Tasks	Subtasks and reference
On-board credentials.	<ol style="list-style-type: none"> 1. Add credential to vault. See "Adding credentials to the vault" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. (Optional) Set up the Credential Pool for the Connected Credentials. See "Creating credential pools" in the <i>IBM Security Identity Manager Administration Guide</i>. 3. Set up the shared access policy. See "Creating shared access policies" in the <i>IBM Security Identity Manager Administration Guide</i>. <p>Alternatively, you can add credential to the vault and set up the Credential Pool by using Batch Upload. See "Uploading a CSV file with the administrative console" in the <i>IBM Security Identity Manager Administration Guide</i>.</p>
Assign users to role.	See "Adding users to membership of a role" in the <i>IBM Security Identity Manager Administration Guide</i> .
On-board Privileged Session Recorder Auditor Note: Do this task only if Session Recording is enabled.	<ol style="list-style-type: none"> 1. Create a Privileged User profile. See "Creating user profiles" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. Assign the user to a Privileged Session Recorder Auditor role if needed or if the role is already defined. See "Adding users to membership of a role" in the <i>IBM Security Identity Manager Administration Guide</i>.
(Optional) Update user roles	See "Modifying roles" in the <i>IBM Security Identity Manager Administration Guide</i> .
(Optional) Update user group	See "Modifying groups" in the <i>IBM Security Identity Manager Administration Guide</i> .
(Optional) Update shared access policies	See "Modifying shared access policies" in the <i>IBM Security Identity Manager Administration Guide</i> .

Persona: Privileged Administrator

The Privileged Administrator is responsible for the following tasks.

Table 6. Privileged Administrator tasks

Tasks	Subtasks and reference
On-board unconnected credentials	<ol style="list-style-type: none"> 1. Add credential to the vault. See "Adding credentials to the vault" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. Create a shared access policy and assign the policy to an existing role. See "Creating shared access policies" in the <i>IBM Security Identity Manager Administration Guide</i>.
On-board connected credentials	<ol style="list-style-type: none"> 1. Add credentials by connecting the credentials to "vendor" accounts. See "Creating user profiles" in the <i>IBM Security Identity Manager Administration Guide</i>. 2. Create credential pool for added credentials. 3. Create Privileged User role for the credential pool. 4. Create a shared access policy. See "Creating shared access policies" in the <i>IBM Security Identity Manager Administration Guide</i>.
Assign users to role.	See "Adding users to membership of a role" in the <i>IBM Security Identity Manager Administration Guide</i> .
(Optional) Update user roles	See "Modifying roles" in the <i>IBM Security Identity Manager Administration Guide</i> .
(Optional) Update user group	See "Modifying groups" in the <i>IBM Security Identity Manager Administration Guide</i> .
(Optional) Update shared access policies	See "Modifying shared access policies" in the <i>IBM Security Identity Manager Administration Guide</i> .

Persona: Privileged User

The Privileged User uses the IBM Security Identity Manager self-service UI for the following tasks

Table 7. Privileged User tasks in the IBM Security Identity Manager self-service UI

Tasks	Subtasks and reference
Change password	See "Changing user passwords" in the <i>IBM Security Identity Manager Administration Guide</i> .
Reset password	See "Resetting user passwords" in the <i>IBM Security Identity Manager Administration Guide</i> .

Table 7. Privileged User tasks in the IBM Security Identity Manager self-service UI (continued)

Tasks	Subtasks and reference
Manually check out and check in shared credentials	"Manual check-out and check-in of shared credentials" on page 50
Request role for access to some shared ID	See "Request access" in the <i>IBM Security Identity Manager Scenarios Guide</i> .

The Privileged User also logs on to AccessAgent for automatic check-out and check-in of shared credentials.

Note: The Privileged User cannot sign up, change passwords and reset passwords in AccessAgent.

Table 8. Privileged User task with AccessAgent

Tasks	Subtasks and reference
Access systems and applications with shared credentials	"Automatic check-out and check-in with client application logon" on page 47

Persona: User Manager

The User Manager uses the IBM Security Identity Manager self-service UI for the following task.

Table 9. Privileged User Manager task in the IBM Security Identity Manager self-service UI

Tasks	Subtasks and reference
Approve role requests	See "Approving user requests" in the <i>IBM Security Identity Manager Administration Guide</i> .

Persona: Privileged Session Recorder Auditor

A Privileged Session Recorder Auditor uses the Privileged Session Recording console to search and review recordings to verify compliance to audit requirements.

Table 10.

Tasks	Subtasks and reference
Search recordings	See "Searching for recordings" in the <i>IBM Security Privileged Identity Manager Administration Guide</i> .
Replay recordings	See "Playing back recordings" in the <i>IBM Security Privileged Identity Manager Administration Guide</i> .

Installation of prerequisite software

Install and configure the prerequisite components before you install the IBM Security Privileged Identity Manager virtual appliance.

Installing and configuring the database server

You must install and configure the database server before you can install and configure the directory server.

Procedure

1. Follow the DB2 instance creation instructions.
 - a. Access <http://pic.dhe.ibm.com/infocenter/db2luw/v10r1/index.jsp>.
 - b. Search for **Creating an instance using db2icrt**.
2. Configure the database server for the IBM Security Privileged Identity Manager virtual appliance.
 - a. Create the database instance.
 - 1) Create an operating system user, like `piminst`.
 - 2) Run the following command to create database instance:
`<DB2_Install_Location>/instance/db2icrt -u piminst piminst`
 - 3) Start the DB2 instance:
 - Windows
Run **set DB2INSTANCE=piminst** where `piminst` is the database instance.
Run **db2cmd** to start the DB2 command line.
 - Linux
Run the following command: **su - piminst**
 - 4) Run the following commands to set up DB2 instance.
 - **db2 update dbm cfg using SVCENAME 50050**, where 50050 is the port on which you want your database server to listen.
 - **db2set DB2COMM=tcPIP**
 - **db2set -a11 DB2COMM**
 - **db2stop**
 - **db2start**
 - b. Create the database.

When you work with the IBM Security Privileged Identity Manager, use three separate databases for the three data stores: Identity, Sign-On and Session Recording.

To create a database, take the following actions:

- 1) Start the DB2 instance:
 - Windows
In the command line, run **set DB2INSTANCE=piminst**, where `piminst` is the database instance.
Run **db2cmd** to start DB2 command line.
 - Linux
- 2) In the DB2 command line, type the following example commands:
 - For, the Identity data stores
`db2 create db idmdb using codeset utf-8 territory us pagesize 32 K`
 - For, the Single Sign-On data stores
`db2 create db essodb using codeset utf-8 territory us pagesize 8 K`
 - For, the Session Recording data stores

```
db2 create db psrdb using codeset utf-8 territory us pagesize 8
K
```

Installing and configuring the directory server

You must install and configure the directory server before you can install the appliance.

Before you begin

You must have the database server installed.

Procedure

1. For information about installing the directory server, see documentation that the directory server product provides. For example, access the documentation at <http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/index.jsp> and search for **Directory Server**.
2. Configure the directory server for IBM Security Privileged Identity Manager virtual appliance by creating and configuring the directory server instance.
 - a. Create a user.
 - Windows
In the command line, enter:
`<LDAP_Install_Location>\sbin\idsadduser -u ldapinst -w ldapinstpwd`
where `ldapinst` is the user name, and `ldapinstpwd` is the password.
 - UNIX and Linux
In the command line, enter:
`<LDAP_Install_Location>/sbin/idsadduser -u ldapinst -w ldapinstpwd -g idsldap`
where `ldapinst` is the LDAP instance name, `ldapinstpwd` is the password, and `idsldap` is the default LDAP group.
 - b. Create a directory server instance.
In the command line, enter:
`<LDAP_Install_Location>/sbin/idsicrt -I ldapinst -e encryptionseed -l /home/ldapinst`
where `ldapinst` is an LDAP instance name, `encryptionseed` is the encryption seed, and `/home/ldapinst` is the instance home.
 - c. Create a database for the newly created LDAP instance.
In the command line, enter:
`<LDAP_Install_Location>/sbin/idscfgdb -I ldapinst -a dbadmin -w dbadminpwd -t dbname -l /home/ldapinst/`
where `ldapinst` is an LDAP instance name, `dbadmin` is the Database Administrator, `dbadminpwd` is the Database Administrator password, `dbname` is the database name, and `/home/ldapinst` is the instance home.
 - d. Set the password for directory server instance Principal DN.
In the command line, enter:
`<LDAP_Install_Location>/sbin/idsdnpw -I ldapinst -u cn=root -p root`
where `ldapinst` is the LDAP instance name, `cn=root` is the Principal DN, and `root` is the Principal DN password.
 - e. Add the suffix (`dc=com`) in the directory server instance.
In the command line, enter:

- <LDAP_Install_Location>/sbin/idscfgsuf -I ldapinst -s dc=com
 where ldapinst is an LDAP instance name, and dc=com is the suffix.
- f. Start the directory server instance.
 - Windows

In the command line, enter:

```
<LDAP_Install_Location>/sbin/ibmslapd -I ldapinst -n -t
```

 where ldapinst is the LDAP instance name.
 - UNIX and Linux

In the command line, enter:

```
<LDAP_Install_Location>/sbin/ibmslapd -I ldapinst -n
```

 where ldapinst is an LDAP instance name.
 - g. Prepare a ldif file. For example, dcom.ldif with the following content.


```
dn:dc=com
objectclass:domain
```

Run the command:

```
<LDAP_Install_Location>/bin/idsldapadd -h <ldap_server_host>
-p <ldap_server_port> -D <bind_root_dn> -w <bind_root_password>
-f dcom.ldif
```

For example:

```
/opt/IBM/ldap/V6.3/bin/idsldapadd -D cn=root -w <password> -p port
-f dcom.ldif
```

Setting up the virtual machine

Set up the virtual machine that you must use to host the IBM Security Privileged Identity Manager.

Procedure

1. Download the **ispim_*.iso** build.
2. Create new virtual machine on ESXi 5.x with following configuration.
 - a. Select **Custom**.
 - b. Provide a name for the virtual machine.
 - c. Choose the destination storage for this virtual machine.
 - d. Set virtual machine version to 8.
 - e. For the IBM Security Privileged Identity Manager virtual appliance, the required guest operating system is Linux with version 2.6.x 64 Bit.
 - f. Enter the number of virtual sockets and cores per virtual sockets for the virtual machine. For example: 4 cores.
 - g. Enter the memory size. For example: 16 GB.
 - h. Enter the network configuration.
 - i. Set the SCSI controller type to **LSI Logic Parallel**.
 - j. Select the **Create a new virtual disk** option as the type of disk to use.
 - k. Enter the disk size for virtual machine. For example: 60 GB.
 - l. Accept the default settings in the Advanced Options page.
3. Check summary for the configuration accuracy.
4. Click **Finish**.
5. Mount the IBM Security Privileged Identity Manager media.

- a. List the options. Right-click on virtual machine, and then select **Edit Settings**.
- b. Choose **CD/DVD drive 1**.
- c. Browse for the location of the .iso file that is uploaded in the data store.
- d. Select **Connect at power on**.
- e. Click **Power on the virtual machine** to proceed with the IBM Security Privileged Identity Manager virtual appliance installation.

Installing the IBM Security Privileged Identity Manager virtual appliance

You can install IBM Security Privileged Identity Manager virtual appliance after you set up the virtual machine.

Procedure

1. When you start the virtual machine for the first time, a list of available languages is displayed. Select the required language and then enter **Yes** to start the installation process.
2. When the installation process completes, press **Enter** to restart the system.

Setting up the initial IBM Security Privileged Identity Manager virtual appliance

For the virtual appliance, the Appliance Setup wizard runs the first time that you connect to the virtual console of an unconfigured appliance.

Procedure

1. Provide the following user credentials when the system restarts after the IBM Security Privileged Identity Manager virtual appliance installation:
 - **Unconfigured login:** admin
 - **Password:** admin
2. Press 1 to choose the language.
Press 2 to view the IBM terms.
Press 3 to view the non-IBM terms.
Press 4 to accept the license terms.

```

Software License Agreement
Currently selected language: English
1: Select language for license display
2: Read IBM terms
3: Read non-IBM terms
4: Proceed to acceptance

Select option: 4

By choosing 'I agree,' you agree that (1) you have had the opportunity to
review the terms of both the IBM and non-IBM licenses presented above and (2)
such terms govern this transaction. If you do not agree, choose 'I do not
agree'.
1: I agree
2: I do not agree

Select option: 1

```

3. Change the appliance password. After you change the appliance password, continue to the next screen.

```
Appliance Password
Password changes are applied immediately.
Password has not been modified.
1: Change password
x: Exit
p: Previous screen
n: Next screen
```

```
Change Password
Enter old password:
Enter new password:
Confirm new password:
Password changed successfully.
```

```
Appliance Password
Password changes are applied immediately.
Password has been modified.
1: Change password
x: Exit
p: Previous screen
n: Next screen
```

```
Select option: n
```

4. Change the host name.

```
Change the Host Name
Enter the new host name: ispmva.us.example.com
```

```
Host Name Configuration
Host name: ispmva.us.example.com
1: Change the host name
x: Exit
p: Previous screen
n: Next screen
```

```
Select option: n
```

Note: The host name is cited in the SSL certificate for the virtual appliance. You must use the value that is provided here as the server location during AccessAgent configuration on the client system.

5. Configure network interface M1 with the IP address, subnet mask, and default gateway.

```
Management Interface Settings
1: Display device settings
2: Display policy
3: Configure M.1
4: Configure M.2
x: Exit
p: Previous screen
n: Next screen

Select option: 3

Configure M.1
Select an IPv4 configuration mode:
1: Automatic
2: Manual
Enter index: 2
Enter the IPv4 address: 192.0.2.21
Enter the IPv4 subnet mask: 255.255.254.0
Enter the IPv4 default gateway: 192.0.2.12
Select an IPv6 configuration mode:
1: Automatic
2: Manual
Enter index: 1
```

6. Configure the DNS for the virtual appliance.

```
DNS Configuration
No DNS servers configured.
1: Set DNS server 1
2: Set DNS server 2
3: Set DNS server 3
x: Exit
p: Previous screen
n: Next screen

Select option: 1

Set DNS Server 1
Enter the DNS Server IP address: 198.51.100.0

DNS Configuration
DNS server 1: 198.51.100.0
1: Set DNS server 1
2: Set DNS server 2
3: Set DNS server 3
x: Exit
p: Previous screen
n: Next screen

Select option: n
```

7. Configure the time settings for the virtual appliance.

```

Time Configuration
Time configuration changes are applied immediately.
Time: 08:28:58
Date: 09/09/2013
Time Zone: Asia/Kolkata
1: Change the time
2: Change the date
3: Change the time zone
x: Exit
p: Previous screen
n: Next screen

Select option: n
Command cancelled
1: Change the time
2: Change the date
3: Change the time zone
x: Exit
p: Previous screen
n: Next screen

Select option: n

```

8. Review the summary of configuration details.

Note: If necessary, record the details of the assigned IP address, DNS, and host name of the virtual appliance.

9. Press 1 to accept the configuration.

Configuring the IBM Security Privileged Identity Manager by using the Initial Configuration wizard

In a web browser, log on to the Initial Configuration wizard from the web user interface after you complete the appliance logon configuration. Complete the Appliance first steps appliance setup tasks from either the command line or the IBM Security Privileged Identity Manager virtual appliance management user interface. The initial configuration tasks for IBM Security Privileged Identity Manager are done in the Initial Configuration wizard, by using the web user interface, to get the appliance working.

Before you begin

- Configure the initial virtual appliance settings.
- Collect the following information that is associated with the tasks you are about to do:
 1. Setup mode selection
 - Choose **Guided** or **Advanced**. If **Advanced**, then supply a file with all configuration details in the required format.
 2. Session recording activation code
 3. Root CA or signer certificate configuration
 4. Mail server configuration
 5. Database server configuration
 6. Directory server configuration

Procedure

1. In a web browser, type the host name of the configured appliance in the following format.

```
https://<host name or IP address of the virtual appliance>
```


For example: <https://pimval.jk.example.com>

2. Log on to the IBM Security Privileged Identity Manager virtual appliance with the administrator credentials.
 - **Configured login:** admin
 - **Password:** admin
3. Choose a configuration mode and then click **Next page**.

Option	Description
Guided Configuration	Define the configuration details a step at a time with the wizard. To continue, go to step 4.
Advanced Configuration	Define the configuration by using a properties response file that contains the necessary predefined values for the configuration parameters. After you upload the response file, continue to step 9 on page 20.

4. In the **Session Recording Configuration** page, take one of the following actions, and then click **Next page**:
 - If you want to enable the session recording feature, enter the activation key.

Note: If you do not enter the activation key at this stage, you can enter the activation key later. The session recording feature is not enabled until you enter the activation key.
 - If you do not plan to use the session recording feature or do not have a session recording activation key, skip to the next page.
5. In the **Root CA Configuration** page, take one of the following actions, and click **Next page**.
 - To use the default SSL certificate, review the default details that are generated by the virtual appliance.
 - To define your own signer certificate, click **Update**.
 - To save the signer certificate in a secure location or for importing into another computer, click **Export**.

Common Name

(Mandatory) Specify the common name or domain name of the certificate owner. This field is a mandatory attribute. For example: `jk.example.com`

Organization

(Mandatory) Organization of the certificate owner.

Organizational Unit

(Optional) Organization Unit of the certificate owner.

Locality

(Optional) Locality name of the certificate owner.

State/Province

(Optional) State or province of the certificate owner.

Zipcode

(Optional) Postal code for the locality of the certificate owner.

Country or region

(Mandatory) Country or region of the certificate owner.

6. Configure the mail server and click **Next page**.
7. Configure the database settings for the following data stores and click **Next page**.
 - Identity
 - Single Sign-On
 - Session Recording

For more information about the database settings, see Table 11 on page 32.
8. Configure the directory server and click **Next page**.
9. On the **Completion Setup** page, complete the following tasks that depend on the configuration mode you selected.
 - **Guided Configuration:** Review the instructions and click **Complete Setup** to complete the configuration process.

Important: When the configuration process begins, do not refresh the page or close the browser session.

- **Advanced Configuration:** Review the instructions and click **Start Configuration** to begin the configuration process.

After the configuration completes, a link to restart the appliance is displayed.

10. Click the restart link to restart the IBM Security Privileged Identity Manager virtual appliance.

Note: Check the restart status message in the VMware client. If the mail server configuration setup is correct, an email notification is sent when the virtual appliance starts after the configuration.

Logging on to the consoles from the Appliance Dashboard

You can log on to the administrative consoles from the appliance dashboard. The administrative console links that you can view in the appliance dashboard are **Identity and Credential Vault Administration**, **Single Sign-On** and **Session Recorder Administration**, and **Session Replay Console**.

Procedure

1. Log on to the **Appliance Dashboard**. In a web browser, type `https://<pimva_hostname>`. For example: `https://ispimva.example.com`.
2. In the Quick Links panel, go to the consoles for an application.

Note:

- The default user ID is pim manager and password is secret. Log on to **Identity and Credential Vault Administration** console and change the password before you start any operations.
- To allow a new user to access the Privileged Session Recorder console, add the user into the **Session Recorder Auditor** group in the IBM Security Identity Manager. Click the **Identity and Credential Vault Administration** link.

Chapter 3. Appliance dashboard

The **Appliance dashboard** provides important status information, statistics, and quick links to the administrative consoles.

Viewing notifications

You can view warning information about potential problems and required actions with the **Notification** dashboard widget.

Procedure

1. From the **Appliance dashboard**, locate the **Notifications** widget. Warning messages about the following potential problems and expected actions are displayed as follows:

Identity service restart required
SingleSignOn service restart required
SessionRecorder service restart required
Appliance restart required
Middleware components not configured
The disk space utilization has exceeded the warning threshold.

2. Take appropriate actions as required. For example:

If the following warning messages are displayed, restart the identity service by using the option that is provided in the **Server Control** widget.

Identity service restart required
SingleSignOn service restart required
SessionRecorder service restart required

If a message for the **Appliance dashboard** restart is displayed, restart the virtual machine from the vSphere console. This condition occurs only if you did not restart after your first configuration.

Viewing and using server controls

You can view the status and control different components in the system by using the **Server Control** widget.

Procedure

1. From the **Appliance dashboard**, locate the **Server Control** widget.
2. Do one of the following actions:

Stop Stops all the server components.

Start Starts all the server components.

Restart
Restarts the server as per the requirement.

3. Optional: Click **Refresh** to redisplay the data.

Viewing deployment statistics

You can view information about number of users, groups, services, credentials, and credential pools in the system by using the **Deployment Statistics** widget.

Procedure

1. From the **Appliance dashboard**, locate the **Deployment Statistics** widget. The first row displays the type of entity. The second row displays the number of entities that exist in the system.
2. Optional: Click **Refresh** to redisplay the data.

Viewing the middleware and server monitor widget

The health status of a server is determined by the state of the middleware and services. You can view the health status information with the **Middleware and Server Monitor** dashboard widget.

Procedure

1. From the **Appliance dashboard**, locate the **Middleware and Server Monitor** widget.
2. Optional: Click **Refresh** to redisplay the data.

Viewing and using quick links

You can view the links for accessing the administration console application. This option is provided mainly for an appliance Administrator to validate the success of IBM Security Privileged Identity Manager configuration.

Procedure

1. From the **Appliance dashboard**, locate the **Quick Links** widget. The various links are as follows:
 - Identity and Credential Vault Administration
 - Single Sign-On and Session Recorder Administration
 - Session Replay Console
2. Click a quick link to view and use for your requirement.

Viewing disk usage

You can view the disk space status and remaining disk life information with the **Disk Usage** dashboard widget.

Procedure

1. From the **Appliance dashboard**, locate the **Disk Usage** widget. The disk usage statistics are displayed.

Disk Space Pie Chart

Information about used disk space and free disk space is visualized in the pie chart.

Consumed Disk Space

Displays how much space (in GB) is already used.

Note: Most of the disk space is typically used by log files and trace files. To minimize the disk footprint, set the appliance to store log and trace files on a remote server. You can also clear unused log and trace files on a periodic basis.

Free Disk Space

Displays how much space (in GB) is available.

Total Disk Space

How much space in total (in GB) is available to the appliance.

Note: The disk space in a hardware appliance is limited by the capacity of the hard disk drive it holds.

- Optional: Click **Refresh** to redisplay the data.

Viewing IP addresses

You can view a categorized list of IP addresses that the appliance is listening on with the Interfaces dashboard widget.

Procedure

- From the **Appliance dashboard**, locate the **Interfaces** widget. The IP address is displayed.
- Optional: Click **Refresh** to redisplay the data.

Viewing partition information

You can view information about the active and backup partitions with the **Partition Information** widget.

Procedure

- From the **Appliance dashboard**, locate the **Partition Information** widget. Details about the active and backup partition are displayed.

Firmware version

Displays the version information about the appliance firmware. For example, 1.0.1.

Installation date

Displays the date on which the appliance firmware was installed. For example, Oct 16, 2013 8:15:51 PM.

Installation type

Displays the type of the appliance firmware installation. For example, ISO.

Last boot

Displays the time when the appliance was last booted. For example, Oct 16, 2013 8:19:40 PM.

- Click **Firmware Settings** to go the page to modify settings of the firmware.

Chapter 4. Appliance command line interface

Access the command line interface (CLI) of the appliance by using either an ssh session or the console.

The following paragraphs are general notes about the usage of the CLI. Examples of specific commands by using the CLI are provided through the remainder of this document.

The following example shows the transcript of using an ssh session to access the appliance.

```
usernameA@example.com> ssh -l admin pimva.example.com
admin@pimva.example.com's password:
Welcome to the IBM Security Privileged Identity Manager appliance
Enter "help" for a list of available commands
pimva.example.com> ispm
pimva.example.com:ispm> help
Current mode commands:
firmware_update      Work with the ISPIM firmware settings.
service_properties   Work with the ISPIM properties settings.
service_trace        Work with the ISPIM trace settings.
Global commands:
back                 Return to the previous command mode.
exit                Log off from the appliance.
help                Display information for using the specified command.
reboot              Reboot the appliance.
shutdown            End system operation and turn off the power.
top                 Return to the top level.
pimva.example.com:ispm>
```

You can also access the console by using the appropriate VMware software. For example, VMware vSphere Client.

Note: The CLI contains only a subset of the function available from the graphical user interface.

Appliance command line interface commands for IBM Security Privileged Identity Manager

The initial appliance settings wizard runs the first time that an Administrator logs on to the command line interface (CLI) of an unconfigured appliance. The topic provides information about the sub sections of the appliance CLI command that is specific to IBM Security Privileged Identity Manager.

The appliance CLI commands are broadly divided into the following main sections:

- Current mode commands
- Global commands

In the current mode commands, the **ispm** command is used to work with the IBM Security Privileged Identity Manager settings. When an Administrator or a user enters the **ispm** command, the following sub sections are listed.

firmware_update

The sub section provides options to work with IBM Security Privileged Identity Manager firmware updates.

delete_firmware

Deletes firmware updates from the system.

install_firmware

Installs the available firmware update to the system.

list_firmware

Lists firmware updates from a USB device.

transfer_firmware

Transfers firmware update from a USB device to the system.

service_properties

The sub section provides options to change the properties of the services.

You can see the list of modifiable properties at http://publib.boulder.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.isim.doc_6.0/reference/ref/ref_ic_props_supp_table.htm. Use the appliance CLI for the properties that are not available in the graphical user interface.

list_properties

Lists all the properties added through CLI.

add_property

Adds a property that is managed through CLI.

update_property

Updates an existing property added through CLI.

list_syslog

Lists all the values of syslog properties.

update_syslog

Updates the values of syslog properties.

service_trace

The sub section provides options to manage the log levels for the services. This sub section is provided for the troubleshooting.

add_trace

Adds a service trace level that is managed through CLI.

list_trace

Lists all the service trace level added through CLI.

update_trace

Updates a service trace level added through CLI.

Appliance command line interface commands

The appliance CLI commands are broadly divided into the two sections such as current mode commands and global commands. The topic provides information about the appliance CLI commands for the following functions.

The following list gives a high-level overview of the functions available from the command line interface.

fixpacks

The function works with the fix packs. The corresponding task can be completed by using the graphical user interface. Navigate to **Manage > Updates and Licensing > Fix Packs**.

install Installs the available fix packs on the inserted USB device.

list Lists the available fix packs on the inserted USB device.

rollback

Uninstalls the most recently installed fix pack.

view_history

Shows the installation history for all fix packs.

license

The function works with the licenses.

management

dns Works with the appliance DNS settings.

hostname

Works with the appliance host name.

interfaces

Works with the management interface settings.

set_password

Sets the appliance password.

snapshots

The function works with the snapshots. The corresponding task can be completed by using the graphical user interface. Navigate to **Manage > System Settings > Snapshots**.

Note: You must restart the virtual appliance after you apply the snapshot.

apply Applies a policy snapshot file to the system.

create Creates a snapshot of current policy files.

delete Deletes a policy snapshot file.

download

Downloads a policy snapshot file to a USB flash drive.

get_comment

Views the comment that is associated with a policy snapshot file.

list Lists the policy snapshot files.

set_comment

Replaces the comment that is associated with a policy snapshot file.

upload

Uploads a policy snapshot file from a USB flash drive.

support

The function generates the support files. The corresponding task can be completed by using the graphical user interface. Navigate to **Manage > System Settings > Support Files**.

create Creates a support information file.

delete Deletes a support information file.

download

Downloads a support information file to a USB flash drive.

get_comment

Views the comment that is associated with a support information file.

list Lists the support information files.

set_comment

Replaces the comment that is associated with a support information file.

tools

nslookup

Queries internet domain name servers.

ping Sends an ICMP ECHO_REQUEST to network hosts.

tracert

Traces a packet from a computer to a remote destination. Shows the required number of hops for a packet that is required to reach the destination and the duration of each hop.

Enabling trace for the appliance services

You can add a service trace level through the CLI. From the **Appliance Dashboard**, restart the relevant appliance service such as Identity, SingleSignOn, or SessionRecorder, and examine the log files for the new debug or trace messages.

Procedure

1. Log on to the virtual appliance.

For example:

```
usernameA@example.com> ssh -l admin pimva.example.com  
admin@pimva.example.com's password:
```

The following message is displayed:

```
Welcome to the IBM Security Privileged Identity Manager appliance
```

2. Type `ispim` at the `pimva.example.com` prompt, and press Enter.
3. At the prompt, type **help** for a list of available commands.
4. From the list of available commands, type `service_trace` at the `pimva.example.com:ispim` prompt, and press Enter.
5. At the prompt, type **help** for a list of available commands. The following sub sections are listed under `service_trace`:

add_trace

Adds a service trace level.

list_trace_history

Lists the service trace level history.

update_trace

Updates a service trace level.

6. From the list of available commands, type `add_trace` at the `pimva.example.com:service_trace` prompt, and press Enter.
7. Type an index for the name of the service. For example, type 2 at **Enter index** for `SingleSignOn`. The **Name of the service** can be as follows:
 - 1: Identity
 - 2: SingleSignOn
 - 3: SessionRecorder
8. Type the name of the package for the selected service at **Name of the package**. For example, `encentuate.*`.

Note: The value for the name of the package can be only a single package or component name. For example, `encentuate.*`. Adding another package by using the **add_trace** command overwrites the current trace level setting.

9. Type an index to assign the value for the trace level of the package. For example, type 8 at **Enter index** to assign `audit`. The values can be as follows:
 - 1: all
 - 2: finest
 - 3: finer
 - 4: fine
 - 5: detail
 - 6: config
 - 7: info
 - 8: audit
 - 9: warning
 - 10: severe
 - 11: fatal
 - 12: off

Results

The property is updated with the new value. Complete these steps to apply the new settings:

1. Restart IBM Security Privileged Identity Manager to apply the new settings.
2. Type `list_trace` at the `pimva.example.com:service_trace` prompt, and press Enter.

View the following information:

```
pimServiceName:SingleSignOn pimPackageName:encentuate.* pimTraceValue:audit
```

What to do next

Update a service trace level. For example, update the Identity appliance service.

1. Type `update_trace` at the `pimva.example.com:service_trace` prompt, and press Enter.
2. Type an index to assign the value for the trace level of the package. For example, type 7 at **Enter index** to update to `info`.

Note: The default value for the trace level is `info`.

The following example shows the transcript to set the trace level for the Identity service:

```
usernameA@example.com> ssh -l admin pimva.example.com
admin@pimva.example.com's password:
Welcome to the IBM Security Privileged Identity Manager appliance
Enter "help" for a list of available commands
```

```

pimva.example.com> ispip
Enter "help" for a list of available commands
1) firmware_update    Work with the ISPIM firmware settings.
2) service_properties Work with the ISPIM properties settings.
3) service_trace      Work with the ISPIM trace settings.
pimva.example.com:ispim> service_trace
pimva.example.com:service_trace> help
Current mode commands:
add_trace             Add a new service trace level.
list_trace_history    List the service trace level history.
update_trace          Update an service trace level.
Global commands:
back                  Return to the previous command mode.
exit                  Log off from the appliance.
help                  Display information for using the specified command.
reboot                Reboot the appliance.
shutdown              End system operation and turn off the power.
top                   Return to the top level.
pimva.example.com:service_trace> update_trace
  Name of the service :
1: Identity
2: SingleSignOn
3: SessionRecorder
Enter index: 2
  Name of the package : *
  Value for the trace level :
1: all
2: finest
3: finer
4: fine
5: detail
6: config
7: info
8: audit
9: warning
10: severe
11: fatal
12: off
Enter index: 7
pimva.example.com:service_trace> list_trace
  pimServiceName:SingleSignOn pimPackageName:* pimTraceValue:info
pimva.example.com:service_trace>

```

Chapter 5. Managing the virtual appliance

For your virtual appliance, you can work with settings such as the session recorder activation, feed file upload, data store configuration, directory server configuration, mail server configuration, customization of server properties, and log management and configuration.

To manage the configured virtual appliance, log on to the **Appliance Dashboard** at https://<pimva_hostname>. For example: <https://pimva1.corp.example.com>.

Enabling the Session Recording feature in the virtual appliance

You can enable the Session Recording feature in the IBM Security Privileged Identity Manager virtual appliance to record privileged identity sessions for auditing, security forensics, and compliance.

Before you begin

By default, session recording is not activated in the IBM Security Privileged Identity Manager virtual appliance. If you purchased the IBM Privileged Session Recorder feature and want to enable it, you must have the activation key to complete this task.

About this task

This task covers only how to enable the feature in the virtual appliance.

To enable the session recording for AccessAgent, modify the `pid_recorder_enabled` policy in AccessAdmin.

Procedure

1. From the top menu, click **Manage > Session Recording Activation**.
2. Enter your activation key.
3. Click **Activate** to enable session recording.

Managing the database configuration

Use the Database Server Configuration page to configure the database server for the IBM Security Privileged Identity Manager virtual appliance.

Procedure

1. From the top menu, select **Configure > Database Server Configuration**.
2. Click the **Configure** menu to configure the Identity, Single Sign-On, and Session Recording data stores according to the order by which they are displayed.

Note: The next data store in the **Configure** menu, Single Sign-On Data Store, is only activated after you configure the Identity Data store. Likewise, Session Recording data store is activated in the **Configure** menu after you configure the Single Sign-On Data store.

3. Specify the data store configuration details.

Table 11. Data store configuration options

If you choose to configure the following data store	Description
Identity Data store	<p>Host name Name of the computer that hosts the data store. Example: pimidstore.example.com.</p> <p>Port Data store service port. Example: 50000.</p> <p>Database Name Name of the IBM Security Identity Manager database. Example: isimdb.</p> <p>Database Administrator ID User with Database Administrator privileges. Example: db2admin.</p> <p>Database Administrator Password Password for the user with Database Administrator privileges.</p>
Single Sign-On Data store	<p>Host name Name of the computer that hosts the data store. Example: pimidstore.example.com.</p> <p>Port Data store service port. Example: 50000.</p> <p>Database Name Name of the IBM Security Access Manager for Enterprise Single Sign-On database. Example: essodb</p> <p>Database Administrator ID User with Database Administrator privileges. Example: db2admin.</p> <p>Database Administrator Password Password for the user with Database Administrator privileges.</p>

Table 11. Data store configuration options (continued)

If you choose to configure the following data store	Description
Session Recording Data store	<p>Host name Name of the computer that hosts the data store. Example: pimidstore.example.com.</p> <p>Port Data store service port. Example: 50000.</p> <p>Database Name Name of the IBM Security Privileged Identity Manager database. Example: pimrecdb.</p> <p>Database Administrator ID User with Database Administrator privileges. Example: db2admin.</p> <p>Database Administrator Password Password for the user with Database Administrator privileges.</p>

4. Click **Save Configuration** to complete this task.

Managing the LDAP configuration

Use the Directory Server Configuration page to configure the directory server in the IBM Security Privileged Identity Manager virtual appliance.

Before you begin

Ensure that you completed the following tasks:

- Install and configure the directory server.
- Create the directory server DN location.

Procedure

1. From the top menu, select **Configure > Directory Server Configuration**.
2. Click **Configure**.
3. In the LDAP Configuration Details pane, specify the required variables:

Table 12. Directory or LDAP server configuration details

Field	Description and examples
Host name	<p>Name of the computer that hosts the directory server.</p> <p>The acceptable formats for host name: IPv4, FQDN, and IPv6</p> <p>Example: pimldap.example.com</p>
Port	<p>Directory service port.</p> <p>Example: 389</p>
Principal DN	<p>Principal distinguished name.</p> <p>Example: cn=root</p>

Table 12. Directory or LDAP server configuration details (continued)

Field	Description and examples
Password	Password for the directory server.
Name of your current enterprise	Name of the enterprise. Example: JK Enterprises
Default Org Short Name	Abbreviation or short form of the organization name. Example: jke
Privileged Identity Manager DN Location	Directory server DN location. Example: dc=com

4. Click **Save Configuration** to complete this task.

Note: Directory Server configuration takes some time. Do not refresh or close the page. Wait for the configuration process to complete.

Managing mail configuration

Use the Mail Server Configuration page to configure the email notifications for the IBM Security Privileged Identity Manager virtual appliance.

Procedure

1. From the top menu, select **Configure > E-mail Server Configuration** to configure the Mail Server.
2. Follow the instructions on the page to complete the process.

Managing server properties

You can update the property values in the IBM Security Privileged Identity Manager virtual appliance to customize the IBM Security Identity Manager server.

Before you begin

You must be familiar with the property keys and values of the IBM Security Identity Manager supplemental property files before you do this task. See the *Supplemental property files* section of the IBM Security Identity Manager documentation for details: http://pic.dhe.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.isim.doc_6.0/reference/ref/ref_ic_props_supp.htm.

Procedure

1. From the menu, select **Configure > Update Property**.
2. Select the property to update from the list, and click **Edit**.
3. Edit its property value and click **Save Configuration**.

You can customize following IBM Security Identity Manager properties:

Table 13. Available IBM Security Identity Manager properties in the IBM Security Privileged Identity Manager virtual appliance

Supplemental property files	Properties and values
adhocreporting.properties	<p>applyACIAtRuntime = false</p> <p>availableForNonAdministrators = true</p>
ReportDataSynchronization.properties	<p>accountSynchronizationStrategy = old</p> <p>accountSynchronizationStrategy = old</p> <p>authorizationOwnerSynchronizationStrategy = old</p> <p>groupSynchronizationStrategy = old</p> <p>organizationalContainerSynchronizationStrategy = old</p> <p>personSynchronizationStrategy = old</p> <p>roleSynchronizationStrategy = old</p> <p>serviceSynchronizationStrategy = old</p>
SelfServiceUI.properties	<p>enrole.ui.pageSize = 10</p> <p>enrole.ui.pageLinkMax = 100</p> <p>enrole.ui.maxSearchResults = 1000</p> <p>enrole.ui.maxSearchResults.users = 100</p>
enRole.properties	<p>enrole.connectionpool.incrementcount = 3</p> <p>enrole.connectionpool.initialpoolsize = 50</p> <p>enrole.connectionpool.maxpoolsize = 100</p> <p>enrole.connectionpool.protocol = plain ssl</p> <p>enrole.workflow.notifyoption = 1</p> <p>enrole.workflow.notifypassword = true</p> <p>enrole.workflow.notifyaccountsonwarning = false</p> <p>enrole.workflow.maxretry = 2</p> <p>enrole.workflow.retrydelay = 60000</p> <p>enrole.workflow.skipapprovalforrequester = false</p> <p>enrole.workflow.disablerequesteeapproval = false</p> <p>enrole.workflow.disablerequesterapproval = false</p> <p>enrole.workflow.skipfornoncompliantaccount = true</p> <p>enrole.reconciliation.accountcachesize = 2000</p> <p>enrole.reconciliation.threadcount = 8</p> <p>remoteservices.remotepending.restart.retry = 1440</p> <p>remoteservices.remote.pending.testing.max.duration = 1200</p> <p>enrole.CreatePassword = true</p> <p>enrole.accesscontrollist.refreshInterval = 10</p> <p>enrole.recyclebin.enable = false</p> <p>enrole.lifecyclerule.partition.size = 100</p>

Table 13. Available IBM Security Identity Manager properties in the IBM Security Privileged Identity Manager virtual appliance (continued)

Supplemental property files	Properties and values
ui.properties	<p>enrole.ui.customerLogo.image = ibm_banner.gif</p> <p>enrole.ui.customerLogo.url = www.ibm.com</p> <p>enrole.ui.pageSize = 50</p> <p>enrole.ui.pageLinkMax = 10</p> <p>enrole.ui.maxSearchResults = 1000</p> <p>enrole.ui.report.maxRecordsInReport = 5000</p> <p>ui.challengeResponse.showAnswers = true</p> <p>ui.userManagement.includeAccounts = true</p> <p>ui.challengeResponse.bypassChallengeResponse = true</p> <p>ui.passwordManagement.generatePassword = true</p>

Managing feed files

You can upload feed files and use them in the IBM Security Privileged Identity Manager virtual appliance as long as you put them in the prescribed location.

Procedure

1. From the menu, select **Configure > Upload Feed File**.
2. Click **New**.
3. Click **Browse** to search for the feed file to upload. The feed files are in /userdata/identity/feeds.

The /userdata/identity/feeds location is required while creating feed in IBM Security Identity Manager console.

Managing log configuration

You can view component-specific and appliance log files to troubleshoot any appliance-related issues better. You can also configure the file size and settings of the log files in the Log Configuration page.

Procedure

1. From the menu, select **Manage > Log Retrieval and Configuration**.
2. Select the product from the tabs to view the available logs.
3. Select **Configure** to set the file size and roll over settings for the selected log file.

Retrieving logs

Use the Log Retrieval and Configuration page to view the log files. You can also use the page to configure the server log settings for the IBM Security Privileged Identity Manager virtual appliance.

Procedure

1. From the top menu, select **Manage > Log Retrieval and Configuration**.
2. Take any of the following actions:

- To display a log file, click **View**.
- To save a log file, click **Download**.
- To remove a log file, click **Clear**.
- To redisplay all log files, click **Refresh**.

Table 14. Available logs to help you diagnose or troubleshoot.

Tab	Log File Name	Description
Appliance These files help you to debug any configuration failures that occur in the appliance.	Identity Data store configuration	Identity data store configuration log file.
	Session Recording Data store configuration	Privileged Session Recorder data store configuration log file.
	Directory Server information	IBM Security Privileged Session Recorder user registry configuration log file.
	Server System out	Appliance system output log file.
	Server Message	Appliance server message log file.
	Server Console	Appliance server console log file.
Identity Helps you identify issues in the identity applications.	Server System out	Identity Server system output log file.
	Server System err	Identity Server system error log file.
	Application message	Identity application message log file.
	Application trace	Identity application trace log file.
Single Sign-On Helps you identify issues in the single sign-on application.	Server System out	Single Sign-On Server system output log file.
	Server System err	Single Sign-On Server system error log file.
Session Recording Helps you identify issues in the session recording application.	Server System out	Privileged Session Recorder Server system output log file.
	Server System err	Privileged Session Recorder Server system error log file.

Configuring logs

You can configure different options to manage the quantity and size of the log files.

Procedure

1. From the top menu, select **Manage > Log Retrieval and Configuration**.
2. To set the log settings, click **Configure**.
3. Provide the following details:

Maximum size for log file rotation

The size of the log file that you want to keep.

Maximum number of historical log files

The maximum number of historical log files that you want to keep.

4. Click **Save Configuration**.

Reconfiguring the data store connection

You can reconfigure the data store if the data store configuration changes.

Procedure

1. Make a backup of the database. On the database server that runs DB2 Universal Database™ for IBM Security Privileged Identity Manager, complete the following steps:

- a. Log on as the instance owner. For example: db2admin.
- b. Close all connections to the IBM Security Identity Manager database. Stop WebSphere® Application Server or any other tools. If necessary, run the following command to force all connections to close:

```
db2 force application all
```

- c. Back up the data store's database:

```
db2 backup database IDM_DB to OLD_DB2_BACKUP_DIR
```

where

IDM_DB is the name of the IBM Security Privileged Identity Manager data store's database. For example: idmdb

OLD_DB2_BACKUP_DIR is a directory path to store the backup. For example:

Linux or UNIX systems

```
/tmp/db2
```

Windows systems

```
c:\temp\db2
```

2. Restore the backup of the database.

Install the new version of DB2 Universal Database. For this reconfiguration, ensure that you create the database instance and database with the same name. Users must have the same rights and privileges as those setup on the previous system.

To create a new database instance and a database, see “Installing and configuring the database server” on page 12.

Copy the contents of the IBM Security Privileged Identity Manager data store backup directory to the target server. For example: tmp/db2.

Ensure that the database instance owner you create has permission to read the target directory and files within.

To restore the DB2 Universal Database data on the target database server, complete the following steps:

- a. Launch DB2 command line.

Windows

- 1) Launch the Windows command line.
- 2) Run the following command:
set DB2INSTANCE=piminst where piminst is the database instance.
- 3) Run db2cmd to launch the DB2 command line.

Linux

Run the command `su - piminst` where piminst is the database instance.

- b. In the DB2 command line, enter the following commands to restore the database by using the migrated DB2 data: `restore db idmdb from OLD_DB2_TEMP_DATA` where `idmdb` is the IBM Security Privileged Identity Manager data store database name. `OLD_DB2_TEMP_DATA` is the location of the migrated DB2 data that you copied over from the previous version. For example: `c:\temp\db2`

- c. Stop and start the DB2 server to reset the configuration. After you create the IBM Security Privileged Identity Manager data store database, stop, and start the DB2 server to allow the changes to take effect. Enter the following commands:

```
db2stop
db2start
```

Note: If the `db2stop` fails and the database remains active, enter the following command to deactivate the database:

```
db2 force application all
```

Then, enter `db2stop` again.

- 3. For the Identity data store, clear the **Service Integration Bus**.

For reconfiguration of the Identity data store, you must clear out the Service Integration Bus (SIB) from the restored database.

To clear out the **Service Integration Bus** on the target DB2 server, complete the following steps:

- a. Ensure that the IBM Security Identity Manager database is running (IDMDB).
- b. Launch the DB2 command line:

Windows

- 1) Launch the Windows command line.
- 2) Run the following command:
`set DB2INSTANCE=piminst` where `piminst` is the database instance.
- 3) Run `db2cmd` to launch the DB2 command line.

Linux

Run the command `su - piminst` where `piminst` is the database instance.

- c. In the DB2 command line, enter the DELETE SQL statements that you require to delete all data from the tables in the Service Integration Bus schemas.

Enter the following commands for each of the Service Integration Bus schema in your environment:

```
db2 delete from schema_name.SIB000
db2 delete from schema_name.SIB001
db2 delete from schema_name.SIB002
db2 delete from schema_name.SIBCLASSMAP
db2 delete from schema_name.SIBKEYS
db2 delete from schema_name.SIBLISTING
db2 delete from schema_name.SIBXACTS
db2 delete from schema_name.SIBOWNER
db2 delete from schema_name.SIBOWNER0
```

where the Service Integration Bus schema, `schema_name` is `ITIML000`.

Note: The SIMOWNER0 might not exist in all Identity data store environments. If it does not exist and the delete statement fails, you can ignore the failure.

4. Reconfigure the data store.
 - a. From the IBM Security Privileged Identity Manager administrative console, click **Menu > Database Configuration**.
 - b. Select the existing data store that you want to set up and click **Reconfigure**. Provide the details and click **Save Configuration**.
 - c. Restart the server for the corresponding data store to complete the process.

Reconfiguring the directory server connection

You can reconfigure the directory server if the directory server configuration changes.

Procedure

1. Make a backup of the directory server.

On the server running IBM Tivoli Directory Server for IBM Security Privileged Identity Manager, complete the following steps:

 - a. Log on as an Administrator with root privileges.
 - b. Open a command window.
 - c. Go to the <TDS_HOME>/sbin directory and type the following command:
db2ldif -s ldap_suffix -o ldap_output_file -I ldap_instance_name
where:
ldap_suffix is the name of the suffix. For example: dc=com.
ldap_output_file is the name of the ldif output file. For example:
old_ldif_data.ldif.
ldap_instance_name is the name of the LDAP server instance, which can be obtained through the IBM Tivoli Directory Server Instance Administration tool.
 - d. Use the backup of the schema file V3.modifiedschema from the OLD_ITDS_INSTANCE_HOME\etc directory of the IBM Tivoli Directory Server instance home directory.
2. Restore the backup of the database.

Install a version of IBM Tivoli Directory Server that IBM Security Privileged Identity Manager supports. For this reconfiguration, ensure that you take the following actions:

 - Create and use the same root suffix.
 - Use the same encryption seed value as the old Directory Server instance. If not, you must export the data from the old Directory Server instance to use the seed and salt keys from the new instance.

Copy the contents of the IBM Security Privileged Identity Manager directory server's backup ldif file and schema file to the target server.

To restore the directory server data on the target directory server, complete the following steps:

 - a. Log on as an Administrator with root privileges.
 - b. Stop the LDAP server.
 - c. Copy the schema file V3.modifiedschema that you copied over from the previous server to the NEW_ITDS_INSTANCE_HOME\etc directory of the IBM Tivoli Directory Server instance.

Note: If you customized or modified the schema files, manually merge the changes into the new schema files.

- d. From TDS_HOME/sbin, run the command:

```
bulkload -i OLD_ITDS_TEMP_DATA\ldif_output_file -I ldap_instance_name
```

where:

OLD_ITDS_TEMP_DATA is the temporary directory location of the IBM Tivoli Directory Server data you copied over from the previous server. For example, C:\temp\51data\ids\.

ldif_output_file is the name of the file that you exported in a previous task. For example, old_ldif_data.ldif

ldap_instance_name is the name of the LDAP server instance. For example, itimldap. You can obtain use the IBM Tivoli Directory Server Instance Administration tool to obtain the instance name.

For more information, see “Bulkload command errors” on page 65.

- e. Stop and start IBM Tivoli Directory Server to activate the changes.
3. Reconfigure the directory server.
 - a. From the IBM Security Privileged Identity Manager administrative console, go to **Menu > Directory Server Configuration**.
 - b. Select the directory server and click **Reconfigure**. Provide the details and click **Save Configuration**.
 - c. Restart the Identity server to complete the process.

Chapter 6. Configuration

To check out and check in shared credentials or to use session recording, complete the required configuration tasks. Some configuration tasks are optional depending on your deployment requirements.

IBM Security Access Manager for Enterprise Single Sign-On configuration

AccessProfiles, and policy templates are required before automatic check-out and check-in can work.

Table 15 describes configuration tasks that you might want to complete, depending on the requirements of your deployment.

Table 15. Single Sign-On configuration tasks

Configuration task	Description
Configure a Windows Group Policy to prompt the client for passwords (RDP)	If you use a Remote Desktop Connection client for privileged access to a Windows host, configure the RDP policy to prompt for, not store, passwords. See "Configuring a Windows Group Policy to prompt the client for passwords (RDP)" in the <i>IBM Security Privileged Identity Manager Deployment Overview Guide</i> for the detailed procedures.

Shared access configuration

You can specify configuration settings for shared access as needed for your deployment. You can specify default settings for credentials, configure an external credential vault server, define a unique ID for a service, and customize several different operations.

Table 16 describes configuration tasks that you might want to complete, depending on the requirements of your deployment.

Table 16. Shared access configuration tasks

Configuration task	Description
Configuring the credential default settings	Specifies the default settings for each credential that is added to the credential vault.
Customizing the service form template to include the unique identifier (eruri) attribute	Updates the managed resource service form template to include a field for the unique identifier that you use to connect to the managed resource.
Customization of the checkout operation	The shared access module supports both synchronous and asynchronous checkout of shared accounts. Synchronous checkout is enabled by default. If you want to use asynchronous checkout, you must enable and configure it.

Table 16. Shared access configuration tasks (continued)

Configuration task	Description
Shared access approval and recertification	You can add an approval process to the default operation for adding credentials to the vault. You can also define a custom workflow to recertify credentials in the vault.
Customizing the checkout form	You can customize the form that is used for checkout of shared accounts. You can add more attributes to be filled out during checkout. This customization increases individual accountability when credentials are shared.
Shared access Tivoli Common Reporting reports	You can configure reports that show: <ul style="list-style-type: none"> • Shared access audit history • Shared access entitlements for a specified owner • Shared access entitlements for a specified role.

Consult the IBM Security Identity Manager documentation to understand which configuration tasks apply to your deployment:

- Shared access documentation
In the IBM Security Identity Manager documentation, see the “System configuration” section to find links to the documentation for shared access configuration tasks.
- IBM Security Identity Manager documentation
To find information about a task in Table 16 on page 43, go to this documentation. On the home page, locate the documentation search field, and enter the configuration task name as shown in the “Configuration task” column of the table. For example, to use an external credential vault server, enter “Configuring an external credential vault server”.

Session recording configuration

You can complete configuration tasks for session recording as needed for your deployment.

Learn about the configuration tasks that you might want to complete for your deployment with session recording.

Table 17. Session recording configuration tasks

Configuration task	Description
Configure IMS Server policies for session recording	<p>Configure the Privileged Session Recorder behavior through IBM Security Access Manager for Enterprise Single Sign-On AccessAdmin. For example, you can customize the following options:</p> <ul style="list-style-type: none"> • Enable or disable session recording. (pid_recorder_enabled) • Specify the Privileged Session Recorder Server URL. (pid_recorder_server) • Capture recording in full color or in grayscale for smaller recordings. (pid_recorder_image_capture_option) • Enable or disable key logging. (pid_recorder_keyboard_capture_option) • Specify the action to take on the client computer when the Privileged Session Recorder Server is not available. (pid_collector_comm_fail_action) <p>For more information about the policies for session recording, see "Policies for Privileged Identity Management" in the IBM Security Access Manager for Enterprise Single Sign-On product documentation.</p>
Add Session Recorder Auditors	<p>Use the IBM Security Privileged Identity Manager console to add members of security auditors to the 'Session Recorder Auditor' group to access the Privileged Session Recorder console.</p> <p>Members of the 'Session Recorder Auditor' group have privileges to view session recordings on the Privileged Session Recorder console.</p> <ol style="list-style-type: none"> 1. Install and configure the Privileged Identity Manager Server in the virtual appliance. See "Setting up the virtual machine" on page 14. 2. Follow the procedure in "Adding members to groups" in the <i>IBM Security Identity Manager Administration Guide</i>. <p>Note: In this case, service is ITIM Service and group is Session Recorder Auditor.</p>
Modify AccessProfiles for session recording	<p>Modify the AccessProfile to customize its functions for specific client applications. Configure the AccessProfiles with Privileged Session Recorder widgets to add session recording support to custom applications.</p> <p>See "Modifying AccessProfiles" in the <i>IBM Security Privileged Identity Manager Administrator Guide</i>.</p>

Table 17. Session recording configuration tasks (continued)

Configuration task	Description
Configure IBM Privileged Session Recorder Tivoli Common Reporting reports	Configure Tivoli Common Reporting to show the IBM Privileged Session Recorder report.

Optional configuration tasks

There are several optional configuration tasks for IBM Security Privileged Identity Manager.

Table 18 describes configuration tasks that you might want to complete, depending on the requirements of your deployment.

Table 18. Optional configuration tasks

Configuration task	Description
Create your own privileged identity management AccessProfiles	<p>You can use the IBM Security Privileged Identity Manager AccessProfile to start developing or enhancing your own privileged identity management scenarios.</p> <ol style="list-style-type: none"> 1. Install AccessStudio Version 8.2.1. 2. Ensure that you have the Privileged Identity Management AccessProfiles. You can download the AccessProfiles from the AccessProfiles Library. 3. In AccessStudio, open the sample AccessProfile. 4. Build or enhance the Privileged Identity Management AccessProfile. For more information, see "Modifying AccessProfiles" in the <i>IBM Security Privileged Identity Manager Administrator Guide</i>. 5. Debug and start your AccessProfile. 6. Upload the AccessProfile to the IMS Server.
Modify the checkout lease time expiry for shared access credentials	See "Configuring the credential default settings" in the <i>IBM Security Identity Manager Configuration Guide</i> .
Delete or merge copies of the AccessProfile	<p>Each application signature for an AccessProfile must be unique. Single sign-on cannot occur if there are multiple AccessProfiles with the same application signature on the IMS Server.</p> <p>If you have more than one AccessProfile for the same application, consider deleting or modifying copies of the AccessProfile.</p> <p>If you want both the privileged identity management AccessProfiles and the AccessProfiles you already have, then you must consider advanced AccessProfile merging. For help with advanced AccessProfile merging, contact IBM Services.</p>
Configuring or administering the IBM Tivoli Common Reporting	Use IBM Tivoli Common Reporting to view the shared access reports that are available from IBM Security Access Manager for Enterprise Single Sign-On and IBM Security Identity Manager.

Chapter 7. Shared credential check-out and check-in

To log on with a client application, you can use the shared access credentials that you checked out and checked in automatically or manually.

Automatic check-out and check-in with client application logon

Use the IBM Security Access Manager for Enterprise Single Sign-OnAccessAgent client to provide check-out and check-in automation of shared access credentials. You must install and configure the AccessAgent client on computers from where the client application is accessed.

Logging on with PuTTY

You can use PuTTY to log on to a remote terminal host from Windows with shared privileged identities.

Before you begin

- Configure the managed resource that you are going to access from PuTTY for shared access.
- If the pre-configured Privileged Identity Management AccessProfile for PuTTY is modified, upload the updated AccessProfile to the IMS Server.

About this task

You can configure the PuTTY AccessProfile for different logon prompts. See “Modifying AccessProfiles for the PuTTY application” in the *IBM Security Privileged Identity Manager Administrator Guide*.

If session recording is enabled, a prompt is displayed requesting for your consent to start session recording.

Procedure

1. Start PuTTY.
2. Specify the target host name or IP address.
3. When prompted to log on with shared access credentials, choose **Yes**.
4. When prompted with the Shared Access Selection window, select one of the credential pools.
5. When prompted to provide consent to be recorded, choose **Yes**. Session recording is started.

Results

The AccessProfile checks out the credentials from IBM Security Identity Manager and injects the logon credential in the terminal server logon prompt.

Logging on with the Microsoft Remote Desktop Connection (RDP) client

You can log on to a remote desktop with shared privileged identities with Remote Desktop Connection.

Before you begin

- Configure the managed resource that you are going to access from the RDP client for shared access.
- If the pre-configured Privileged Identity Management AccessProfile for Microsoft Remote Desktop Connection RDP client is modified, upload the updated AccessProfile to the IMS Server.
- Configure a group policy to always prompt RDP clients for a password before making a connection.

Note: The IBM Security Privileged Identity Manager AccessProfile for Microsoft Remote Desktop Connection (RDP) client does not support injection of shared credentials at the RDP lock screen on the computer to where the user did a remote desktop connection.

Procedure

1. Start the Microsoft Remote Desktop Connection client by clicking **Start > All Programs > Accessories > Remote Desktop Connection**.
2. Specify the target host name or IP address.
3. Click **Connect**.
4. When prompted to log on with shared access credentials, choose **Yes**.
5. When prompted with the Shared Access Selection window, select one of the credential pools.
6. Enter the AccessAgent authentication credentials.
7. When prompted to provide consent to be recorded, choose **Yes**. Session recording is started.

Results

The AccessProfile checks out the credentials from IBM Security Identity Manager, and injects the logon credential in the remote desktop logon prompt.

Logging on with IBM Personal Communications

Use the IBM Personal Communications application to log on to a mainframe application with shared access identity. You must configure the bundled Privileged Identity Management AccessProfile for your mainframe application before check-out and check-in automation can work.

Before you begin

Configure the AccessProfile for your mainframe application. See “Modifying AccessProfiles for the IBM Personal Communications application” in the *IBM Security Privileged Identity Manager Administrator Guide*.

About this task

For check-out and check-in automation to work with your custom mainframe applications, you must apply specific changes to the bundled IBM Security Privileged Identity Manager AccessProfile.

Note: Customize the IBM Security Privileged Identity Manager AccessProfile for IBM Personal Communications application before you use it.

Customization is necessary because:

- Each mainframe or terminal application might contain different output phrases.
- The AccessProfile or application signature must contain a similar phrase as the one displayed by the mainframe application. So, when the application displays the phrase, the logon automation by the AccessProfile can proceed.

The following steps describe an outline of one of the ways that the shared credential check-out automation might work.

Procedure

1. Start IBM Personal Communications.
2. Specify the target host name or IP address.

Note: The window title of IBM Personal Communications must match the session name.

3. Select the application.
4. When prompted to log on with shared access credentials, choose **Yes**.
5. When prompted with the Shared Access Selection window, select one of the credential pools.
6. When prompted to provide consent to be recorded, choose **Yes**. Session recording is started.

Results

The AccessProfile checks out the credentials from IBM Security Identity Manager and injects the logon credential in the mainframe logon prompt.

Logging on with the VMware vSphere Client

Use the VMware vSphere Client to log on to a virtual machine with shared access credentials.

Before you begin

- Configure the managed resource for shared access.
- If the pre-configured Privileged Identity Management AccessProfile for VMware vSphere Client is modified, upload the updated AccessProfile to the IMS Server.

Procedure

1. Start the **VMware vSphere Client**.
2. When the **ISAMESSO AccessAgent** dialog box is displayed:
 - a. Specify the target host name or IP address.
 - b. Click **OK**.

If you successfully checked out the shared access credentials, the credentials are injected into the VMware vSphere logon prompt. If the check-out failed, the credentials are not injected.

3. Click **Login**.
4. When prompted to log on with shared access credentials, choose **Yes**.
5. When AccessAgent prompts for reauthentication, enter the AccessAgent credentials.
6. When prompted with the Shared Access Selection window, select one of the credential pools.

7. When prompted to provide consent to be recorded, choose **Yes**. Session recording is started.

Results

The AccessProfile checks out the credentials from IBM Security Identity Manager, and injects the logon credentials in the VMware vSphere Client logon prompt.

Manual check-out and check-in of shared credentials

Use the IBM Security Identity Manager self-service user interface console to check out and check in shared access credentials for a resource. After you check out a credential, provide the shared access credentials when the client application prompts you.

Checking out a credential or credential pool

Use the self-service console to use privileges that are not associated with your normal account.

About this task

Shared access credentials are used by multiple users that are based on roles. They enable users to temporarily access needed applications. The check-out process places an exclusive lock on the credential. No other user can use the same credential concurrently.

Procedure

1. Log on to the self-service console.
2. On the Home page, click **Check out Credential**.

The Check out Credential page lists the credentials that you are authorized to access.

 - If you see the credential you want to access, continue to step 3.
 - If you do not see the credential that you want, you can search for other credentials:
 - a. In the Search for Credential section of the page, click **Search**. The Search for Shared Credential page is displayed.
 - b. Enter the name of the credential or credential pool that you want to access or specify additional search criteria. Click **Search**.

You can filter based on Service Type, Account Type, or Organizational Unit. You can specify that the search includes credentials for which you do not have authorization. See the online help for more details on the filters.

Optionally, you can click **Browse** to search for organizational units. If you click **Browse**, the Search for Organizational Unit page is displayed. Specify search filters and click **Search**.

The search returns a Search Results table that contains a list of credentials.
3. Click the credential that you want to check out.
 - If the Checkout Information page is displayed, you are authorized to access the credential. Continue with step 4 on page 51.
 - If the Select Role page is displayed, you are *not* authorized to access the credential. You must request a role to access the credential or credential pool. Complete the following steps:

- a. Select a role that has access authority for the selected shared credential or credential pool.
The table lists the roles that have access authority. You must obtain membership in one of the roles to check out the credential or credential pool.
 - b. Review the list of shared access entitlements for the role that you selected and click **Submit**. A new page describes the request that you submitted.
 - c. Select one of the action links at the bottom of the page:
 - Click **View My Requests** to look at the status of your request.
You must wait until your request is completed to continue with the check out of the credential or credential pool.
 - Click **Check Out Credential** to check out another credential.
 - Click the **IBM Security Identity Manager Home** link to return to the home page for the self service console.
 - d. Return to step 2 on page 50.
4. Review the fields on the Checkout Information page and then complete the checkout.
- By default, the Checkout Information page contains only the **Credential checkout expiration time** field and the **Justification** field, but your Administrator might specify additional fields.
- a. The **Credential checkout expiration time** field contains the date and time when your access to the credential expires. The Administrator specifies the default maximum allowed lifetime for each checked-out credential. You can modify the expiration time to shorten the lifetime of the checked-out credential; however, you cannot extend the lifetime.
 - b. In the **Justification** field, explain the reason for the access to the credential. By default, this field is optional.
 - c. Click **Check out**. The Checkout Confirmation page is displayed.

What to do next

Use the user ID and password that you checked out to log on to the application that you want to use.

Checking in credentials in a credential pool

As a Privileged Administrator, you can check in a credential that either you or any other user checked out by using the administrative console.

Before you begin

Ensure that you have the following permission: Checking in a credential on behalf of others.

CAUTION:

If the original user still has an active session open while another user has the same shared access account checked out, checking in a shared account for others might break individual accountability. IBM Security Identity Manager does not make session management on connection to a managed resource. This issue can be addressed by IBM Security Access Manager for Enterprise Single Sign-On integration and automated check-out or check-in.

Procedure

To check in credentials that are checked out, complete these steps:

1. From the navigation tree, click **Manage Shared Access > Manage Credential Pool**. The Select a Pool page is displayed.
2. On the Select a Pool page, click **Search** to locate the credential pool that you want to modify. If you do not specify any additional information, the search includes all credential pools. To limit the scope of the search, complete these steps:
 - a. Optional: In the **Pool name or description** field, specify the name or description that is associated with the credential pool. For example, type `acmepool` or `pool` for acme company accounts. You can also specify a wildcard, such as `*acme*` to find all pools that contain that term in the name or description.
 - b. Optional: Select a service type from the **Service type** list.
 - c. Optional: Specify a specific service name in the **Service name** field. For example, type `AIX_Service`. You can also specify a wildcard, such as `*AIX*` to find all services that contain that term in the name.
 - d. Optional: To select a different business unit, click **Search** next to the **Business unit** field.
 - e. On the Business Unit page, locate and select a service and click **OK**. The business unit name is displayed in the **Business unit** field.
 - f. Click **Search**. The credential pools that match the search criteria are displayed in the **Credential Pools** table.
3. Locate the row in the **Credential Pools** table that contains the credential pool that you want to check in. In the **Name** column, hover your cursor over the icon to display the action menu. Select **View Credentials in the Pool**.

Note: You do not need to select the check box for the credential in the **Select** column.

The View Credentials in the Pool panel is displayed.

4. In the **User ID** field, type the identification name of the credential that you want to check in.
5. Optional: Filter the search criteria by using one of the following options:
 - If you want to check in the credentials that are in the vault, select the **Only display credentials in the vault** check box.
 - If you want to check in the credentials that are checked out from the self-service user interface, select the **Only display credentials checked out** check box.

Note: Credentials that are marked with a warning icon are not available in the vault.

6. Click **Search**.

Note: If you leave the **User ID** field blank and click **Search**, all the accounts that are in a group or groups available in the pool are displayed.

7. In the **Credentials In The Pool** table, select one or more credentials that you want to check in.
8. Click **Check In**. A confirmation page is displayed.
9. On the Confirm page, specify the date and time for the check-in to occur, and then click **Check In**, or click **Cancel**. A message is displayed, indicating that you successfully checked in the credential.

Checking in credentials from a credential vault

As a Privileged Administrator, you can check in a credential that either you or any other user that is checked out from a credential vault.

Before you begin

Ensure that you have the following permission: Checking in a credential on behalf of others.

Procedure

To check in credentials that are checked out, complete these steps:

1. From the navigation tree, click **Manage Shared Access > Manage Credential Vault**. The Select a Credential page is displayed.
2. Click **Search** to locate the credentials that you want to view. If you do not specify any additional information, the search includes all user IDs and services in the vault. To limit the scope of the search, complete these steps:
 - a. In the **User ID** field, specify a user ID associated with the account credentials. For example, type `bsmith`.
 - b. Enter a specific service name in the **Service name** field. For example, type `AIX_Service`. You can also specify a wildcard, such as `*AIX*` to find all services that contain that term in the name.
 - c. Optional: Click **Advanced**. The advanced search option opens a new page where you can specify other search criteria.

The credentials that match the search criteria are displayed in the **Credentials** table.

3. In the **Credentials** table, select one or more credentials that you want to check in.
4. Click **Check In**. A confirmation page is displayed.
5. On the Confirm page, specify the date and time for the check-in to occur.
6. Click **Check In**, or click **Cancel**. A message is displayed, indicating that you successfully checked in the credential.

Note: If the credentials that you are checking in are not connected to an account, the credential password is not changed at checkin even if the default configuration settings specify that **Change password upon checkin** is enabled.

7. Click **Close** to exit credential vault management.

Chapter 8. Setting up a secondary virtual appliance for active-passive configuration

You can provide a basic level of disaster recovery by setting up the IBM Security Privileged Identity Manager virtual appliance into two appliances with active-passive configuration.

Complete the following tasks to deploy an active-passive configuration for the appliances:

1. Set up a primary appliance.
2. Optional: Back up the primary appliance.
3. Create a snapshot of the primary appliance.
4. Set up a secondary appliance.

Setting up a primary appliance

Set up the primary appliance for the active-passive configuration.

Procedure

1. Create a virtual machine on the VMware ESXi Server by using the IBM Security Privileged Identity Manager appliance ISO.
2. Complete the first steps configuration. For example, configure the host name and IP address.
3. Complete the appliance configuration.
4. Log on to the applications by using the dashboard console.
5. Verify that the applications are started.
6. Verify that the user can log on to IBM Security Identity Manager, IBM Security Access Manager for Enterprise Single Sign-On and the IBM Privileged Session Recorder console to complete operations.

Backing up the primary appliance

As an optional task, you can choose to back up the primary appliance configuration.

About this task

The virtual appliance has two disk partitions, and at any time one is active and another is inactive. Backing up the primary appliance is an optional procedure to backup the entire active partition to the inactive partition on the same virtual appliance.

Procedure

1. Stop the servers from the **Appliance Dashboard**. To stop the servers, click **Stop** from the **Server Status** panel.
2. Stop the directory server instance and database instance on the external data tier.
3. From the **Appliance Dashboard**, verify that the **Middleware and Server Monitor** indicates that all middleware and applications are stopped.

4. Create a backup of the active partition on the secondary partition.
 - a. From the appliance user interface, select **Firmware Settings**.
 - b. Select the active partition and then click **Create Backup**.

The system restarts and backs up the primary partition.

Related tasks:

“Reverting the appliance to its backup”

To revert the appliance to its backup, start the appliance through the inactive partition; the partition from where the backup was taken.

Reverting the appliance to its backup

To revert the appliance to its backup, start the appliance through the inactive partition; the partition from where the backup was taken.

Procedure

1. On the virtual appliance, select **Firmware Settings**.
2. Select the inactive partition and click **Set Active**.

Creating a snapshot of the primary virtual appliance

Use the Appliance dashboard to create a snapshot of the primary virtual appliance. A snapshot that is created from a configured virtual appliance can be applied on the same virtual appliance to restore the configuration and policy settings. A snapshot contains configuration and policy settings. It can also be used to synchronize the configuration and policy settings between the primary virtual appliance and a secondary virtual appliance.

Procedure

1. From the **Appliance Dashboard**, stop the servers.
2. On the external data tier, stop the following instances:
 - Directory server
 - Database
3. From the **Appliance Dashboard**, verify that the **Middleware and Server Monitor** indicates that all the middleware and applications are stopped.
4. Under **Manage System Settings**, click **Snapshots**.
5. Click **New** to create a snapshot.
6. Under the **Comments**, specify helpful comments so that the snapshot is easy to identify from a primary appliance that is synchronized with the external data tier.
7. Download and save the snapshot on the network file system.
8. Stop the primary appliance. Complete one of the following tasks:
 - On the ESXi Server, suspend the virtual machine by using the VMware vSphere Client.
 - Stop the appliance by using the command line interface command: shutdown.

Note: Create the snapshot of the external data tier, such as the directory server and database system, at the same time to preserve the current state. The document does not describe how to create the snapshot of the external data tier systems.

Setting up a secondary appliance

Set up the secondary virtual appliance. The secondary virtual appliance can be configured to point to the same data tier as the primary virtual appliance for high availability configuration. It can also be configured to point to a replicated (standby) data tier for disaster recovery configuration.

Procedure

1. Create a virtual machine on the VMware ESXi Server by using the IBM Security Privileged Identity Manager appliance ISO.
2. Complete the first steps configuration. For example, configure the host name and IP address.

Note: The secondary appliance can be configured to use its own unique IP address. However, the secondary appliance must be configured to have the same host name as the primary appliance. Use the same host name so that requests from AccessAgent can be re-routed to the secondary appliance through a DNS change when the primary appliance is down.

3. Log on to appliance user interface for the appliance activation. The following process displays the user interface
4. From the activation screen, select **Snapshots**.
5. Upload the snapshots that are taken from the primary appliance. Wait until the **Comment** field is updated on the snapshot upload screen.
6. Once the snapshot is uploaded, the screen is refreshed and it lists the snapshots.
7. Select the snapshot which was captured from the primary appliance based on the comments and timestamps from the list and click **Apply**.
8. After the snapshot is applied, log on to the command line interface and shut down the secondary appliance by using the **shutdown** command.
9. Start the directory server and database instance on the external data tier.
10. Start the secondary appliance from the VMware Server.
11. When the secondary appliance starts, you can log on to the appliance user interface.
12. Go to the **Appliance Dashboard**.
13. From the **Appliance Dashboard**, verify that the **Middleware and Server Monitor** indicates all middleware and applications are started.

What to do next

Only one instance of the virtual appliance must be running at any time. As such, the secondary virtual appliance must be started up only when the primary virtual appliance is down.

Verify that the applications are started and that the user can log on to IBM Security Identity Manager, IBM Security Access Manager for Enterprise Single Sign-On and the IBM Privileged Session Recorder console.

Enhancing availability using monitoring URLs

Monitoring URLs is a facility for the customer to write scripts to monitor the uptime and the responsiveness of the IBM Security Privileged Identity Manager virtual appliance. It is used to monitor the health of the IBM Security Privileged Identity Manager server functions.

You do not have to authenticate to access Monitoring URI. This URIs can be used by any third party tool to obtain data about responsiveness.

Response format

Service name: response code, Time taken in milliseconds:ms (Response code is 0 if services are down and 200 if running.)

Example: "Identity":"0", "Time taken in milliseconds":401

For Identity service -

URI: https://<appliance_hostname>/monitor/response?Service=Identity

Response: {"Identity":"0", "Time taken in milliseconds":401}

For SingleSignOn service -

URI: https://<appliance_hostname>/monitor/response?Service=SingleSignOn

Response: {"SingleSignOn":"0","Time taken in milliseconds":8}

For SessionRecorder service -

URI: https://<appliance_hostname>/monitor/response?Service=SessionRecorder

Response: {"SessionRecorder":"0","Time taken in milliseconds":2}

For All in a single request -

URI: https://<appliance_hostname>/monitor/response </p>

Response:

{"Identity":"200","SessionRecorder":"200","SingleSignOn":"200","Identity Time taken in milliseconds":529,"SessionRecorder Time taken in milliseconds":400,"SingleSignOn Time taken in milliseconds":361}

Chapter 9. Troubleshooting and support

To help you understand, isolate, and resolve problems with your IBM software, use the troubleshooting and support information section for instructions and problem-determination resources that are provided with your IBM products.

Checking logs

Use the Log Retrieval and Configuration page to view the log files. You can also use this page configure the server log settings for the IBM Security Privileged Identity Manager virtual appliance.

About this task

To learn more about the available log files, see “Retrieving logs” on page 36.

Procedure

From the top menu, click **Manage > Log Retrieval and Configuration**.

Common issues

You might encounter common issues during the deployment and usage of IBM Security Privileged Identity Manager in the virtual appliance. See this section for the common issues and workarounds.

Data store configuration fails

Check the configuration of the database system.

On the Log retrieval and configuration page, click the **Appliance** tab and check the Identity, Single Sign-On and Session Recording data store configuration, Server System Out, and Server Messages.

Directory Server Configuration fails

Check the configuration of the directory server.

On the Log retrieval and configuration page, click the **Appliance** tab and check the directory server configuration, Server System Out, and Server Messages.

Unable to access appliance console

Make sure that the network configuration link IP, Subnet Mast, DNS, and Gateway are correct.

High Disk Usage Notification on Dashboard

Reduce the setting for the **Maximum size for log file rotation** and **Maximum number of historical log files**.

Reduce the trace level from the command line interface.

Clean the log files from **Manage > Maintenance > Log Retrieval and Configuration**.

Unable to access credentials using AccessAgent on client system

Make sure that the virtual appliance host name is registered with DNS or updated in the client system hosts file.

Restart the client system.

Make sure that the time in the client machine where AccessAgent is installed and the time in the IBM Security Privileged Identity Manager virtual appliance are synchronized.

Test connection or reconciliation operation failed using Identity and Credential Vault administration console.

Restart using the **Server control dashboard** widget with the option **Others(Full restart)**. If the operation still fails, restart the appliance.

Unable to access Identity and Credential Vault Administration console

Check the **Middleware and Server Monitor** dashboard widget to verify the status of the Identity server, Directory server, and Identity data store. Then, take the appropriate action.

See the log files for more details.

Unable to access Single Sign-on and Session Recorder Administration console

Check the **Middleware and Server Monitor** dashboard widget to verify the status of the Single Sign-On server and Single Sign-On data store. Then, take the appropriate action.

See the log files for more details.

Unable to access Session Recorder Replay console (if activated)

Check the **Middleware and Server Monitor** dashboard widget to verify the status of the Session Recording server and Session Recording data store. Then, take the appropriate action.

See the log files for more details.

For any other unrecoverable issues

Generate a support file by using the command line interface or the virtual appliance console for the IBM Support Team.

CLI

```
ispimva.example.com> support
ispimva.example.com:support> create
ispimva.example.com:support> download
1: ispim_1.0.1_20130925-014609_ispimva.example.com.zip
```

```
2: ispm_1.0.1_20130925-015645_ispmva.example.com.zip
Enter index: 1
Insert a USB drive into the USB port on the appliance.
Enter 'YES' to confirm: YES
```

Console

1. Log on to the virtual appliance console.
2. Select **Manage > System Settings > Support Files**.
3. Click **new** to create a new file.
4. Click **download** to save a copy of the support file.

Unable to connect the Privileged Identity Manager server even with the correct hostname

To resolve this issue, add the certificate to the client.

1. Log on with Administrator privileges on the client computer.
2. Start a web browser and go to the HTTPS URL for the Privileged Identity Manager Server `https://hostname` where host name is the name of the computer that has the IBM Security Privileged Identity Manager Server Virtual Appliance.
3. In the web browser, export the security certificates to a file.
4. Complete the following instructions:
 - a. On the Microsoft Internet Explorer, click **File > Properties**.
 - b. Click **Certificates**.
 - c. Click the **Certification Path** tab.
 - d. Click the **Details** tab.
 - e. For each certificate marked with a red X in the certificate hierarchy:
 - 1) Click **View Certificate**.
 - 2) Click **Details**.
 - 3) Click **Copy to File**.
 - 4) Follow the instructions in the wizard with the following considerations:
 - When the Export format page is displayed, select the **DER encode binary x.509 (CER) format**.
 - Save the certificates on your local computer. For example: `webhost.cer`.
5. Copy the CER files to the following location: `<aa_home>\SessionRecorder` where `<aa_home>` is the AccessAgent installation directory. For example: `C:\Program Files\IBM\ISAM ESSO\AA\`.
6. Restart the computer where AccessAgent is installed.

Limitations

IBM Security Privileged Identity Manager limitations can affect how the virtual appliance behaves or processes information that is received from IBM Security Identity Manager and IBM Security Access Manager for Enterprise Single Sign-On. In the same way, IBM Security Identity Manager and IBM Security Access Manager for Enterprise Single Sign-On limitations can affect how the IBM Security Privileged Identity Manager virtual appliance capabilities work.

IBM Security Privileged Identity Manager virtual appliance limitations

- Reconfiguration options for the middleware are not available.

- An external repository (for example, Active Directory) cannot be configured with IBM Security Privileged Identity Manager virtual appliance server components (IBM Security Identity Manager and IBM Security Access Manager for Enterprise Single Sign-On).
- Non-English characters are not supported in the **Comment** fields of the following virtual appliance panels:
 - Snapshot
 - Firmware Settings
 - Support Files
- The following file name display issues occur in several languages when a snapshot with a long file name is uploaded in the virtual appliance:
 - The text in the **Comment** field is truncated.
 - The file name gets truncated in the **Snapshot** table.

IBM Security Privileged Identity Manager limitations

- Data Tier and Reporting components

The Data Tier and Reporting components must be installed separately or outside the virtual appliance.

 - External repository (for example, Active Directory) cannot be configured with IBM Security Privileged Identity Manager virtual appliance server components.
 - IBM Cognos® reporting components are outside of the IBM Security Privileged Identity Manager virtual appliance.
 - Supports only DB2 and Tivoli Directory Server as the IBM Security Privileged Identity Manager data store on the external data tier.
- Scalability

Only a single instance of the IBM Security Privileged Identity Manager virtual appliance can be active at any time.
- High Availability

IBM Security Privileged Identity Manager relies on external High Availability mechanism to monitor and fail-over on the single instance of IBM Security Privileged Identity Manager virtual appliance.
- Limited IBM Security Identity Manager and IBM Security Access Manager for Enterprise Single Sign-On functions are supported.

Customization is limited since there is no direct access to low-level IBM Security Identity Manager and IBM Security Access Manager for Enterprise Single Sign-On configuration files.
- Changing the IBM Security Privileged Identity Manager user logon ID on the IBM Security Privileged Identity Manager console and AccessAgent is not supported.
- Only one network adapter can be used.

IBM Security Access Manager for Enterprise Single Sign-On limitations

- AccessAgent sign up

Sign-up is not allowed from Access Agent. Users are signed up through IBM Security Identity Manager.
- AccessAssistant/WebWorkplace

This component is not required for IBM Security Privileged Identity Manager.
- Self-Service Sign-Up through IBM Security Access Manager for Enterprise Single Sign-On AccessAgent

This feature is not supported because users are to be on-boarded through IBM Security Identity Manager.

- Self-Service Password Reset
IBM Security Privileged Identity Manager virtual appliance users must use the equivalent feature in IBM Security Identity Manager instead.
- Change ISAM ESSO password
Users must use the equivalent feature in the IBM Security Identity Manager Self-Service UI instead.
- Biometric and smart card second factor support with IBM Security Access Manager for Enterprise Single Sign-On Agent are not available in the virtual appliance.
- RFID 2FA for AccessAgent is not supported.
- Only the default User Policy Template is supported. User Policy Templates that are based on arbitrary directory attributes are not supported.
- Third-party Provisioning System to provision or manage IBM Security Access Manager for Enterprise Single Sign-On accounts or Wallets
This component is not required in the virtual appliance because the IBM Security Access Manager for Enterprise Single Sign-On accounts are provisioned through IBM Security Identity Manager.
- IBM Security Access Manager for Enterprise Single Sign-On mobile
This feature is not used with IBM Security Privileged Identity Manager.
- Mobile Active Code, One Time Password, or RADIUS are not supported
- AccessAgent Private and Shared Desktop modes are not supported.
- IMS Configuration wizard and CLTs are not supported.

IBM Security Identity Manager limitations

- Custom workflow extension configuration is not supported.
- Uploading of custom Java archive files, which implements IBM Security Identity Manager custom extensions, is not supported. For example, workflow.
- Custom adapters are not supported.
- IBM Security Identity Manager mobile is not supported.

Known issues and workarounds

The Known issues and workarounds section helps you understand, isolate, and resolve problems with IBM Security Privileged Identity Manager virtual appliance. Descriptions about the events that generate the problems are listed along with symptoms, environment, possible causes, and suggestions for recovery. It also contains information about where logs are stored and how to run traces.

For other limitations that are related to IBM Security Privileged Identity Manager, see the *Known problems and workarounds* section of the IBM Security Privileged Identity Manager documentation, http://pic.dhe.ibm.com/infocenter/tivihelp/v2r1/topic/com.ibm.ispim.doc_1.0.1/kc-homepage.html.

Troubleshooting dashboard panel widget display issues on Microsoft Internet Explorer 10

Browser not supported message for any appliance panel.

About this task

An attempt to view the IBM Security Privileged Identity Manager virtual appliance console or activation wizard in a Microsoft Internet Explorer, version 10 browser shows browser not supported message.

To solve the issue, complete these steps as a workaround:

Procedure

1. Open the Microsoft Internet Explorer 10 browser.
2. After the activation steps are completed, change the browser setting:
 - a. Click **Tools**.
 - b. Deselect **Compatibility View**.
 - c. Open **Compatibility View Settings**.
 - d. Deselect the **Download updated compatibility lists from Microsoft** option.
3. Access the appliance console.

Troubleshooting Logon to Session Reply Console

Logon to Session Reply console fails if the appliance console and Session Reply console are opened in same browser window.

About this task

An attempt to do the Logon to Session Reply console opened in same browser window where appliance console is open fails. To solve the issue, complete these steps as a workaround:

Procedure

1. Clear the browser cache before you access the Session Reply console.
2. Open a new browser window to access Session Reply Console.

Value for a property is not retained if update_syslog command is executed without any value for other properties

If a user does not enter any value for a property before running the **update_syslog** command, default values are set for the property.

The default value of the following parameters is false if a user does not specify any value.

```
logSystemManagementActivity: false
logUserAdminActivity: false
logUserService: false
logUserActivity: false
```

For the syslog CLI utility, the default values for the IBM Security Privileged Identity Manager entries are:

```
rwrangler.example.com:ispim> list_syslog
Enable syslog
logSystemManagementActivity: false
logUserAdminActivity: false
logUserService: false
logUserActivity: false
```

```
Syslog server port: 514
Syslog server hostname: localhost
Syslog logging facility: 20
Syslog field-separator: \n
```

Bulkload command errors

When running the bulkload command, some errors might occur. The bulkload utility fails if any of the entries in the input LDIF file exist in LDAP.

This error might occur if the suffix you defined exists as an entry in the directory server. It might be necessary to delete all entries in the suffix (but leave the suffix) from LDAP before running the command. You can use the `ldapsearch` commands to check for existence of entries, and the `ldapdelete` command to remove these entries.

Error codes:

GLPCRY007E The directory key stash file is inconsistent with the associated encrypted data.

GLPBLK071E Bulkload is unable to run because of an initialization error.

GLPBLK030E Run DB2CMD.EXE first, and then run bulkload within the "DB2 CMD" command interpreter.

To correct these errors, you must know the encryption seed and salt values of the target instance. The target instance is the directory server instance where you are running the bulkload.

1. To determine the salt value of target instance, run the following command from `TDS_HOME/bin`:

```
ldapsearch -D bind DN -w password -h hostname -p port -s base -b cn=crypto,cn=localhost cn=*
```

where:
bind DN is the distinguished name (DN) of the directory server.
password is the DN password.
hostname is the name of the computer where IBM Tivoli Directory Server is installed.
port is the port number on which Tivoli Directory Server is listening.
2. Replace the value of `ibm-slapdCryptoSync`, `ibm-slapdCryptoSalt` with the values returned by the **ldapsearch** command in the `ldap_output_file` file. This file is generated as output of the **db2ldif** command, for example `old_ldif_data.ldif`.
3. Run the **bulkload** command again.

Note: You can use the **-W OUT_FILE_NAME** option with the **bulkload** command. This option places the output from the command into the specified file. The bulkload command runs several instances of a DB2 command to load data. Each one has its own success, error, or warning messages. Without the **-W** option to save the output, it is difficult to check the result.

Appendix. Sample configuration response file

You can set your configuration parameters for the virtual appliance in a response file. After you complete the response file, you can upload the response file to configure the appliance in the advanced configuration mode.

```
#####  
#  
# Complete initial configuration of IBM Security Privileged Identity Manager  
# Appliance by using a response file.  
# Update the response file with correct values and provide it during the advanced  
# mode of Initial configuration wizard.  
#  
#####  
#  
# Appliance Administrator User Credentials  
#  
ispim.appliance.adminUserPwd=<admin user password>  
  
#  
# Session Recording Activation Detail  
# If you want to activate session recording, provide the activation key.  
# Else, you can leave this field blank.  
#  
ispim.session.recording.activation.key=  
  
#  
# Certificate Information  
# If you want to use default certificate, then leave these fields blank.  
# Else, if you want to generate your own self-signed certificate,  
# ispim.root.ca.certificate.common.name is required. Other fields are optional.  
# Zipcode should be an integer  
# Country should be empty or of length 2 characters  
#  
ispim.root.ca.certificate.common.name=<Customer's CN>  
ispim.root.ca.certificate.organization=  
ispim.root.ca.certificate.organizational.unit=  
ispim.root.ca.certificate.locality=  
ispim.root.ca.certificate.state.province=  
ispim.root.ca.certificate.zipcode=  
ispim.root.ca.certificate.country=  
  
#  
# Identity Data store configuration Properties  
#  
ispim.identity.datastore.hostName=<hostname>  
ispim.identity.datastore.port=50000  
ispim.identity.datastore.adminUser=piminst  
ispim.identity.datastore.adminUserPwd=<admin password>  
ispim.identity.datastore.dbName=idmdb  
  
#  
# Enterprise Single Sign-On Data store configuration Properties  
#  
ispim.signon.datastore.hostName=<hostname>  
ispim.signon.datastore.port=50000  
ispim.signon.datastore.adminUser=piminst  
ispim.signon.datastore.adminUserPwd=<admin password>  
ispim.signon.datastore.dbName=essodb  
  
#  
# Session Recording Data store configuration Properties
```

```
#
ispim.session.recording.datastore.hostName=<hostname>
ispim.session.recording.datastore.port=50000
ispim.session.recording.datastore.adminUser=piminst
ispim.session.recording.datastore.adminUserPwd=<admin password>
ispim.session.recording.datastore.dbName=psrdb

#
# Directory Server configuration properties
#
ispim.ldap.hostName=<hostname>
ispim.ldap.port=389
ispim.ldap.organization.shortname=org
ispim.ldap.organization.name=Organization
ispim.ldap.bindDN=cn=root
ispim.ldap.bindDNPwd=<password>
ispim.ldap.dnLocation=dc=com
ispim.ldap.connection.type=non-ssl

#
# Mail Server configuration properties
#
ispim.mail.server=localhost
ispim.mail.from=admin@example.com
```

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Glossary

This glossary includes terms and definitions for IBM Security Privileged Identity Manager.

The following cross-references are used in this glossary:

- See refers you from a term to a preferred synonym, or from an acronym or abbreviation to the defined full form.
- See also refers you to a related or contrasting term.

To view glossaries for other IBM products, go to www.ibm.com/software/globalization/terminology (opens in new window).

A

account

An entity that contains a set of parameters that define the application-specific attributes of a user, which include the identity, user profile, and credentials.

adapter

An intermediary software component that allows two other software components to communicate with one another.

application server

A server program in a distributed network that provides the execution environment for an application program.

audit trail

A chronological record of events or transactions. An audit trail is used for examining or reconstructing a sequence of events or transactions, managing security, and recovering lost transactions.

C

collector

A web service that accepts uploads of recordings and stores them into a permanent storage medium. This web service is a component of the session recording server.

credential

Information acquired during

authentication that describes a user, group associations, or other security-related identity attributes, and that is used to perform services such as authorization, auditing, or delegation. For example, a user ID and password are credentials that allow access to network and system resources. See also shared access.

credential pool

A group of credentials with similar access privileges. The pool can be defined as a service group or a set of service groups.

credential vault

A configured repository that stores credentials for shared access management.

D

deprovision

To remove a service or component. For example, to deprovision an account means to delete an account from a resource.

digital certificate

An electronic document used to identify an individual, a system, a server, a company, or some other entity, and to associate a public key with the entity. A digital certificate is issued by a certification authority and is digitally signed by that authority.

directory server

A server that can add, delete, change, or search directory information on behalf of a client.

E

endpoint

The system that is the origin or destination of a session.

event An occurrence of significance to a task or system. Events can include completion or failure of an operation, a user action, or the change in state of a process.

F

frame A unit of information in a recording. A frame can either be a screen capture or information about mouse events, keyboard events, or other relevant events.

I

IMS Server

An integrated management system for ISAM ESSO that provides a central point of secure access administration for an enterprise. It enables centralized management of user identities, AccessProfiles, authentication policies, provides loss management, certificate management, and audit management for the enterprise.

M

managed resource

An entity that exists in the runtime environment of an IT system and that can be managed. See also resource.

P

password

In computer and network security, a specific string of characters used by a program, computer operator, or user to access the system and the information stored within it.

permission

Authorization to perform activities, such as reading and writing local files, creating network connections, and loading native code.

plug-in

A separately installable software module that adds function to an existing program, application, or interface.

policy A set of considerations that influence the behavior of a managed resource or a user.

profile

Data that describes the characteristics of a user, group, resource, program, device, or remote location.

provisioning policy

A policy that defines the access to various managed resources, such as applications

or operating systems. Access is granted to all users, users with a specific role, or users who are not members of a specific role.

R

recording

A collection of information about user actions performed on a monitored application for some time.

recording agent

A shared library loaded into a monitored application's process space that captures frames.

recording daemon

A privileged process running on the same endpoint as the monitored application, which performs operations that require elevated privileges.

resource

A hardware, software, or data entity. See also managed resource.

retriever

A web application that provides access to stored recordings.

S

shared access

Access to a resource or application using a shared credential. See also credential.

shared access policy

A policy that authorizes role members to share access by credentials or credential pools. A policy can be defined for a specific credential pool, specific credential, all pool or credentials with the same organization container context.

single sign-on (SSO)

An authentication process in which a user can access more than one system or application by entering a single user ID and password.

SSO See single sign-on.

W

wallet A secured data store of access credentials of a user and related information, which includes user IDs, passwords, certificates, encryption keys.

Index

A

- accessibility x
- AccessProfiles 47
 - IBM Personal Communications 48
 - VMware vSphere Client 49
- active-passive configuration, disaster recovery 55
- availability, enhancing using monitoring URLs 58

B

- bulkload command errors 65

C

- client application logon, automatic check-out and check-in 47
- command line interface
 - appliance 25
 - appliance services 28
 - global commands 27
- commands, IBM Security Privileged Identity Manager 25
- common issues 59
- configuration response samples 67
- credential pool 50
 - checking in credential 51
- credential vault, checking in 53
- credentials
 - check-in 50
 - check-out 50
 - checking in, in credential pool 51
 - checking into the credential vault 53

D

- data store, reconfiguring 38
- database
 - configuration, data store 31
- database server
 - configuration 12
 - installation 12
- directory server
 - configuration 33
 - installation 13
 - reconfiguration 40
- disaster recovery, active-passive configuration 55

E

- education x
- enable trace
 - command line interface 28

F

- features, overview 1
- feed files, management 36

G

- global commands, command line interface 27

H

- hardware and software requirements 2
- host, supported virtual hypervisors 3

I

- IBM
 - Software Support x
 - Support Assistant x
- IBM Personal Communications 48

K

- known issues and workaround 63
 - browser issues 64
 - dashboard panel widget display issues 64
 - Microsoft Internet Explorer 10 64
 - update_syslog command issues 64

L

- language support, internationalization 1
- LDAP
 - installation and configuration 13
 - management 33
- limitations
 - IBM Security Access Manager for Enterprise Single Sign-On 61
 - IBM Security Identity Manager 61
 - IBM Security Privileged Identity Manager 61
- logs
 - configuration 37
 - configuration management 36
 - retrieval 36

M

- mail
 - configuration 18
 - management 34
- mainframe applications 48
- Microsoft Remote Desktop Connection 48
- Microsoft Remote Desktop Services (RDP)
 - See RDP

- Microsoft Remote Desktop Services (RDS)
 - terminal server
 - See terminal server

O

- online
 - publications ix
 - terminology ix
- overview
 - features 1
 - language supported 1

P

- personas 6
- prerequisite software, installation 12
- problem-determination x
- properties
 - adhocreporting 34
 - enRole 34
 - management 34
 - ReportDataSynchronization 34
 - SelfServiceUI 34
 - ui 34
- publications
 - accessing online ix
 - list of for this product ix
- PuTTY, log on 47

R

- RDP 48
- Remote Desktop Protocol (RDP)
 - See RDP
- Remote Desktop Services (RDS) RDP
 - See RDP
- remote terminals 47
- roadmap
 - virtual appliance setup 3

S

- server
 - configuration 18
 - installation 3
- session recording
 - configuration 44
 - enabling 31
- shared access
 - configuration 43, 46
 - settings 43
- shared credentials
 - check-in and check-out 43, 47
 - manual check-in 50
- snapshot
 - creating, primary virtual appliance 56
- SSL Certificate configuration 18

- sub sections, IBM Security Privileged Identity Manager commands 25
- support, troubleshooting 59
- system settings
 - customer logo configuration 14
 - locale configuration 14
 - mail configuration 14

T

- terminal host 47
- terminal server 47
- terminology ix
- training x
- troubleshooting x
 - checking logs 59
 - logon to session reply console 64
 - support 59

U

- update_syslog command
 - issues 64
- use cases 6

V

- virtual appliance 49
 - command line interface 25
 - dashboard 20
 - first steps 18
 - format 3
 - getting started 5
 - initial settings 15
 - installation 15
 - logging on 20
 - managing 31
 - primary backup 55
 - primary, setting up 55
 - reverting to backup 56
 - secondary, setting up 57
- virtual appliance dashboard 21
 - viewing and using quick links 22
 - viewing and using server control 21
 - viewing deployment statistics 22
 - viewing disk usage 22
 - viewing IP addresses 23
 - viewing middleware and server monitor widget 22
 - viewing notifications 21
 - viewing partition information 23
- virtual machine 49
 - system settings configuration 14
- VMware
 - ESXi 5.0 3
 - ESXi 5.1 3
- VMware vSphere Client 49

W

- wizard, initial configuration 18



Printed in USA

SC27-5625-00

