

# InfoSphere Information Server V8.5 - V9.1

## Starting node agents as a non-root user



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The purpose of this presentation is to demonstrate how to configure the node agents to run as a non-root user for InfoSphere® Information Server version 8.5 and later releases on UNIX® and Linux® based platforms.

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This presentation will provide detailed instructions and steps on how to configure the node agents to run as a non-root user. This presentation will also cover situations when it is necessary to repeat these steps.

## Requirements (1 of 2)

- Initial install must be done as root
- Backup Information Server before continuing:
  - 8.5:  
[http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t\\_admin\\_backup\\_restore\\_super.html](http://publib.boulder.ibm.com/infocenter/iisinfsv/v8r5/topic/com.ibm.swg.im.iis.found.admin.burest.doc/topics/t_admin_backup_restore_super.html)
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  - 9.1:  
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- Node agents
  - ASB
  - Logging
- Root access required
- DataStage® and Information Analyzer installed
  - Non-root user must be DataStage Administrator
- DataStage and Information Analyzer not installed
  - Use any trusted user

In order to reconfigure the ASB Node agent and the Logging agent to run under a non-root user, there are some requirements that must be met. The initial install of the tier must have been performed by the root account and root access is needed to be able to configure the node agents to run under non-root user. The non-root account must be a DataStage administrator when DataStage or Information Analyzer are running on the particular tier. Note that if you did not choose DataStage or Information Analyzer during the install, you can choose any trusted user instead of using a DataStage administrator to run the node agents.

## Requirements (2 of 2)

- Repeat all steps on all engine tier computers
- Repeat procedure after installing additional product modules or fix packs

If the Information Server setup includes multiple engine tiers, these steps should be run on all of the tiers. Also, these steps must be repeated on all engine tiers if you install additional products or fix packs, including certain patches.

## Verify non-root user configuration (1 of 2)

- Verify InfoSphere DataStage administrator exists
  - Typically dsadm
- Verify DataStage administrator account belongs to InfoSphere DataStage primary group
  - Typically dstage

```
dsadm@IS87RH1:~  
[dsadm@IS87RH1 ~]$ id  
uid=500 (dsadm) gid=500 (dstage) groups=500 (dstage)  
[dsadm@IS87RH1 ~]$
```

- AIX® only requirement for dsadm
  - Verify *stack\_hard* limit set to -1
    - Set in /etc/security/limits

Before starting the node agent reconfiguration process, verify the DataStage administrator account is valid and properly configured. Verify that the DataStage administrator user ID still exists on the engine tier and belongs to the InfoSphere DataStage primary group, typically called dstage. If the DataStage engine tier is installed on AIX, verify that the *stack\_hard* ulimit is set to -1, unlimited, in the /etc/security/limits file for the DataStage administrator user.

## Verify non-root user configuration (2 of 2)

- Ensure user can write to temporary directory

```
dsadm@IS87RH1:/tmp
[dsadm@IS87RH1 tmp]$ id
uid=500(dsadm) gid=500(dstage) groups=500(dstage)
[dsadm@IS87RH1 tmp]$ touch /tmp/testing123
[dsadm@IS87RH1 tmp]$ ls -la /tmp/testing123
-rw-rw-r-- 1 dsadm dstage 0 Sep 14 12:48 /tmp/testing123
[dsadm@IS87RH1 tmp]$
```

Be sure that the DataStage administrator user has write permissions to the temporary directory, typically /tmp. Once the DataStage administrator user account has been verified to exist and is properly configured, you can start the reconfiguration process.

## Configuring agents for non-root (1 of 4)

- Login as root
- Locate node agent startup script
  - ISFAgents

```
root@IS87RH1:/etc
[root@IS87RH1 ~]# cd /etc
[root@IS87RH1 etc]# find . -name "*ISFAgents*"
./rc.d/rc6.d/K60ISFAgents
./rc.d/rc0.d/K60ISFAgents
./rc.d/rc1.d/K60ISFAgents
./rc.d/rc2.d/S85ISFAgents
./rc.d/rc3.d/S85ISFAgents
./rc.d/init.d/ISFAgents
./rc.d/rc5.d/S85ISFAgents
./rc.d/rc4.d/S85ISFAgents
[root@IS87RH1 etc]# ls -la ./rc.d/rc6.d/K60ISFAgents
lrwxrwxrwx. 1 root root 19 Jan 13 2012 ./rc.d/rc6.d/K60ISFAgents -> ../init.d/ISFAgents
[root@IS87RH1 etc]# ls -la ./rc.d/init.d/ISFAgents
-rwxr-xr-x. 1 root root 210 Jan 13 2012 ./rc.d/init.d/ISFAgents
[root@IS87RH1 etc]#
```

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To start the reconfiguration process, login as root to the DataStage engine tier and locate the startup scripts called ISFAgents for the node agents. This is a required step to ensure that if the system or node agent services are restarted, the node agents start automatically using the correct user.

There are several ways to locate the startup scripts, but running a simple find command in the /etc directory should be easy and it also should work on all UNIX and Linux based systems. In this example, the installation being used is Information Server DataStage version 8.7 running on RedHat Linux. The startup script exists in multiple locations, but following the symbolic links, the real file is located under /etc/rc.d/init.d directory.

## Configuring agents for non-root (2 of 4)

- Backup original /etc/rc.d/init.d/ISFAgents file before making changes
  - Original file:

```
root@IS87RH1/etc
GNU nano 2.0.9 File: ./rc.d/init.d/ISFAgents
#!/bin/sh
# chkconfig: 2345 85 60
# description: No description provided.
IS_INIT_D=true;export IS_INIT_D
cd "/opt/IBM/InformationServer/ASBNode/bin"
"/opt/IBM/InformationServer/ASBNode/bin/NodeAgents.sh" "$@"
```

- Modified file:

```
root@IS87RH1/etc
GNU nano 2.0.9 File: ./rc.d/init.d/ISFAgents
#!/bin/sh
# chkconfig: 2345 85 60
# description: No description provided.
IS_INIT_D=true;export IS_INIT_D
cd "/opt/IBM/InformationServer/ASBNode/bin"
/usr/bin/su - dsadm -c "/opt/IBM/InformationServer/ASBNode/bin/NodeAgents.sh $*"
↓
```

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Before making any changes to the original ISFAgents startup script, take a backup of it in case there is a need to restore the original configuration or start over. Once the backup has been made, open the ISFAgents file in a text editor and make the modification to the last line as seen in the screen capture displayed on this slide. There should be a full path to the su command and the non-root account name in front of running the NodeAgents.sh script. In this example, the account name is dsadm. Also, at the end of the command, remove one set of double quotation marks and replace the @ sign with an asterisk. Note that the paths are installation specific so the actual file content might not match this example. Do not change the paths in the ISFAgents file.



## Configuring agents for non-root (3 of 4)

- Change to <IS\_HOME>/ASBNode/bin directory
- Stop running ASBNode agent
- Remove old logs, error and output files from ASBNode and ASBNode/bin

```
root@IS87RH1:/opt/IBM/InformationServer/ASBNode
[root@IS87RH1 bin]# ./NodeAgents.sh stop
Agent stopped.
AgentService stopped.
LoggingAgent stopped.
[root@IS87RH1 bin]#
[root@IS87RH1 bin]# rm -rf *.out *.err *.pid
[root@IS87RH1 bin]#
[root@IS87RH1 bin]# cd ..
[root@IS87RH1 ASBNode]# pwd
/opt/IBM/InformationServer/ASBNode
[root@IS87RH1 ASBNode]#
[root@IS87RH1 ASBNode]# rm -rf *.out *.err *.pid
[root@IS87RH1 ASBNode]#
```

After modifying the startup script, the ASBNode agent needs to be stopped and all relevant log and output files must be removed. If the old files are not removed, the DataStage administrator might not be able to overwrite and append to the existing files since they are owned by the root account. The files to be removed are all files with .out, .err and .pid extensions in the ASBNode and ASBNode/bin directories.

## Configuring agents for non-root (4 of 4)

- Changing owner of ASBNode directory structure and files required

```
root@IS87RH1:/opt/IBM/InformationServer/ASBNode
[root@IS87RH1 ASBNode]# ls -ld /opt/IBM/InformationServer/ASBNode/
drwxr-xr-x. 9 root root 4096 Sep 14 16:41 /opt/IBM/InformationServer/ASBNode/
[root@IS87RH1 ASBNode]#
[root@IS87RH1 ASBNode]# chown -R dsadm /opt/IBM/InformationServer/ASBNode/
[root@IS87RH1 ASBNode]#
[root@IS87RH1 ASBNode]# ls -ld /opt/IBM/InformationServer/ASBNode/
drwxr-xr-x. 9 dsadm root 4096 Sep 14 16:41 /opt/IBM/InformationServer/ASBNode/
[root@IS87RH1 ASBNode]#
```

- After permission change, dsadm or trusted user can start node agents

```
dsadm@IS87RH1:/opt/IBM/InformationServer/ASBNode/bin
[dsadm@IS87RH1 bin]$ id
uid=500(dsadm) gid=500(dstage) groups=500(dstage)
[dsadm@IS87RH1 bin]$
[dsadm@IS87RH1 bin]$ pwd
/opt/IBM/InformationServer/ASBNode/bin
[dsadm@IS87RH1 bin]$
[dsadm@IS87RH1 bin]$ ./NodeAgents.sh start
Starting LoggingAgent...
LoggingAgent started...
Starting Agent...
Agent started.
[dsadm@IS87RH1 bin]$
```

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Once the old files have been cleaned up, change the ASBNode directory structure owner to DataStage administrator or the trusted user. To change the permission, run the command displayed on this slide. After the permissions are changed, the DataStage administrator is able to start the node agents. Login as the DataStage administrator and change the directory to InformationServer/ASBNode/bin and issue the manual node agents start command./NodeAgents.sh start. Once the node agents have been started, the only remaining step is to verify that both Java processes are running under the account that you want.

## Verify agent processes

- Verify agents listening on correct ports  
`netstat -a | grep <port number>`  
 – Example:  
`netstat -a | grep 3153`
- Verify ASBNode agent processes running under desired account  
`ps -ef |grep Agent`

```

dsadm@IS87RH1:/opt/IBM/InformationServer/ASBNode/bin
[dsadm@IS87RH1 bin]$ netstat -a | grep 3153
tcp        0      0  *:31531                :::*                   LISTEN
tcp        0      0  *:31533                :::*                   LISTEN
[dsadm@IS87RH1 bin]$ ps -eaf | grep Agent
dsadm    13713      1  0 16:57 pts/1      00:00:04 /opt/IBM/InformationServer/ASBNode/apps/jre/
client/sas.client.props -Dcom.ibm.SSL.ConfigURL=file:/opt/IBM/InformationServer/ASBNode/eclip
/InformationServer/ASBNode/eclipse/plugins/com.ibm.isf.client/iis_util.jar:/opt/IBM/Informat
nServer/ASBNode/eclipse/plugins/com.ibm.isf.client/ISF_j2ee.jar:/opt/IBM/InformationServer/As
t/IBM/InformationServer/ASBNode/eclipse/plugins/com.ibm.isf.client/com.ibm.ws.security.crypt
dsadm    13735      1  0 16:57 pts/1      00:00:00 /bin/sh ./Agent.sh
dsadm    13740 13735  0 16:57 pts/1      00:00:04 /opt/IBM/InformationServer/ASBNode/apps/jre/
.client -Djava.security.auth.login.config=/opt/IBM/InformationServer/ASBNode/eclipse/plugins
nt.props -Dcom.ibm.CORBA.enableClientCallbacks=true -Dcom.ibm.CORBA.FragmentSize=128000 com.
dsadm    14086 3165  0 17:07 pts/1      00:00:00 grep Agent
[dsadm@IS87RH1 bin]$

```

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To verify that the nodes agents are running correctly, there are two things to check. Start by verifying that the ASBNode agent and the Logging agent are both listening to the designed TCP/IP ports by issuing the netstat command displayed on this slide. In this example the default ports 31531 and 31533 are used and the output shows both of them are in a LISTEN state, accepting inbound TCP/IP connections. Next, run the process list command displayed on this slide to verify that the node agents are running with the account that you want.

After confirming that the node agents are up and running as expected, ensure that you can connect with DataStage clients and the clients are working properly.

## Additional information

- More information about running node agents as non-root found on IBM InfoSphere Information Centers

– Version 8.5:

[http://publib.boulder.ibm.com/infocenter/iisinfo/v8r5/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig\\_nonrootadmin\\_agents.html](http://publib.boulder.ibm.com/infocenter/iisinfo/v8r5/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig_nonrootadmin_agents.html)

– Version 8.7:

[http://publib.boulder.ibm.com/infocenter/iisinfo/v8r7/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig\\_nonrootadmin\\_agents.html](http://publib.boulder.ibm.com/infocenter/iisinfo/v8r7/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig_nonrootadmin_agents.html)

– Version 9.1:

[http://publib.boulder.ibm.com/infocenter/iisinfo/v9r1/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig\\_nonrootadmin\\_agents.html](http://publib.boulder.ibm.com/infocenter/iisinfo/v9r1/topic/com.ibm.swg.im.iis.found.admin.common.doc/topics/appsvconfig_nonrootadmin_agents.html)

For more information about running node agents under non-root user, visit the IBM InfoSphere Information Center links for your release of Information Server.

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