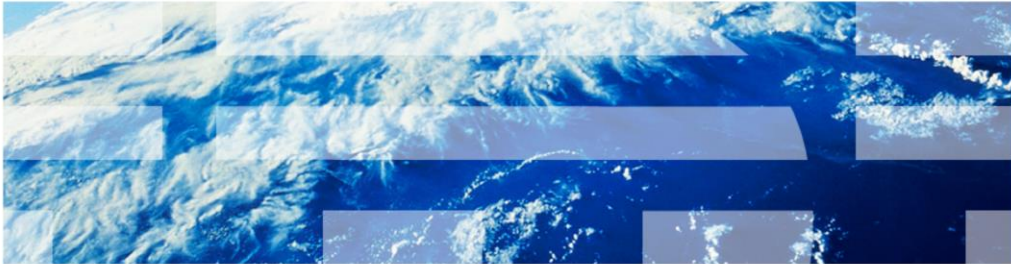# Information Server V8

Configuring WebSphere Application Server for non-root administration (Linux, UNIX)

© 2013 IBM Corporation

This presentation will discuss how to configure WebSphere with Information Server version 8 for non-root administration on Linux and UNIX environments.

Objectives

- Restrictions for non-root administration
- Setting up a non-root user
- Non-root configuration
- Running as non-root during system restart
- Installing fix packs or patches

Configuring WebSphere Application Server for non-root administration © 2013 IBM Corporation

This presentation will discuss the restrictions associated with configuring WebSphere Application Server to run as a non-root user, how to setup the non-root user and how to configure the system for non-root administration. This presentation also discusses how to configure system startup to run WebSphere Application Server as a non-root user. Finally, this presentation discusses steps to follow to re-enable non-root administration after installing a patch or fix pack or any time after WebSphere Application Server has been run again as the root user.

This presentation will assume that Information Server version 8 has been successfully installed and WebSphere Application Server is running as the root user.

Restrictions for non-root administration

- Some configurations do not support WebSphere as non-root
  - Information Server with local OS user registry
  - Information Server on AIX with PAM user registry
- Fix pack and patch installation
  - WebSphere Application Server needs to be restarted as root
  - Install must run as root
  - Will need to reset non-root permissions after install
- May only use one non-root user
- WebSphere non-root user should be different from DataStage admin user
  - User must not source dsenv

Configuring WebSphere Application Server for non-root administration © 2013 IBM Corporation

By default, WebSphere Application Server runs as root but can be configured to run as non-root after installation of Information Server. However, there are two scenarios where non-root administration of the WebSphere Application Server process is not possible.

The first scenario is when the Information Server user registry is configured to local OS. Due to system permissions that are required for credential checking, WebSphere Application Server must run as root.

The second scenario is when WebSphere is running on AIX and the user registry is configured to use PAM. PAM on AIX requires that a process must be running as root in order to access the PAM libraries. Therefore, it is not possible to run WebSphere Application Server as a non-root user in this configuration.

Anytime WebSphere is restarted as the root user, permission on certain files are changed that will require fixing before WebSphere can again run as a non-root user. When installing a fix pack or patch, WebSphere Application Server must be started as the root user and the update installer must be run as root. As you will see in this presentation, this will create permissions issues on the installation and will require you to reset the non-root permissions on WebSphere.

Another restriction is the choice of the non-root user. Only one non-root user may stop and start WebSphere. Once WebSphere is set up as non-root, that same non-root user must always be used to stop and start WebSphere.

Avoid using the DataStage admin user such as dsadm to manage WebSphere Application Server. The non-root user selected for running WebSphere must not source dsenv.

ConfigWebSphere.ppt

IBM

Setting up a non-root user

- New non-root user to manage processes
- May use an existing user
  - Skip useradd command
- Create user

```
# useradd -m -d /home/wasadmin wasadmin
```

- Set umask

```
# umask 0022
```

Configuring WebSphere Application Server for non-root administration   © 2013 IBM Corporation

The first step in configuring WebSphere Application Server to run as a non-root user is to create your new WebSphere Application Server user. Be sure that the user's umask is set to 0022. During this setup, the ownership of some of the files under WebSphere Application Server and InfoSphere Information Server will be transferred to the new non-root user. The new user will then be able to manage the WebSphere Application Server process.

The example in this presentation uses wasadmin as the new non-root user. An existing user may be used as well and the useradd command may be skipped.

It is important to note that these commands must be run by a system administrator with root access.

Non-root configuration (1 of 4)

- Install fix packs, patches and add-on products first

- Stop all InfoSphere Information Server processes, including WebSphere Application Server

- Remove *.jar and *.lck files from temporary directory
    rm /tmp/*.jar
    rm /tmp/*.lck

- Remove WB_vrdata or BG_vrdata from temporary directory
    rm –rf /tmp/WB__vrdata
    rm –rf /tmp/BG__vrdata
    – If WB__vrdata or BG__vrdata was relocated, remove from current location
      (see http://www.ibm.com/support/docview.wss?rs=3291&uid=swg21413637)

The commands to enable non-root administration are run after InfoSphere Information Server is installed and any time new add-on components, patches, or fix packs are installed. On a fresh installation, all fix packs or patches, must be installed first before configuring non-root administration. This restriction applies only for fix packs and patches that are installed on the services tier.

The first step is to stop all Information Server processes, including WebSphere Application Server, the server engine, JobMonApp, Logging and ASB agents. Remove all .jar and .lck files from the temporary directory. Alternatively, these files can be moved to a backup directory. Third party applications might have dependencies on the .jar or .lck files in this temporary directory and moving these will provide the option to restore later, if required. Remove the directory WB_vrdata or BG_vrdata from the temporary directory or from the relocation they were moved to if relocated using instructions in Technote 1413637.

It is important to note that the operating system defined temporary directory is typically either /tmp or /var/tmp.

Non-root configuration (2 of 4)

- Provide non-root user (wasadmin) permissions to Reporting workspace directories
    - For 8.5 and later
        - cd /tmp
        - chown -R wasadmin informationServer
    - For 8.1
        - cd InformationServer/ASBServer/apps
        - chown –R wasadmin Reporting
    - For 8.0.1
        - cd /tmp/WDISuite
        - chown –R wasadmin Reporting
    - If the Reporting workspace was relocated, change ownership at that location
    (see http://www-01.ibm.com/support/docview.wss?uid=swg21317914)
- WebSphere cluster configuration
    - Reporting workspace directories must be processed on each managed node

Next, change the ownership of the Reporting workspace directory and all it's subdirectories to the non-root user using the command displayed on this slide. In version 8.0 and 8.5 and higher, the Reporting workspace is located in the system temporary directory. In version 8.1, it is located in ASBServer/apps of the Information Server installation directory. If the Reporting workspace was relocated using the instructions in Technote 1317914, change the ownership in that directory.

For a WebSphere clustered configuration, these directories will exist on each managed node of the cluster. These instructions must be repeated on each of those systems.

Non-root configuration (3 of 4)

- Set owner of WebSphere Application Server profile to wasadmin
  - **Stand-alone WebSphere Environment**
    - IS 8.5 and 8.7
      - cd *WAS_installation_home*/profiles
      - chown -R *wasadmin InfoSphere*
    - IS 8.0 and 8.1
      - cd *WAS_installation_home*/profiles
      - chown -R *wasadmin default*
  - **Cluster WebSphere Environment**
    - cd *WAS_installation_home*/profiles
    - chown -R wasadmin *Custom01*

    - cd *WAS_installation_home*/profiles
    - chown -R wasadmin *Dmgr01*

For a stand-alone environment, assign the non-root user as the owner of the Information Server profile in WebSphere Application Server. InfoSphere is the name of the default InfoSphere Information Server profile installed in WebSphere Application Server versions 8.5 and 8.7. For version 8.0 and 8.1, the default Information Server profile name is "default". If Information Server is installed with a profile name other than InfoSphere or default, use that profile name instead.

For a clustered environment, assign the non-root user as the owner of all WebSphere Application Server profiles participating in the Information Server cluster including the deployment manager. There can be multiple WebSphere Application Server profiles on multiple machines. For each profile in the cluster, change the ownership to the non-root user. In this example Custom01 is the name of the InfoSphere Information Server profile for a managed node of the cluster and Dmgr01 is the name of the Deployment manager profile installed under WebSphere Application Server. If InfoSphere Information Server is installed to profile names other than Custom01 and Dmgr01, use those profile names instead.

In this example, WAS_installation_home is the path where WebSphere Application Server is installed. The default installation path is /opt/IBM/WebSphere/AppServer.

Non-root configuration (4 of 4)

- Stand-alone WebSphere
  - Change permissions on bin
    cd <IS_HOME>/ASBServer
    chmod 755 bin
  - Change ownership of MetadatServer.sh
    cd bin
    chown wasadmin MetadataServer.sh
  - Check for existence of startMetadataServer.log
    - Non-existent
      Touch startMetadataServer.log
    - Exists
      chown wasadmin startMetadataServer.log
  - Change owner of MetadataServer.info
    cd <IS_HOME>/ASBServer/conf
    chown wasadmin MetadataServer.info
  - Start WebSphere Application Server process as non-root user (wasadmin)
  - Start all InfoSphere Information Server processes

Configuring WebSphere Application Server for non-root administration   © 2013 IBM Corporation

In a stand-alone WebSphere environment, change the ownership of MetadataServer.sh script to the non-root user. Check for the existence of the startMetadataServer.log file. If it exists, change the ownership to the non-root user. If it does not exist, use the touch command displayed on this slide to first create the file. Next, change to the ASBServer/conf directory and change the ownership on the MetadataServer.info file to the non-root user.

Start WebSphere Application Server process as the non-root user and then start all InfoSphere Information Server processes.

Running as non-root during system restart

- Applies only to stand-alone installation

- One time setup task

- Locate ISFServer files to be modified

    -For HP-UX operating system
    cd /sbin
    find . -name *ISFServer* -print

    -For all other operating systems
    cd /etc
    find . -name *ISFServer* -print

- Modify contents of file
  Change as follows:

```
#!/bin/sh
# chkconfig: 2 50 50
# description: Information Services Framework server.
IS_INIT_D=true;export IS_INIT_D
cd "/opt/IBM/InformationServer/ASBServer/bin"
/usr/bin/su - wasadmin -c "/opt/IBM/InformationServer/ASBServer/bin/MetadataServer.sh $*"
```

Configuring WebSphere Application Server for non-root administration   © 2013 IBM Corporation

WebSphere Application Server can be configured to start as the non-root user when a system restart occurs. WebSphere Application Server can be setup in this manner by locating and modifying the ISFServer files. This configuration applies only to stand-alone (non-Cluster) installations and is a one time setup task.

Use the operating system find command to locate the ISFServer files that need to be modified. The command might return multiple files with various prefixes in the name. Some files might be links to other files and can reflect the change you made in the original file without needing to edit each file that was found. If there are multiple instances of WebSphere Application Server installed, there might be unique files for each WebSphere Application Server instance. Modify the files that reference the instances of WebSphere Application Server configured to start as non-root.

Be sure to set the path appropriately for your installation.

Installing fix packs and patches

- WebSphere must run as root user for fix pack and patch installs

- Must re-run non-root configuration tasks
  - After patch and fix pack installs
  - After starting WebSphere Application Server as root user
  - After running AppServerAdmin as root user

Configuring WebSphere Application Server for non-root administration © 2013 IBM Corporation

WebSphere Application Server must always run as root user when installing patches, fix packs and upgrades to the services tier. If WebSphere is configured to run as a non-root user, stop WebSphere Application Server while logged in as the non-root user and then start WebSphere Application Server again as the root user. Once WebSphere is running as root, install your patch or fix pack according to the installation instructions.

For both stand-alone and cluster environments, it is required to re-run the post-installation steps to configure WebSphere as non-root user after installing any patches, fix packs or upgrades as the update installer will change file permissions. This is also true when starting WebSphere Application Server as the root user. In addition, if the AppServerAdmin script is run as the root user, you must also follow the instructions on slide eight since some of these files may have had their ownership changed to the root user.