WebSphere Application Server Repository Migration

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WebSphere® Support Technical Exchange

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Agenda

- Provide an high level overview of Repository Migration.

  ▸ BackupConfig and RestoreConfig

  ▸ ManageProfile –backupConfig and -restoreConfig

  ▸ Changing HostName, NodeName and CellName

  ▸ Migrating DMgr Config Repository

  ▸ Migrating Node Config Repository

  ▸ Migrating all instances

  ▸ Migrating Standalone profile

BackupConfig and RestoreConfig

BackupConfig and RestoreConfig

- ## backupConfig
  - ▸ The backupConfig command is a simple utility to back up the configuration of your node to a file
- Syntax : backupConfig.sh myBackup.zip –nostop

- ## restoreConfig
  - ▸ Use the restoreConfig command to restore the configuration of your node after backing up the configuration using the backupConfig command
- Syntax : restoreConfig.sh WebSphereConfig_2010-10-22.zip -location /tmp –nostop

- http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.migration.base.doc/info/aes/ae/rxml_backupconfig.html
- http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.migration.base.doc/info/aes/ae/rxml_restoreconfig.html

ManageProfile –backupProfile and -restoreProfile

BackupProfile and restoreProfile

- ## backupProfile

  - ▸ Performs a file system backup of a profile folder and the profile metadata from the profile registry file. Any servers using the profile that you want to back up must first be stopped prior to invoking the manageprofiles command with the -backupProfile option. The -backupProfile parameter must be used with the -backupFile and -profileName parameters.

- Syntax : manageprofiles(.bat)/(.sh) -backupProfile -profileName profile_name -backupFile backupFile_name

- ## -restoreProfile

  - ▸ Restores a profile backup. It must be used with the -backupFile parameter.

- Syntax : manageprofiles(.bat)/(.sh) -restoreProfile -backupFile file_name

Rename Node

Rename Node

- Use the **renameNode** command to modify the node name of a federated server

    ▶ Launch this command from the node whose name you want to modify

    ▶ When you issue this command the following occurs:

        i. Stops all servers
        ii. Changes the node configuration on the deployment manager
        iii. Synchronizes the node

- Syntax :   renameNode.bat *dmgr_host dmgr_port node_name*

    ▶ Changing DMgr NodeName Checklist :

    Node.xml, Server,xml , Security.xml, Deployment.xml, coregroup.xml, nodegroup,.xml and more files under config/templates folder

    (Not Mandatory - Variables.xml , setupCmdLine, Resources.xml file)

    ➢ Changing Node NodeName Checklist :

    Node.xml, Server,xml , Security.xml, Deployment.xml, cluster.xml, setupCmdLine, coregroup.xml, nodegroup.xml and more files under config/templates folder
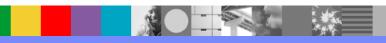
    (Not Mandatory - Variables.xml , Resources.xml file)

http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/rxml_renamenode.html

Rename Host

Rename Host

- AdminTask.changeHostName ('[-interactive]')

- Another option of the AdminTask.changeHostName command is to use the properties file based configuration utility that is part of WebSphere Application Server V7. In this case, wsadmin is still involved to extract the configuration, then validate and apply the changes.

  - AdminTask.extractConfigProperties('[-propertiesFileName c:/temp/ nathan.cell.props]')
    - To extract the configuration properties.
  - AdminTask.validateConfigProperties('[-propertiesFileName /root/nathan.cell.props]')
    - To validate the changes you made.
  - AdminTask.applyConfigProperties('[-propertiesFileName /root/nathan.cell.props]')
    - To apply the changes you made to the repository.
  - AdminConfig.save()

Changing HostName CheckList :
- Serverindex.xml , Wsadmin.properties , Server,xml ,
    (Not Mandatory - Variables.xml , Resources.xml file , WebServices application wsdl files)

http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.nd.multiplatform.doc/info/ae/ae/tagt_hostname.html

Rename Cell

Rename Cell

- ## Rename Cell

    - Changing cellName Checklist :

        Cell.xml , Deployment.xml , setupCmdLine, security.xml, variables.xml

        http://www-01.ibm.com/support/docview.wss?&uid=swg27007419

Repository Migration

Repository Migration Documents

- Best Practices for config changes

  ▸ http://www-01.ibm.com/support/docview.wss?&uid=swg27007419

- Wsadmin sample scripts

  ▸ http://www.ibm.com/developerworks/websphere/library/samples/SampleScripts.html
    - change host name
    - change cell name
    - change node name
    - change server name

Steps to Migrate DMgr Only

- 1) Old System/Machine

    ▶ 1) Run backupConfig tool

    ▶ 2) Move the backup jar file from old machine to new machine

- 2) New System/Machine

    ▶ Install and upgrade DMgr

        − Should be at same version and release and on same install location
        − Make sure the nodename and cellNames are same

    ▶ Restore the backup jar configuration using restoreConfig tool

    ▶ Modify the serverIndex.xml file to reflect new hostName

- 3) Node side modifications

    ▶ Stop all JVM's

    ▶ Remove all temp files

    ▶ Take a backup of the config/cells folder

    ▶ Change the hostname on the node1 side Dmgr serverIndex.xml file

    ▶ Run syncNode and make sure it works

    ▶ Repeat the same on all nodes

Steps to Migrate Node Only

- 1) On DMgr.
  - ▶ Run BackupConfig tool and keep the jar file in safe place.
- 2) Old Node System/Machine.
  - ▶ Run BackupConfig tool and keep the jar file in safe place.
  - ▶ Remove the node from DMgr.
- 3) New Node System/machine.
  - ▶ Install and upgrade the node.
    - − Should be at same version and release and on same install location.
    - − Make sure the **nodename** is same.
  - ▶ Add the new node to the Dmgr.
- 4) On DMgr.
  - ▶ Stop Dmgr.
  - ▶ Remove all temp files.
  - ▶ Restore the backup config taken on Dmgr (step1)
  - ▶ Modify the hostName in the node serverindex.xml file.
  - ▶ Start Dmgr.
- 5) New Node System/machine.
  - ▶ Stop all JVM's (Should not be running as it's a new install except nodeagent)
  - ▶ Run SyncNode and make sure it works.

Steps to Migrate DMgr and Node

- **1) Old Machine/System**
  - ▸ 1) Run BackupConfig tool
  - ▸ 2) Move the backup jar file from old machine to new machine

- **2) New Machine/System (DMgr)**
  - ▸ Install and upgrade DMgr
    - – Should be at same version and release and in same install location
    - – Make sure the **nodename and cellNames** are same

- **3) New Machine /System (Node1)**
  - ▸ Install and upgrade node1
    - – Should be at same version and release
    - – Make sure the **nodename** is same as old
  - ▸ Federate Node1 to DMgr
  - ▸ Run syncNode and make sure it works
  - ▸ Repeat the same on all other nodes

Steps to Migrate DMgr and Nodes - Cont

- **4) New Machine/System (DMgr)**
  - ▶ 1) Restore the backup configuration using restoreConfig tool
  - ▶ 2) Modify the serverIndex.xml file to reflect new hostName (all Nodes, including DMgr).
    - • Remember node2 hostname might be machine2, make sure you are adding the right hostname on the correct node serverIndex.xml file.

- **5) New Machine/System (Node1)**
  - ▶ Modify the serverIndex.xml file to reflect new hostName (all Nodes, including DMgr).
    - • Remember node2 hostname might be machine2, make sure you are adding the right hostname on the right node serverIndex.xml file.
  - ▶ Run syncNode and make sure it works
  - ▶ Repeat the same on all nodes

Steps To move DMgr and nodes – Another way

- ■ In the old Machine.

  ▶ 1) Run BackupConfig tool

  ▶ 2) Move the backup jar file from old machine to new machine

- ■ In the new Machine (DMgr)

  ▶ 1) Install and upgrade Dmgr.

    – Should be at same version and release

    – Make sure the nodename and cellNames are same

  ▶ 2) Restore the configuration using restoreConfig tool

  ▶ 3) Modify the serverIndex.xml file to reflect new hostName

Steps to Migrate DMgr and Nodes – AW- Cont

- **In the new Machine (Node1)**

  ▸ 1) Install and upgrade node1

    – Should be at same version, release and same install location

    – Make sure the nodename and cellNames are same

  ▸ 2) Restore the configuration using restoreConfig tool

    • Backup should have been taken from the same exact node

  ▸ 3) Modify the node1 serverIndex.xml file to contain new hostName

  ▸ 4) Change the hostname on the node1 level Dmgr serverIndex.xml file

  ▸ Run syncNode and make sure it works

  ▸ Repeat the same on all nodes

Standalone profile

- ## Export/Import the entire profile.
  - ▶ $AdminTask exportWasprofile {-archive *c:/myCell.car*}
- http://publib.boulder.ibm.com/infocenter/wasinfo/v7r0/index.jsp?topic=/com.ibm.websphere.base.doc/info/aes/ae/rxml_atconfigarchive.html
- ## 1) Old System/Machine
  - ▶ 1) Run BackupConfig tool
  - ▶ 2) Move the backup jar file from old machine to new machine
- ## 2) New System/Machine
  - ▶ Install and upgrade the node
    - − Should be at same version and release and on same install location
    - − Make sure the nodename and cellNames are same
  - ▶ Restore the backup jar configuration using restoreConfig tool
  - ▶ Modify the serverIndex.xml file to reflect new hostName

FAQ

- Can I copy over entire install-root folder from one machine to another machine ?
  - ▶ No . It's not supported.
- Can I copy over entire profile-root/config/cells folder from one machine to another machine?
  - ▶ No. It might work, but not supported.
- Can I run backUpConfig on Windows® and restore it on other OS.
  - ▶ Yes. You should be able to restore it on any distributed environment.
    - Make sure you run the restoreConfig with –force option and then modify the variables.xml to contain right WAS_install_root and User_install_root.
- I am running my server as non-root user. Does backupConfig save the file permissions?
  - ▶ No. backupConfig command does not save file permissions or ownership information.
- I lost everything, all my configuration files are corrupted/destroyed but I have dmgr config backUp, can I get my system backup and running ?
  - ▶ Sure. You can. You should have patience and time.

Summary

- WebSphere Application Server Repository Migration
- BackupConfig and RestoreConfig
- Rename Node, Cell and Host
- Migrating DMgr and Nodes

Additional WebSphere Product Resources

- Learn about upcoming WebSphere Support Technical Exchange webcasts, and access previously recorded presentations at:
  http://www.ibm.com/software/websphere/support/supp_tech.html

- Discover the latest trends in WebSphere Technology and implementation, participate in technically-focused briefings, webcasts and podcasts at:
  http://www.ibm.com/developerworks/websphere/community/

- Join the Global WebSphere User Group Community:
  http://www.websphere.org

- Access key product show-me demos and tutorials by visiting IBM® Education Assistant:
  http://www.ibm.com/software/info/education/assistant

- View a webcast replay with step-by-step instructions for using the Service Request (SR) tool for submitting problems electronically:
  http://www.ibm.com/software/websphere/support/d2w.html

- Sign up to receive weekly technical My Notifications emails:
  http://www.ibm.com/software/support/einfo.html

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Questions and Answers