IBM Tivoli Netcool/OMNIbus version 7.3.1
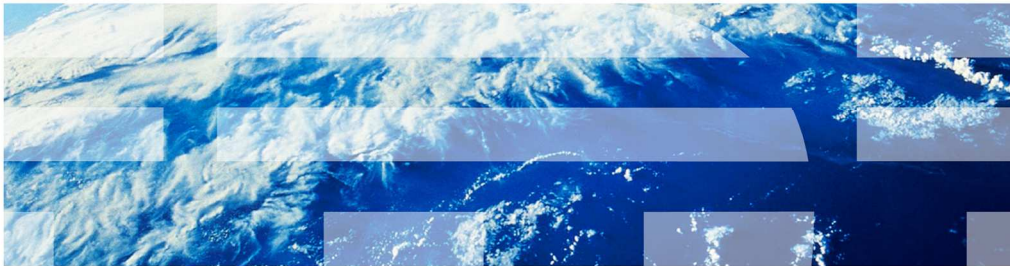
Deployment Engine backup and restore on UNIX

In this IBM Tivoli® Netcool/OMNIbus version 7.3.1 training module, you learn how to perform Deployment Engine backups and how to restore backed up files. You also learn about the logs that monitor these tasks.

Assumptions

Before you proceed, it is assumed that you have these skills and knowledge:
 – Intermediate Tivoli Netcool/OMNIbus Web GUI 7.3.1 product knowledge
 – Intermediate UNIX OS-related technical knowledge of these tasks:
  • How to edit files
  • How to change permissions on files and folders

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It is assumed that the viewer of this training module has intermediate knowledge of IBM Tivoli Netcool/OMNIbus Web GUI V7.3.1 and the operating system that it runs on. It is also assumed that the viewer has the capability to perform certain tasks within a UNIX operating system environment. One assumption is the capability to edit files in a UNIX operating system environment. The other is possession of the capability to change UNIX file and folder read, write, and execute permissions.

Objectives

When you complete this training module, you can accomplish these tasks:

- Explain to others what a Deployment Engine (DE) is

- Name the two major duties performed by the Deployment Engine

- Name the five types of DE backup and DE restoration scenarios

- Perform a DE backup

- Perform a DE restoration

- Explain to others which log to monitor for DE backup task completion verification

- Explain to others which log to monitor for DE restoration task completion verification

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After you complete this training module, you can verify on your own that your environment is ready with Deployment Engine backups. IBM specialists need these backups in the event you want to restore your environment to a previous snapshot of the Deployment Engine. This training module demonstrates how to do the backups. It explains the scenarios where you need to, as a best practice, have the Deployment Engine backed up. You also learn where the backup and restore task logs are stored.

Five types of deployment engine backup and restore scenarios

There are five types of Deployment Engine (DE) backup and restore scenarios:

- Installing Tivoli Netcool/OMNIbus or the Web GUI component on a server on which the DE is installed, for example, a server that currently hosts another DE-based product

- Installing another DE-based product or component on a server that currently hosts Tivoli Netcool/OMNIbus or the Web GUI

- Upgrading Tivoli Netcool/OMNIbus or the Web GUI

- Applying a fix pack

- During routine system administration

Important!

You are not required to carry out this task if you are installing the product on a clean server.

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There are five types of Deployment Engine backup and restore scenarios. They are shown on this slide. For a pristine system, where you perform a fresh installation, there is no Deployment Engine already available in your environment. You need not perform these tasks when you perform a fresh installation. The first scenario is one which looks at installation of the Web GUI on a server that already has another Deployment Engine-based product. Later in this presentation you are shown how you can check for this condition in your environment. In the second scenario you already have a running installation of either Tivoli Netcool/OMNIbus or Web GUI and now you would like to install another Deployment Engine-based product.

The third and fourth scenarios look at the upgrade and fix pack application scenarios. It is important to make a regular backup of the Deployment Engine. It is advised that you do this on a timely and routine basis as part of your system administration duties. Again, if you are performing installation of either the Tivoli Netcool/OMNIbus or Web GUI product on a fresh environment, you do not need to perform any of these tasks.

What is the autonomic Deployment Engine?

The autonomic Deployment Engine (DE):

▪ Autonomic DE, formerly known as Solution Install and typically referred as DE, is a common technology that IBM products share to manage the lifecycles and relationships of their components that are installed on a server

▪ DE has two major duties:
  – Perform the lifecycle operations of install, upgrade, uninstall, and undo on application components
  – Maintains a relationship registry of the components so that dependencies are maintained when operations are initiated by different products

▪ Purpose of DE backups:
  – Backups of the DE allow the user to maintain a snapshot of the DE database at a point before changes are made in the environment
  – Makes it simpler to perform stable dependable restorations when rollbacks are necessary

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On this slide, you are shown the definition of the Deployment Engine and its two major capabilities. The Deployment Engine performs the tasks of installation, upgrade, uninstallation, and undo on application components that it has deployed. Its biggest role is to maintain a relationship registry of the components so that dependencies are maintained when different products initiate operations.

It is best to take backups of Deployment Engine as it has a database that records all the changes that occur whenever it performs any of the lifecycle operations mentioned in this slide. In the event that you need a rollback, Deployment Engine Specialists can help you recover and reset the product to its previous state with the help of these backups.

Steps for non-root user backup of the Deployment Engine

- Steps for non-root user backup of the Deployment Engine

Deployment Engine originally installed as a non-root user:	
Step One: From the command prompt, change to the asci folder	The path is relative to your home directory, for example: `cd userhomedirectory/.asci_username`
Step Two: Initialize the Deployment Engine environment from the command prompt	`setenv.sh`
Step Three: Change to the bin child directory	The path is relative to your home directory, for example: `cd userhomedirectory/.asci_username/bin`
Step Four: Run the restore script to restore the Deployment Engine database Where *backupfilename* is the name of the file to which the DE is backed up	`./de_restorepdb backupfilename`

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On this slide the steps are shown for non-root user backup of the Deployment Engine.

Follow these steps to back up the Deployment Engine

Deployment Engine installation as UNIX root user:	
Step 1: From the command prompt, change to the acsi folder for root user at UNIX	`cd /var/ibm/common/asci`
Step 2: Initialize the Deployment Engine environment from the command prompt	`./setenv.sh`
Step 3: Change to the bin child directory	`/usr/ibm/common/asci/bin`
Step 4: Run the backup script to back up the Deployment Engine database Where *backupfilename* is the name of the file to which the DE is backed up	`./de_backupdb` *backupfilename*

In order to backup the Deployment Engine you need to follow four simple steps that this slide describes. This covers two different scenarios, which are key to determining the location of the Deployment Engine. One is when the Deployment Engine is installed as a UNIX root user and the other is when it is installed as a UNIX non-root user. On this slide, we look at running these steps in an environment where the Deployment Engine is installed as a UNIX root user. The four steps are going to the correct acsi folder path and then verify that the correct environment is initialized. Once initialized, you go into the subdirectory of the bin folder and run the command: de_backupdb.cmd. Ensure that you create a file name that is meaningful, perhaps appended with a date and the reason you are doing the backup.

Example of running the de_backupdb command as a root user, installed Deployment Engine environment

```
# ./listIU.sh
IU      UUID: DDCE934782398B3E81431666515AC8B5  Name: DE Extensions Interfaces CLI IU   Version: 1.4.0.16
IU      UUID: C37109911C8A11D98E1700061BDE7AEA  Name: Deployment Engine IU      Version: 1.4.0.16
IU      RootIU UUID: D94240D11C8B11D99F2D00061BDE7AEA  Name: Install IU        Version: 1.4.0.16
IU      RootIU UUID: E94F0CF9F8C84251AAB3AF22EAB04B83  Name: libz      Version: 1.1.4.0

# cd /var/ibm/common/acsi
# pwd
/var/ibm/common/acsi
#   ./setenv.sh

# cd /usr
# cd ibm/common/acsi/bin
# pwd
/usr/ibm/common/acsi/bin
# ./de_backupdb -bfile 201308240023_IEA
Backing up database to /usr/ibm/common/acsi/bin/201308240023_IEA; please wait ...
Request completed successfully.

# ls -lrt /usr/ibm/common/acsi/bin/201308240023_IEA
-rw-r--r--   1 root     root       112303148 Aug 23 23:50 /usr/ibm/common/acsi/bin/201308240023_IEA
```

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On this slide, you see how the de_backupdb command is run in an environment where the Deployment Engine is installed by a root user. First check the version number of Deployment Engine that you are running, and then you run the de_backupdb command with its appropriate options.

Monitoring Deployment Engine backup logs

Deployment Engine Backup log:
- All Deployment Engine backups are best referred to in the de_trace.log files that are in these locations:
  - For root user-installed Deployment Engines, you can expect to find the log file at either the location:
    `/usr/ibm/common/acsi/logs/root/de_trace.log or the location`
    `/usr/ibm/common/acsi/logs/de_trace.log`
  - For non-root user installation, you can expect to find the log file at the location:
    `/home/<username>/.acsi_<username>/logs/de_trace.log`
- Understand the use of **de_trace.log**
  - This trace file logs most Deployment Engine-related activities and that includes the backup command activities
  - See sample content of this log file below, this sample follows the example from the previous slide

```
2013-08-23 23:48:04.899+08:00 1 SIBackup backup     server-s01z1 IP Backing up
databases for DE version 1.4.0.16 to /usr/ibm/common/acsi/bin/201308240023_IEA

2013-08-23 23:50:24.652+08:00 1 SIBackup backup     server-s01z1 IP Successfully
created /usr/ibm/common/acsi/bin/201308240023_IEA containing version file:
/usr/ibm/common/acsi/repos/acsiver
```

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It is best that you monitor the Deployment Engine backup command from the de_trace.log file whose location is provided in this slide. An example of a successful backup activity being logged into the de_trace.log file is also shown here.

Steps to restore the Deployment Engine from a backup file

Deployment Engine installation as a UNIX root user	
Step 1: From the command prompt, change to the acsi folder	`cd /var/ibm/common/asci`
Step 2: Initialize the Deployment Engine environment from the command prompt	`./setenv.sh`
Step 3: Change to the bin child directory	`/usr/ibm/common/asci/bin`
Step 4: Run the restore script to restore the Deployment Engine database Where backupfilename is the name of the file to which the Deployment Engine is backed up	`./de_restoredb` *backupfilename*

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You follow the four steps described here to restore any environment to its previous Deployment Engine snapshot database level. This is an activity best monitored by the Deployment Engine specialists, as they are able to review your environment details and advise if you even need to do the restore activity.

Steps for non-root user restoration of the Deployment Engine

Deployment Engine installed originally as a non-root UNIX user	
Step 1: From the command prompt, change to the acsi folder	The path is relative to your home directory, for example: `cd userhomedirectory/.asci_username`
Step 2: Initialize the Deployment Engine environment from the command prompt	`setenv.sh`
Step 3: Change to the bin child directory	The path is relative to your home directory, for example `cd userhomedirectory/.asci_username/bin`
Step 4: Run the restore script to restore the Deployment Engine database Where *backupfilename* is the name of the file to which the DE is backed up	`./de_restorepdb backupfilename`

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Similarly, these are the steps that you need to perform to restore the Deployment Engine on an non-administrator user installed environment. Again the main difference here is the patch of the Deployment Engine. Please review the de_trace.log file, as advised previously, to monitor for this activity logging.

Summary

Now you are able to:

- Explain to others what the Deployment Engine does

- Back up the Deployment Engine

- Restore the environment to a previous snapshot of the Deployment Engine

- Monitor the de_trace logs and tell others its location and purpose in terms of Deployment Engine backup and restoration

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This slide shows the summary of the topics covered in this training module. You have now completed this training module.

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