

Extract and Deploy Functionality

Overview

SAS IT Resource Management 3.1.1 allows you to extract an IT data mart from an existing SAS IT Resource Management repository and deploy it to the newly created ITMS repository. This process copies the metadata that describes the IT data mart and its contents. It does NOT copy the data associated with the IT data mart. Support of this functionality is based on the Extract and Deploy process running on a Windows machine and connecting to the metadata servers on server host.

Note that while User Defined Formulas are copied from your source ITMS repository to the target ITMS repository, supplied formulas that have been modified are not copied. If you modified a SAS IT Resource Management supplied Formula, you must manually make the same modification to the same Formula associated with your new SAS IT Resource Management repository. The new SAS IT Resource Management ITMS repository that will serve as the target for the deployment of the extracted IT data mart should have the Adapter(s) used by that IT data mart already deployed. This should have been accomplished using the instructions.html document when the creation of the new repository was performed.

The SAS Metadata Server for both the preexisting SAS IT Resource Management ITMS repository and the new SAS IT Resource Management ITMS repository should be running. The Windows machine that will host the Extract and Deploy processing should have both the recommended 1.4.2_09 Java Development Kit and the current version of the SAS Management Console installed.

Finally, it is also recommended that a backup of both the existing and new SAS IT Resource Management configuration directories be made prior to working with the Extract/Deploy functionality. To do this you should stop each SAS Metadata Server process and use a file system copy or archive utility (such as tar, pax, zip, etc.) to copy the directory.

Locating the Extract/Deploy Archive File

After installing, deploying, and configuring your SAS IT Resource Management 3.1.1 software, you should access the SASITMSCoreComponents/Utilities subdirectory located in the deployment configuration utilities directory. The path will be relative to your configuration directory, and is as follows:

```
<SAS-Config-Directory>/Lev1/Utilities/SASITMSCoreComponents/Utilities
```

Your location may be similar to:

```
/usr/SAS/ITRM/Lev1/Utilities/SASITMSCoreComponents/Utilities
```

In this directory you should find an archive file called ExtractDeploy.jar.

Transfer the Extract/Deploy Archive File to Windows

As stated in the overview, in order to use the Extract/Deploy functionality you will need to first transfer the archive file to your Windows machine. This copy operation should be performed as a binary file transfer using file transfer software such as FTP.

For the purpose of this documentation, we'll assume that the location you have transferred the file to is C:\Temp.

Extracting the Contents of the Extract/Deploy Archive File

Once you have transferred the archive file to your Windows machine, you must extract the contents of the archive before you can use the functionality. Since this archive file was created using the jar command, you can use this same command to extract the contents from it. From a Windows command prompt, change directory to C:\Temp and use the following suggested syntax. This syntax assumes that an environment variable called JAVA_HOME has been previously defined. For example:

```
%JAVA_HOME%\bin\jar -xf ExtractDeploy.jar
```

If this environment variable has not been defined you will need to supply the explicit path to your installed JDK in place of “%JAVA_HOME%” above. After submitting the command you will have a new directory called ExtractDeploy containing the extract and deploy functionality.

Using the Extract and Deploy Functionality

This section provides a usage overview of the extract and deploy functionality. It should be noted that this functionality only supports working with a single data mart at a time. Once you extract an IT data mart, you should not extract another one until you have deployed the original. Subsequent extractions overwrite the files necessary for deployment, so you cannot extract several IT data marts expecting to be able to deploy them simultaneously.

Each of the scripts listed below in steps 1-6 should be invoked from a Windows command line. Because there are command line arguments to be provided, you should NOT double click on any of the .bat files to submit them.

Required Local Installation Modifications

Prior to using the Extract and Deploy functionality, you must modify two files so that the command scripts will function with your installation. Navigate to

C:\Temp\ExtractDeploy\Utilities\metadata and edit the files deploy.bat and extract.bat. In each file you will find the following string: \$EDIT:PATH-TO-SMC-ROOT\$. You should replace this entire string (including the leading and trailing dollar signs [\$]) with the path to your SAS Management Console installation. Assuming that your installation drive is C:, this would be something similar to C:\Program Files\SAS\SASManagementConsole\9.1. In each of the preceding files there is a line that contains an option to turn on debugging. By default this line is commented out, but you may remove the 'rem' comment statement in the event you have the need to receive more information from the script as it is running.

Description of Run Order

Before discussing how to extract or deploy an IT data mart, you should understand the sequence of steps to be taken. They are listed in their run order below.

1. ExtractITMSProperty

Unless you make changes to your source repository after making your first ITMSProperty extraction, this is a one-time operation.

2. ExtractITMSFormula

Similar to step 1 in that this is a one-time operation UNLESS you add User Defined formulas after performing this extraction operation.

3. ExtractITDataMart

4. DeployITMSProperty

A one-time operation unless the analogous Extract job was run again.

5. DeployITMSFormula

A one-time operation unless the analogous Extract job was run again.

6. DeployITDataMart

Details of Run Steps

The following section details each of the steps to be run. For each script it is necessary to provide a userid and password so that a connection to the metadata server may be established. Because metadata updates will be occurring, it is necessary to supply the credentials for a userid that has administrative rights for the metadata server in question. Please note that there are also comments regarding errors that might be seen for steps 2 and 5.

Note: Line breaks in the commands below are to improve readability only – your submitted commands should not contain any line breaks.

Extract Processing

Extract processing takes place against the source metadata server. This should be the SAS Metadata Server associated with the existing SAS IT Resource Management installation.

1. ExtractITMSProperty.bat

Syntax:

```
ExtractITMSProperty.bat [srcVersion] [metaServerName]  
                        [metaServerPort] [metaUser] [metaPass]
```

Example:

```
ExtractITMSProperty.bat 3.1.1 myserver 8561 sasadm Pass1
```

2. ExtractITMSFormula.bat

Syntax:

```
ExtractITMSFormula.bat [srcVersion] [metaServerName]  
                        [metaServerPort] [metaUser] [metaPass]
```

Example:

```
ExtractITMSFormula.bat 3.1.1 myserver 8561 sasadm Pass1
```

Note: If you do not have any User Defined formulas in your source ITMS repository, then you will receive an error message indicating such when submitting this script.

3. ExtractITDataMart.bat

Syntax:

```
ExtractITDataMart.bat [version] [DataMartName] [metaServerName]  
                       [metaServerPort] [metaUser] [metaPass]
```

Example:

```
ExtractITDataMart.bat 3.1.1 MyDataMart myserver 8561 sasadm Pass1
```

Note: If the IT data mart name contains blanks, you should enclose it in double quotes.

Example:

```
ExtractITDataMart.bat 3.1.1 "My Data Mart" myserver 8561  
sasadm Pass1
```

Deploy Processing

Deploy processing takes place against the target metadata server. This should be the SAS Metadata Server associated with the new installation of SAS IT Resource Management 3.1.1.

4. DeployITMSProperty.bat

Syntax:

```
DeployITMSProperty.bat [srcVersion] [trgVersion] [metaServerName]
                        [metaServerPort] [metaUser] [metaPass]
```

Example:

```
DeployITMSProperty.bat 3.1.1 3.1.1 myserver 8561 sasadm Pass1
```

5. DeployITMSFormula.bat

Syntax:

```
DeployITMSFormula.bat [srcVersion] [trgVersion] [metaServerName]
                      [metaServerPort] [metaUser] [metaPass]
```

Example:

```
DeployITMSFormula.bat 3.1.1 3.1.1 myserver 8561 sasadm Pass1
```

6. DeployITDataMart.bat

Syntax:

```
DeployITDataMart.bat [srcVersion] [trgVersion] [metaServerName]
                     [metaServerPort] [metaUser] [metaPass]
```

Example:

```
DeployITDataMart.bat 3.1.1 3.1.1 myserver 8561 sasadm Pass1
```

Note: There is no parameter to specify the IT data mart name since you can only deploy the single IT data mart that has most recently been extracted.

An End-to-End Example

Assumptions:

- Server machine – PROD.MACHINE.COMPANY.COM
- Windows machine – wintel01.pc.company.com
- Existing ITRM Metadata Server on port 10311
- NEW ITRM Metadata Server on port 99311
- Administrative user for each server is myadm
- Administrative user password is myPass1
- After installing, configuring, and deploying the 3.1.1 release of ITRM, the configuration location is: /usr/SAS/installs/ITRM311
- The location of the ExtractDeploy.jar archive file is:
/usr/SAS/installs/ITRM311/Lev1/Utilities/SASITMSCoreComponents/Utilities

Process:

Use ftp to transfer the archive file to C:\Temp on wintel01.pc.company.com, and run the jar command to extract the contents of the archive file to C:\Temp\ExtractDeploy.

Use the Windows Explorer to navigate to the

C:\Temp\ExtractDeploy\SASITMSCoreComponents\Utilities\metadata folder.

Edit both `deploy.bat` and `extract.bat` changing the string `$EDIT: PATH-TO-SMC-ROOT$` to `C:\Program Files\SAS\SASManagementConsole\9.1`. Save the changes.

Open a command window (you can submit the "cmd" command to the Windows Start menu Run... program item) and change directory to:

`C:\Temp\ExtractDeploy\SASITMSCoreComponents\Utilities\metadata.`

Begin the extract/deploy process:

Extract the ITMSProperty from the existing ITMS repository

```
ExtractITMSProperty.bat 3.1.1 PROD.MACHINE.COMPANY.COM
                        10311 myadm myPass1
```

Extract the ITMSFormula from the existing ITMS repository

```
ExtractITMSFormula.bat 3.1.1 PROD.MACHINE.COMPANY.COM
                        10311 myadm myPass1
```

Note: Receive error message indicating that there was no content extracted. Since this is due to the fact that there were no User Defined formulas previously defined this is acceptable.

Extract the IT Data Mart from the existing ITMS repository

```
ExtractITDataMart.bat 3.1 "Production Data for PROD.MACHINE"
                     PROD.MACHINE.COMPANY.COM 10311
                     myadm myPass1
```

We now have an extracted data mart and the supporting metadata that will allow it to be properly deployed to our NEW SAS IT Resource Management ITMS repository.

Deploy the existing ITMSProperty metadata to the NEW ITMS repository

```
DeployITMSProperty.bat 3.1.1 3.1.1 PROD.MACHINE.COMPANY.COM
                       99311 myadm myPass1
```

Deploy the existing ITMSFormula metadata to the NEW ITMS repository

```
DeployITMSFormula.bat 3.1.1 3.1.1 PROD.MACHINE.COMPANY.COM
                       99311 myadm myPass1
```

Note: Due to the fact that there was not any metadata extracted with the extract process, this step is not necessary. Should you choose to run it, be advised that if there is no metadata to deploy the script will fail and return an error indicating that there was no metadata to deploy. This is normal in this scenario.

Deploy the existing ITDataMart metadata to the NEW ITMS repository

```
DeployITDataMart.bat 3.1.1 3.1.1 PROD.MACHINE.COMPANY.COM
                     99311 myadm myPass1
```

We now have a NEW SAS IT Resource Management ITMS repository that contains the same metadata describing the IT data mart that was created and available in different SAS IT Resource Management ITMS repository. The Extract and Deploy functionality has provided the methodology to move the data describing the IT data mart from one ITMS repository to another. You may still need to move or copy the physical data contained in the IT data mart. If your two installations can both read and write to the file system as specified in the various IT data mart related paths, then no move or copy would be necessary.