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WebSphere® Enterprise Service Bus for z/OS® V6.1
WebSphere Process Server for z/OS V6.1

z/OS configuration troubleshooting

This presentation covers troubleshooting the configuration of WebSphere Process Server for z/OS V6.1 and WebSphere Enterprise Service Bus for z/OS V6.1.

Goals

- Troubleshoot errors encountered when configuring WebSphere Process Server for z/OS V6.1 and WebSphere Enterprise Service Bus for z/OS V6.1

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The goal of this presentation is to show you how to determine the cause of errors when trying to configure WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS.

Troubleshooting

ASCII files

- **zSMPInstall.sh -install logs**
  - Found in `<app_server_root>/logs/wbi/install` directory

    ```
    installconfig.log
    ```
    Configuration manager task log

  - Found in `<app_server_root>/logs/wbi` directory

    ```
    100SCleanOSGICache.ant.log
    80SCopyInstallValidatorLog.ant.log
    85SConfigNoProfileFirstStepsWBI.ant.log
    90SCleanDeployTool.ant.log
    90SConfigWBIMigrationScript.ant.log
    90SConfigureWSProfileForWBI.ant.log
    91SConfigNoProfileFirstStepsCharset.ant.log
    93SDeployBPCAdminConsolePlugins.ant.log
    93SDeployServerAdminConsolePlugins.ant.log
    93SDeployWBICommonAdminConsolePlugins.ant.log
    94SDeployCoreAdminConsolePlugins.ant.log
    c2n.log
    zSMPInstall.log
    zSMPInstall.trace
    ```

    Logs from .ant tasks called by the configuration manager task

When you run the zSMPInstall script, many log files are written to your configured logs directory. The zSMPInstall.log and zSMPInstall.trace files are pretty basic, but if you turn traces on, the trace file might prove interesting. The zSMPInstall script calls the configuration manager, which is responsible for calling many ant tasks to configure the node. The `installconfig.log` file is a record of the configuration manager's progress and then each of the ant tasks writes its own detailed log of its progress. These logs are shown here.

Return codes

- **installconfig.log (ASCII file)**
  - Go to end of file and should see the these messages:
  - Return Code=0
    - `<message>Returning with return code: INSTCONFSUCCESS</message>`
  - non-zero Return Code
    - `<message>Returning with return code: INSTCONFFAILED</message>`
    - `<message>Returning with return code: INSTCONFPARTIALSUCCESS</message>`

> Technote 1291021:
> http://www-1.ibm.com/support/docview.wss?uid=swg21291021

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At the end of the installconfig.log is a return code indicating whether the zSMPInstall script ran successfully. There are three possible outcomes: SUCCESS, PARTIALSUCCESS and FAILED. In the case of SUCCESS, you are done and will continue with the zWPSConfig script. In the case of PARTIALSUCESS or FAILED, you need to determine the cause of the error. Remember that in V6.1, a PARTIALSUCCESS message is expected as documented in Technote 1291021. The next slide will look at the FAILED return code.

Return codes -- FAILED

- **installconfig.log (ASCII file)**
  - Look here if error occurred during execution of the configuration manager task
  - Find 'SEVERE' to determine error
  - Find 'Buildfile' **previous** to discover what ant task was running when the failure occurred
  - Look in corresponding .ant.log file for more information

  See example with zWPSConfig.sh

If the zSMPInstall script ended with a return code of FAILED during configuration manager processing, you can look in the installconfig.log for a record indicating 'SEVERE'. From that point, if you look for the last 'Buildfile' occurrence before the SEVERE record, you will find what ant task was running when the failure occurred. It is possible that the SEVERE record will give you enough information to see what went wrong. If not, you can look in the corresponding ant log file to get more detailed information about the error that occurred. There is an example of this process on the slide that covers the zWPSConfig script logs. The same basic technique is used there.

Keep in mind that all these log files are encoded in ASCII so you will either need to look at them from a Windows® machine or use an editor like viascii.

Return codes – PARTIALSUCCESS

```
...
  <message>Information about actions that failed, follows</message>
</record>
<record>
  <date>2007-09-27T16:20:10</date>
  <millis>1190924410316</millis>
  <sequence>4916</sequence>
  <logger>com.ibm.ws.install.configmanager.ConfigManager</logger>
  <level>INFO</level>
  <class>com.ibm.ws.install.configmanager.ConfigManager</class>
  <method>dumpNonFatalFailedActionsInfoToLogFile</method>
  <thread>10</thread>
  <message>This action failed to execute:
    /etc/sscell/ssnode1/AppServerNode1/properties/version/install.wbi/config/install/99SInstallInvokeWSProfile.ijc</message
    >
</record>
<record>
  .
  <message>To manually apply this action, please execute this command: </message>
</record>
<record>
  .
  <message>Returning with return code: INSTCONFPARTIALSUCCESS</message>
</record>
```

installconfig.log

In the case of the PARTIALSUCCESS return code, the installconfig.log will show you which actions failed. You will see that the failed actions were considered recoverable as the blue text on the slide shows. This failure is the expected failure documented in the Technote mentioned earlier.

Troubleshooting

- **zWPSConfig.sh** or **zWESBConfig.sh -augment logs**

  - **<app_server_root>/logs/wbi** directory
    ```
    zWPSConfig.log
    zWPSConfig.trace
    ```

  - **<app_server_root>/logs/manageprofiles** directory
    ```
    default_augment.log
    ```
    Main log

  - **<app_server_root>/logs/manageprofiles/default** directory
    ```
    commonDBUtility.ant.log
    configAdminConsoleEnv.ant.log
    configAppSchedulerDBTables.ant.log
    configAppSecurity.ant.log
    configAppSecurity.ant.wsadmin.log
    configCopy.ant.log
    configCopyESB.ant.log
    configDatabase.ant.log
    configDatabase.ant.wsadmin.log
    configDmgrRecovery.ant.log
    configDmgrSCA.ant.log
    configDmgrSCA.ant.wsadmin.log
    configDynamicArtifactRepository.ant.log
    . . .
    ```
    Partial listing of ant task logs from augment

Here you see where the logs are located when running the zWPSConfig and zWESBConfig scripts. They are found in a few different directories. To start, you will find the log and trace files in the logs/wbi directory. Like the equivalent zSMPInstall logs, the zWPSConfig and zWESBConfig trace and log files are pretty basic unless you have turned on tracing. The main log file is found in the logs/manageprofiles directory and is called default_augment.log. It has a very detailed record of all the ant tasks being called and the results from calling them. The next slides will take you through the process of finding a problem using this log file. Finally, there are detailed logs in the logs/manageprofiles/default directory for each of the ant tasks that are called. You will notice that if the ant task calls wsadmin for any reason, there is also a log for that processing as seen by the circled files on the slide.

Return codes

- **default_augment.log (ASCII file)**
  - ▶ Go to end of file and should see these messages:
  - Return Code=0
    - – `<message>Returning with return code: INSTCONFSUCCESS</message>`
  - non-zero Return Code
    - – `<message>Returning with return code: INSTCONFFAILED</message>`
    - – `<message>Returning with return code: INSTCONFPARTIALSUCCESS</message>`

Same return codes as zSMPInstall

Again, if you go to the end of the default_augment.log, you will find a return code indicating whether the zWESBConfig or the zWPSConfig script ran successfully. Just like the zSMPInstall script, there are three possible outcomes: SUCCESS, PARTIALSUCCESS and FAILED. In the case of SUCCESS, you are done and will continue with your configuration. In the case of PARTIALSUCESS, you may be instructed to re-run a command. This will depend on if the configuration action is deemed important in your particular configuration. For instance, you may see that it failed trying to deploy some sample applications. You may not care about those sample applications so you may decide to continue with your configuration. If you receive a FAILED return code, you need to determine the cause of the error and fix it before continuing the configuration. The next slides will take you through the process of determining what the error was.

Return codes - FAILED

- **Standard output** directs you to <app_server_root>/logs/ manageprofiles/default_augment.log on failure:

```
INSTCONFFAILED: Profile augmentation failed. For more information, consult
    /etc/sscell/ssnodea/AppServer/logs/manageprofiles/default_augment.log.
```

- default_augment.log **– find 'SEVERE'**

```
<record>
  <date>2008-02-13T16:58:05</date>
  <millis>1202939885229</millis>
  <sequence>5724</sequence>
  <logger>com.ibm.ws.install.configmanager.ConfigManager</logger>
  <level>SEVERE</level>
  <class>com.ibm.ws.install.configmanager.ConfigManager</class>
  <method>launch</method>
  <thread>10</thread>
  <message>ConfigManager action execution failed on a fatal
  action</message>
</record>
```

Here is an example of looking for the problem. The standard output from running the zWPSConfig shell script directs you to the default_augment.log, as shown here. That is the main log for the augmentation process. If you look into that log file, you will see many records that detail the augmentation. In order to find where you hit a problem, you will do a search for 'SEVERE' as you saw earlier with the zSMPInstall error. This slide shows an actual example of what a record might look like when an error was recorded. In some cases, the error might give you enough information to know what went wrong. In this example though, you will need to look further to find the cause of the error. You will need to find the ANT script that was running when the error occurred and go look at its error log.
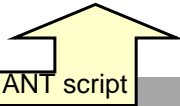
Return codes - FAILED…

- **default_augment.log** – find 'Buildfile' PREV

```
<record>
  <date>2008-02-13T16:58:00</date>
  <millis>1202939880573</millis>
  <sequence>5474</sequence>

  <logger>com.ibm.ws.install.configmanager.actionengine.ant
  .utils.InProcessAntRunner</logger>
  <level>INFO</level>

  <class>com.ibm.ws.install.configmanager.actionengine.ant.
  utils.InProcessAntRunner</class>
  <method>logOutputMessage</method>
  <thread>10</thread>
  <message>Buildfile:
  /etc/sscell/ssnodea/AppServer/profileTemplates/default.wb
  icore/actions/configCei.ant</message>
</record>
```

Current ANT script

In order to do that, you want to find the last 'Buildfile' occurrence before the SEVERE record. In this example, you see that the configCEI.ant script was running when the SEVERE error occurred. You can now go look in the configCEI.ant script's log to get further information.

Return codes - FAILED…

- **`<app_server_root>/logs/manageprofiles/default`
  `configCei.ant.log`**

```
  BUILD FAILED

/etc/sscell/ssnodea/AppServer/profileTemplates/default.wbicore/act
  ions/configCei.ant:808: The following error occurred while
  executing this line:
/etc/sscell/ssnodea/AppServer/profileTemplates/default.wbicore/act
  ions/wbi.profile.actions.include:292: wsadmin task failed with
  return code :103
  at
  org.apache.tools.ant.ProjectHelper.addLocationToBuildException(P
  rojectHelper.java:539)
  at org.apache.tools.ant.taskdefs.Ant.execute(Ant.java:384)
.
.
.
```

Looking at the configCei.ant.log, you see some more specific information about the error. In this case, the failure occurred during wsadmin processing. If you recall, there is a wsadmin log for the ANT task as well. That is shown on the next slide.

The names of the logs for the ANT tasks are pretty self-explanatory. If it does not seem obvious which log to look into, however, a record in the **default_augment_.log** will point you to the log that was in use while the ANT script was running.

Return codes - FAILED…

<app_server_root>/logs/manageprofiles/default configCei.ant.wsadmin.log

```
WASX7015E: Exception running command: "$AdminTask configEventServiceDB2ZOSDB
{      -nodeName ssnodea      -serverName sssr01a      -createDB true
-eventDBName SSCELL      -eventCatalogDBName SSCELL      -jdbcClassPath
{/usr/lpp/db2810/jcc/classes}      -dbHostName mvs225.rtp.raleigh.ibm.com
-dbPort 8070      -dbUser DB2D      -dbPassword fr1day      -dbDiskSizeInMB
10      -storageGroup SSDBSTO      -bufferPool4K BP0      -bufferPool8K BP8K0
-bufferPool16K BP16K0      -dbAliasName SSCELL      -dbSubSystemName
MVS225D1      -overrideDataSource false      -outputScriptDir
{/etc/sscell/ssnodea/AppServer/profiles/default/dbscripts/CEI_SSCELL}}";
exception information:
com.ibm.bsf.BSFException: error while eval'ing Jacl expression:
com.ibm.ws.scripting.ScriptingException:
com.ibm.events.install.db.DBConfigException:
com.ibm.events.install.db.DBConfigException: CEIIN0723I The DB2 event
database cannot be automatically created on a z/OS system. Use the
database scripts in the
/etc/sscell/ssnodea/AppServer/profiles/default/dbscripts/CEI_SSCELL/db2zos
directory to create the event database.

     while executing
"$AdminTask configEventServiceDB2ZOSDB {      -nodeName ssnodea      -
serverName sssr01a      -createDB true      -eventDBName SSCELL      -
eventCatalog..."
```

`ceiDbExecuteScripts=true`

Drilling down into the wsadmin log for the configCei ant task, you see that it cannot create the DB2® database automatically on a z/OS system. Remember the databases MUST be created before augmentation on z/OS if you plan to run any SQL during augmentation. Looking in the response file, it turns out the ceiDbExecuteScripts parameter was set to 'true'. It needs to be set to 'false'.

Return codes - FAILED

- **Standard output** can also specify that validation errors were found during augmentation.

```
CWPIZ0265I: augmenting profile(s)...
 The following validation errors were present with the command line arguments:
  dbCreateNew: CWLDB0557E: The database type "DB2UDBOS390_V8_1" does not support creating
  a new database.
  dbType: CWLDB0557E: The database type "DB2UDBOS390_V8_1" does not support creating a new
  database.
  dbType: CWLDB0565E: The database already exists.
CWPIZ0267I: augmenting profile(s) complete
```

- default_augment.log – **find 'Validation Error'**

```
<record>
  <date>2008-02-13T09:38:47</date>
  <millis>1202913527153</millis>
  <sequence>3314</sequence>
  <logger>com.ibm.ws.profile.cli.WSProfileCLIModeInvoker</logger>
  <level>INFO</level>
  <class>com.ibm.ws.profile.cli.WSProfileCLIModeInvoker</class>
  <method>areCommandLineArgumentsValid</method>
  <thread>10</thread>
  <message>Validation Error for dbCreateNew: CWLDB0557E: The database type
   "DB2UDBOS390_V8_1" does not support creating a new database.</message>
</record>
```

Another type of error that will cause you to receive the FAILED return code is argument validation. The standard output, in this case, will show you the problems that it found with the parameters you specified in your response file. Before running the augmentation again, you need to correct them. If you look in the default_augment.log, you will find records there that specify the problems as well. You can do a find on 'Validation Error' to see them all there.

Return codes - PARTIALSUCCESS

- **`default_augment.log` – go to end**

  `<message>Returning with return code: INSTCONFPARTIALSUCCESS</message>`
- **find 'actions that failed'**

```
<record>
  <date>2007-11-16T11:47:52</date>
  <millis>1195231672125</millis>
  <sequence>6537</sequence>
  <logger>com.ibm.ws.install.configmanager.ConfigManager</logger>
  <level>INFO</level>
  <class>com.ibm.ws.install.configmanager.ConfigManager</class>
  <method>launch</method>
  <thread>10</thread>
  <message>There were some errors encountered while executing the repository actions, but none were
  fatal</message>
</record>
<record>
  <date>2007-11-16T11:47:52</date>
  <millis>1195231672125</millis>
  <sequence>6538</sequence>
  <logger>com.ibm.ws.install.configmanager.ConfigManager</logger>
  <level>INFO</level>
  <class>com.ibm.ws.install.configmanager.ConfigManager</class>
  <method>launch</method>
  <thread>10</thread>
  <message>Information about Actions that failed, follows</message>
</record>
<record>
  <date>2007-11-16T11:47:52</date>
  <millis>1195231672131</millis>
  <sequence>6539</sequence>
  <logger>com.ibm.ws.install.configmanager.ConfigManager</logger>
  <level>INFO</level>
  <class>com.ibm.ws.install.configmanager.ConfigManager</class>
  <method>dumpNonFatalFailedActionsInfoToLogFile</method>
  <thread>10</thread>
  <message>This action failed to execute:
  /etc/sscell/ssnode1/AppServerNode1/profileTemplates/default.wbicore/actions/esbSamplesGall
eryInstallAndConfig.ant</message>
</record>
```

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This slide shows an example of the PARTIALSUCCESS return code during augmentation. Remember, the errors documented here are considered recoverable and you can choose to ignore them if they are not essential to your configuration. The example here shows that deployment of the ESB Samples Gallery was unsuccessful. To get more information, you can follow the steps shown previously to look at the output from the ANT script.

Troubleshooting

- Collect various log files to debug
  - **\<app_server_root\>/logs/manageprofiles**

    jar -cf logs.jar \<app_server_root\>/logs/manageprofiles/*

  - **\<app_server_root\>/logs/manageprofiles/default**

    jar -cf profileLogs.jar \<app_server_root\>/logs/manageprofiles/default/*

- Extract them on workstation to analyze

As noted earlier, most of the logs that are written by the configuration process have an ASCII encoding. If you do not have a good way to look at them on the z/OS system (such as the viascii editor), you can FTP them to a workstation in binary and look at them there. This slide shows a way to .jar up all the logs easily so that they can be extracted on a workstation and analyzed there instead. This is also a good set of information to provide the service team when opening a PMR.

Summary

- Troubleshooting involves looking at a variety of log files that are written during installation and augmentation.
  - This presentation gave you a methodology to find your problem quickly.

In summary, there are many logs written to record the process of the configuration. This presentation showed you how to use them to troubleshoot a problem.

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