



**How-to Guide
SAP NetWeaver 2004s**

How To... Use the NWDI DC Archive Cache

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**Applicable Releases:
SAP NetWeaver 2004s SPS8 and higher
(Custom Development & Unified Life-Cycle
Management)**

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1 Scenario

Development teams who use the SAP NetWeaver Development Infrastructure (NWDI) for their Java based application development are sometimes spread over several countries and continents. The infrastructure and development environment normally operates with one central NWDI server that comprises the components Design Time Repository (DTR), Component Build Service (CBS) and Change Management Service (CMS). To be able to build the newly created application locally, the development process includes the task of syncing development component (DC) archives from a central CBS server to each developer's local file system. Depending on the bandwidth and speed of the network connection, the CBS sync can be a very time-consuming task.

2 Introduction

To improve the situation for developers, the idea is to create a DC archive cache at the location where the developer is working. The DC archive cache is a share on which the DC archives are stored. The DC archive cache can then be used by the developers in the remote location instead of using the central CBS every time a sync is needed. The content of the archive cache should be updated at regular intervals (every night, for example) with the latest content of the corresponding CBS. The content of the DC archive cache is therefore not always as up-to-date as is the content of the CBS. However, this should not be a problem for developers due to the fact that the archive cache will be updated frequently and accessing the remote CBS is still possible.

When a developer syncs a DC archive from the DC archive cache, the DC archive will be copied from the cache to the developer's local file system of the developer according to the development configuration file system layout. Basically, the DC archive cache is a share where the DC archives are stored in accordance with the file system layout of the development configuration. For each development configuration, the synced archives are stored in a separate subfolder of the DC archive cache.

3 The Step-by-Step Solution

The following section describes the steps that need to be performed in order to set up and use the DC archive cache. The set-up and regular sync from the central CBS are usually performed by an administrator, whereas developers have to configure their SAP NetWeaver Developer Studio (NWDS) so that they can use the local archive cache.

3.1 Setting Up a DC Archive Cache Share

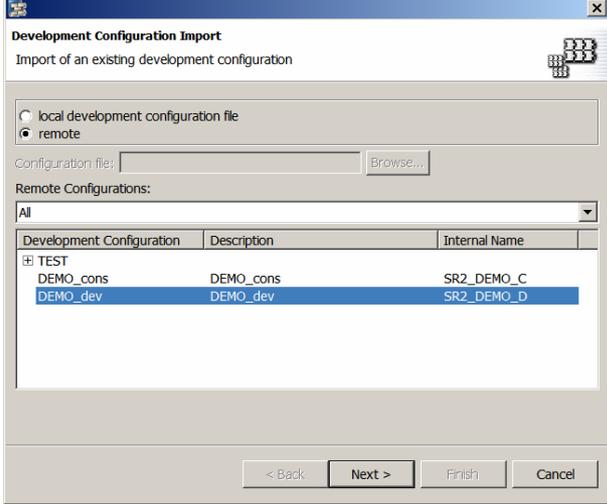
If the development teams are spread over the world, each location can set up its own local archive cache. Since the share is accessed by each developer with the NetWeaver Developer Studio, the share needs to be set-up on an operating system that is accessible from the operating system where NWDS is installed.

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| <p>1. Create a shared folder. It has to be on a remote machine where all development teams have read access.</p> | <p>For example, create directory <code>c:\dcarchivecache</code> on the machine where the archive cache should be stored. Share that directory so that all team members have read access to that share. The share name in this example is <i>dcarchivecache</i>.</p> |
| <p>2. Create a folder to store development configuration files and log files. Hint: It is recommended that this directory is parallel to the archive cache root directory.</p> | <p>For example, create a folder <code>c:\dccacheutil</code> parallel to <code>c:\dcarchivecache</code>.</p> |
| <p>3. (Optionally) Create a subdirectory for the development configurations, log files and scripts used. These folders are mainly used for the tools to setup the DC archive cache. The purpose of these subfolders will be explained later in the document.</p> | <p>Example: <code>c:\dccacheutil\logs</code> <code>c:\dccacheutil\devconfig</code> <code>c:\dccacheutil\scripts</code></p> |

3.2 Importing/Loading the Development Configuration

Before developers can use the DC archive cache, this cache has to be filled. A cache is filled/synced for each development configuration. To set up a cache for each development configuration, the configuration first has to be loaded. The following steps describe how a development configuration was initially imported using the SAP NetWeaver Developer Studio. This step is required in order to create the configuration file `.confdef` for a specific Development Configuration.

Hint: Do not use the developer studio and the DC Command Line Tool in parallel.

| <p>4. Import a development configuration using the SAP NetWeaver Developer Studio. Choose the  icon.</p> |  <table border="1"><thead><tr><th>Development Configuration</th><th>Description</th><th>Internal Name</th></tr></thead><tbody><tr><td>TEST</td><td></td><td></td></tr><tr><td>DEMO_cons</td><td>DEMO_cons</td><td>SR2_DEMO_C</td></tr><tr><td>DEMO_dev</td><td>DEMO_dev</td><td>SR2_DEMO_D</td></tr></tbody></table> | Development Configuration | Description | Internal Name | TEST | | | DEMO_cons | DEMO_cons | SR2_DEMO_C | DEMO_dev | DEMO_dev | SR2_DEMO_D |
|--|---|---------------------------|-------------|---------------|------|--|--|-----------|-----------|------------|----------|----------|------------|
| Development Configuration | Description | Internal Name | | | | | | | | | | | |
| TEST | | | | | | | | | | | | | |
| DEMO_cons | DEMO_cons | SR2_DEMO_C | | | | | | | | | | | |
| DEMO_dev | DEMO_dev | SR2_DEMO_D | | | | | | | | | | | |
| <p>5. After the development configuration has been imported, you should see the <code>.confdef</code> file for that configuration on the file system. Have a look in the development configurations root folder (specified under Window -> Preferences -> Java Development Infrastructure -> Development Configuration Pool).</p> |  | | | | | | | | | | | | |

3.3 DC Tool Setup

The DC tool is a command line based tool that makes it possible to perform a number of tasks related to DCs:

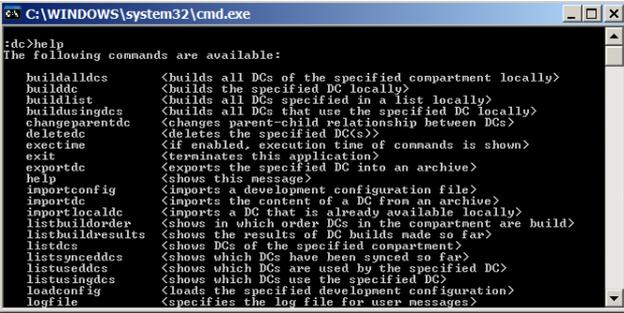
- syncing/unsyncing DCs
- building DCs locally
- reporting
- DC refactoring operations

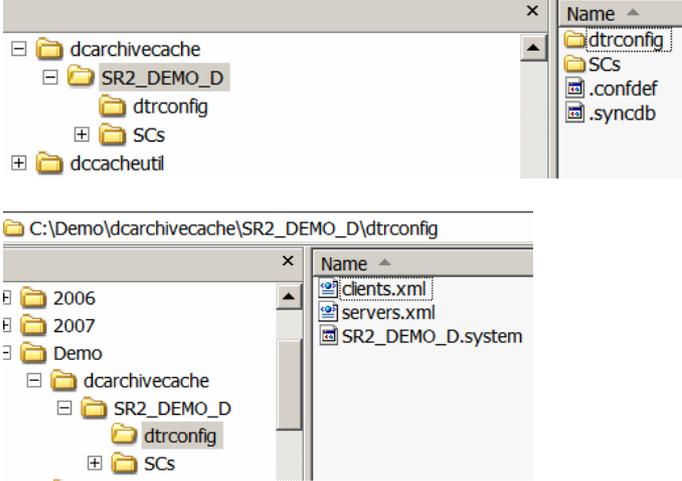
For more information, have a look at the documentation under

http://help.sap.com/saphelp_nw2004s/helpdata/en/43/cf6bac44e70a85e10000000a1553f6/frameset.htm.

For the DC archive cache feature, the sync commands are required in order to sync the CBS buildspace to the local share. To perform this command, a specific file system structure is needed, and the development configuration needs to be imported. The DC can also only be used if it has been set up correctly.

| | |
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| <p>6. Create a directory below the root of the archive cache (here c:\dcarchivecache). Give it the following name <DomainID>_<TrackID>_D</p> <p>_D stands for the development configuration of the NWDI development system as it is usually used to sync the CBS buildspace.</p> <p>_C can also be used to sync the buildspace in the consolidation system.</p> <p>Below this directory, create a subfolder with the name dtrconfig.</p> | <p>Example of a development configuration SR2_DEMO_D:</p> <pre>C:\dcarchivecache\SR2_DEMO_D C:\dcarchivecache\SR2_DEMO_D\dtrconfig</pre> |
| <p>7. In subfolder c:\dccacheutil\devconfig (see step 3) copy the .confdef file to this directory and rename it as <DomainID>_<TrackID>_D with the extension .xml.</p> <p>_C has to be used when the development configuration of the consolidation system is imported.</p> | <pre>C:\dccacheutil\devconfig\SR2_DEMO_D.xml</pre> |

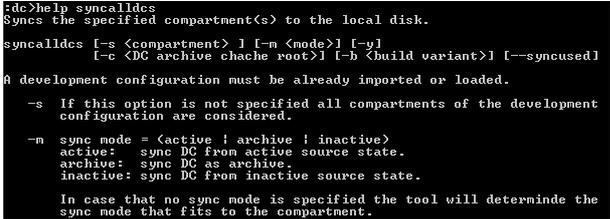
| | |
|--|--|
| <p>8. Go to the directory where the SAP NetWeaver Developer Studio is installed. The DC Tool is located under:</p> <p><Drive>:\<NWDSInstDir>\eclipse\tools\dc</p> | <p>Example:</p> <pre>C:\MyProgs\SAP\IDE70SP10\IDE70\eclipse\tools\dc</pre> |
| <p>9. Before you can run the batch file <code>dctool.bat</code> you have to set the following environment variables:</p> <p>JAVA_HOME and NWDITOOLLIB (absolute path to the lib directory).</p> <p>The JAVA_HOME should point to the installation location of the JDK, while the NWDITOOLLIB should point to <NWDSInstDir>eclipse\tools\lib directory.</p> | <p>Example:</p> <pre>set NWDITOOLLIB=C:\IDE70\eclipse\tools\lib set JAVA_HOME=C:\j2sdk1.4.2_09</pre> |
| <p>10. Run the DC tool <code>dctool.bat</code></p> <p>Hint: Do not use/start the Developer Studio in parallel with the DC tool.</p> | <p>Execute the <code>dctool.bat</code> batch file</p>  <p>Hint: Enter <code>help</code> to get a list of all DC commands.</p> |
| <p>11. With the DC command line tool, you can now set up the command <code>importconfig</code>. Hint: Use the <code>help</code> command to see all the required parameters.</p> <p>The <code>importconfig</code> command is called only once, at the beginning.</p> <p>For regular sync tasks, when the development configuration</p> | <p>Example:</p> <pre>importconfig -u <user> -p <password> -c C:\dcarchivecache\SR2_DEMO_D\ dtrconfig -r C:\dcarchivecache\SR2_DEMO_D -f C:\dccacheutil\devconfig\SR2_DEMO_D.xml;</pre> <p>After a successful import, a message is shown: Successfully imported development configuration "SR2_DEMO_D". Configuration data is located under directory</p> |

| | |
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| <p>is already imported, the loadconfig command is used (see attached template file).</p> | <p>"C:\dcarchivecache\SR2_DEMO_D".</p> |
| <p>12. After importing the development configuration, a file system structure like the one to the right side is created.</p> |  |

Since the development configurations change from time to time, it is recommended to download them on a regular basis. Whenever the development configuration has changed, it is recommended to delete the whole DC archive cache and set it up again, instead of overwriting it with the sync command.

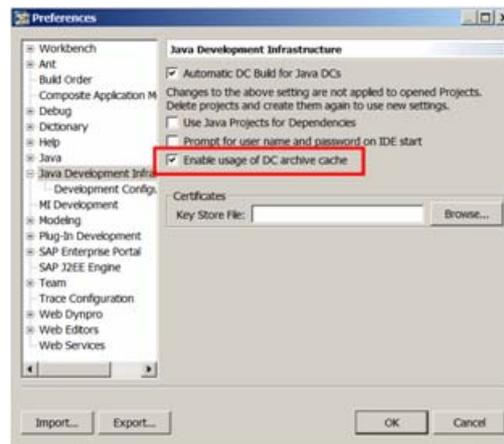
3.4 Syncing Archives

Before developers can use the DC archive cache the cache has to be filled first. Filling the DC archive cache means syncing the DC archives from CBS into the cache per development configuration.

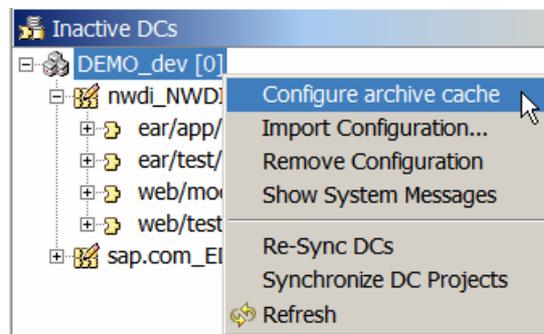
| | |
|---|---|
| <p>13. Before setting up the sync commands using the DC tool, you can use the logfile and tracefile commands to write output to a log file, or to write technical messages to a trace file. This is an optional step, instead of printing the output to the console. These commands are important when using the DC tool in batch mode, where no console output is visible.</p> | <p>Example:</p> <pre>logfile -f c:\dccacheutil\logs\Demolog.txt ; tracefile -f c:\dccacheutil\logs\Demotrace.txt ;</pre> |
| <p>14. The sync step is performed with the DC tool command <code>syncalldcs</code>.</p> <p>The procedure (as described in 3.3 and 3.4) has to be performed for all development configurations that should be part of the DC archive cache.</p> | <p>Example:</p> <p>Sync all archives for the loaded development configuration:</p> <pre>syncalldcs -m archive</pre>  <pre> :dc>help syncalldcs Syncs the specified compartment(s) to the local disk. syncalldcs [-s <compartment>] [-m <mode>] [-y] [-c <DC archive cache root>] [-b <build variant>] [--syncused] A development configuration must be already imported or loaded. -s If this option is not specified all compartments of the development configuration are considered. -m sync mode = <active archive inactive> active: sync DC from active source state. archive: sync DC as archive. inactive: sync DC from inactive source state. In case that no sync mode is specified the tool will determine the sync mode that fits to the compartment. </pre> |
| <p>15. The scripts folder is used to store script files. Script files are text files in which a certain sequence of commands can be collected that needs to be executed periodically, for example. The commands have to be separated by a semicolon (;). The text file can be passed via the command line to the DC tool. Note that you have to put an At sign (@) character before the file name in order to distinguish the file name from a command.</p> | <p>Example of how to execute script files:</p> <pre>dctool @commandfile.txt</pre> <p>Please have a look at the appendix for <code>loadConfigAndSync.txt</code> and <code>importConfigAndSync.txt</code>, which can be used as examples/templates for running the DC Tool in batch mode.</p> |

3.5 Using the DC Archive Cache within the Developer Studio

16. In case the developer wants to use the DC archive cache, the feature has to be enabled within the Developer Studio. From the menu, choose Window -> Preferences -> Java Development Infrastructure and enable the check box "Enable usage of DC archive cache".

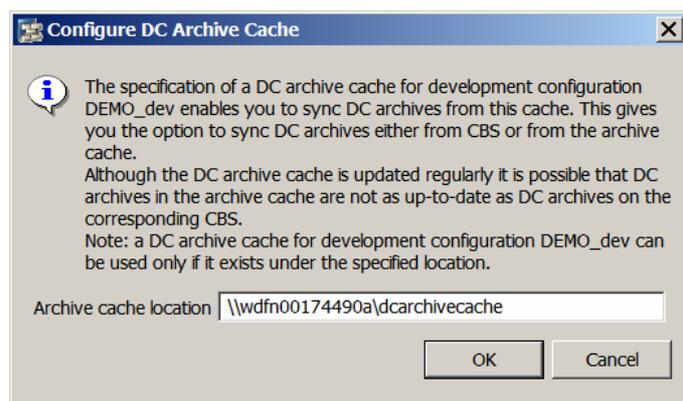


17. In the context menu of a development configuration node, choose "Configure archive cache" to specify the archive cache root.



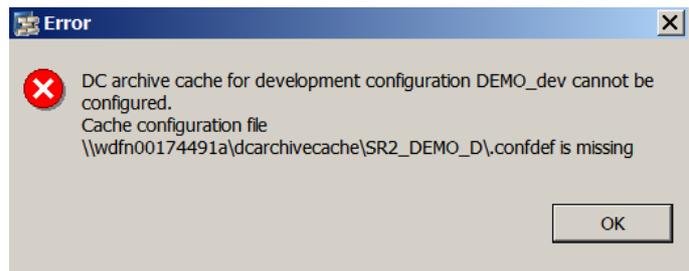
18. A popup is now displayed, where you have to enter the root directory of the archive cache. The folder with the name of the development configuration is automatically retrieved by the wizard and therefore does not have to be entered.

Hint: Especially in distributed geographically locations, it is recommended to use the IP address of the PC where the archive cache is located, instead of entering the machine name directly.



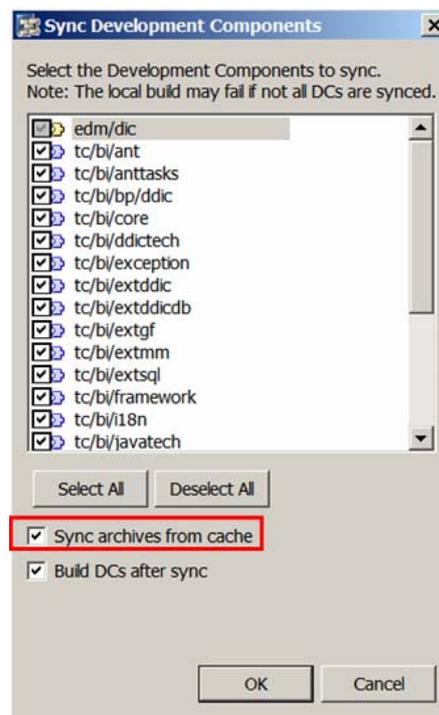
Example: \\<machine IP address>\<share name>

19. If an incorrect location has been entered for the DC archive cache, a popup is displayed like the one on the right. Always enter the root directory under which the folders for each development configuration are located. The wizard automatically adds the name of the folder corresponding to the selected development configuration and searches for the .confdef file.

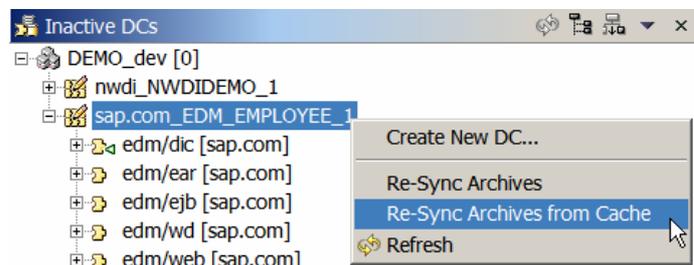


20. Whenever you create a project or need to sync the used DCs - the DC archives, you have the option of syncing from cache or from the central (remote) CBS. Syncing from the CBS server is possible as well, if you want to be 100% sure of obtaining the latest archives.

Hint: If the development team is very large, it would be better to resync the archive cache centrally just once, rather than doing it several times for each developer.



21. With the activation of the archive cache, an additional option is available in the context menu of a software component. You can choose whether to sync from the remote CBS or from the local archive cache.



3.6 Scheduling the DC Tool Commands

Syncing the archives from the central CBS is a task that should be performed regularly using batch mode and a scheduler tool (such as **at** for Windows or **cron** for Unix). This is usually done at night or at weekends when nobody else is normally working with the cache.

The DC command line tool can be used in batch mode, when command line parameters are passed when it is launched or with a script file.

Example:

```
dctool.bat help logilfe; help tracefile; help syncalldcs  
dctool @scriptfile.txt
```

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| <p>22. Execution of the commands can be scheduled, for example using the Windows at command, thus allowing the whole process to be automated.</p> | <p>Example of scheduling the dc commands using at:</p> <pre>at 22:00 /every:M,T,W,Th,F,S,Su c:\dctool\dctool @c:\dccacheutil\scripts\loadConfigAndS ync.txt</pre> <p>The example shows a definition of a schedule using the at command that is executed every evening at 22:00h. It is assumed here that the DC tool is located in the folder c:\dctool.</p> |
|--|--|

4 Appendix

importConfigAndSync.txt

```
importconfig -u <user> -p <password> -c  
C:\dcarchivecache\SR2_DEMO_D\  
dtrconfig -r C:\dcarchivecache\SR2_DEMO_D -f  
C:\dccacheutil\devconfig\SR2_DEMO_D.xml;  
syncalldcs -m archive
```

loadConfigAndSync.txt

```
# write the output into a log file and technical messages (e.g.  
stack traces) into trace file  
logfile -f c:\dccacheutil\logs\SR2_DEMO_D_log.txt;  
tracefile -f c:\dccacheutil\logs\SR2_DEMO_D_trace.txt;  
loadconfig -u <user> -p <password> -r  
c:\dcarchivecache\SR2_DEMO_D -c  
c:\dcarchivecache\SR2_DEMO_D\dtrconfig;  
syncalldcs -m archive
```

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