# WebSphere Portal 8
# DB2 Database Transfer

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# 1. Information

WebSphere Portal 8 supports a database transfer to multiple different database servers such as DB2, Oracle, and SQL server. With this document, you will understand the steps to do a database transfer from derby to DB2. To follow this document you will need to have an understanding of the directory structure of WebSphere Portal 8 and the ability to run commands on DB2.

This document assumes the DB2 server already exists and has enough space for a Portal database transfer.

These instructions do not utilize the runtime user or the type 2 driver. If a runtime user or a type 2 scenario is required, review the WebSphere Portal 8 infocenter for further instructions.

**Helpful Links**: To use the link in this document, you must copy and paste them to the browser.

- WebSphere Portal V8.0 Infocenter - WIKI
http://www-10.lotus.com/ldd/portalwiki.nsf/xpViewCategories.xsp?lookupName=IBM%20WebSphere%20Portal%208%20Product%20Documentation

- WebSphere Portal V8.0 Infocenter - HTML
http://infolib.lotus.com/resources/portal/8.0.0/doc/en_us/PT800ACD001/index.html

- WebSphere Portal V8.0 detailed system requirements
http://www-01.ibm.com/support/docview.wss?uid=swg27007791

- WebSphere Portal Infocenter: Setting up a Remote DB2 database (Linux)
http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Setting_up_a_remote_DB2_database_wp8

The document was tested on Linux. All other platform information is here for help purposes only.

This document is not written or supported by IBM Support.

| Name | Date | Version | Description |
|---|---|---|---|
| Loc Dang | 07/26/12 | v1 | Database Transfer to DB2 |
| | | | |
| | | | |

Thankyou for Dick Robbins and Mike Fitzgerald for your help.

## 2. DB2 Requirements

1. Open a browser and set it to the following link
   http://www-01.ibm.com/support/docview.wss?uid=swg27007791

2. Select the platform and entitlement you have installed

3. Click on the Prerequisites tab

4. Scroll down to the Database section

5. Verify the DB2 server you are going to transfer to is supported

## 3. Create and Configure the Database

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Creating_a_remote_or_local_DB2_database_manually_wp8

1. Login to the DB2 server as the DB2 instance administrator (db2inst1)

2. Run the following command to configure the DB2 database instance for WebSphere Portal 8

```
db2set DB2COMM=TCPIP
db2set DB2_EVALUNCOMMITTED=YES
db2set DB2_INLIST_TO_NLJN=YES
db2 "UPDATE DBM CFG USING query_heap_sz 32768"
db2 "UPDATE DBM CFG USING sheapthres 0"
```

3. Run the following command to create and configure the WebSphere Portal database(s). You can create 1 database to handle all database schemas or create up to 6 database to handle each schema: release, community, customization, jcr, feedback, likeminds

<*DBNAME*> = name of the database

```
db2 "CREATE DB <DBNAME> using codeset UTF-8 territory us PAGESIZE 8192"
db2 "UPDATE DB CFG FOR <DBNAME> USING applheapsz 4096"
db2 "UPDATE DB CFG FOR <DBNAME> USING app_ctl_heap_sz 1024"
db2 "UPDATE DB CFG FOR <DBNAME> USING stmtheap 32768"
db2 "UPDATE DB CFG FOR <DBNAME> USING dbheap 2400"
db2 "UPDATE DB CFG FOR <DBNAME> USING locklist 1000"
db2 "UPDATE DB CFG FOR <DBNAME> USING logfilsiz 4000"
db2 "UPDATE DB CFG FOR <DBNAME> USING logprimary 12"
db2 "UPDATE DB CFG FOR <DBNAME> USING logsecond 20"
```

```
db2 "UPDATE DB CFG FOR <DBNAME> USING logbufsz 32"
db2 "UPDATE DB CFG FOR <DBNAME> USING avg_appls 5"
db2 "UPDATE DB CFG FOR <DBNAME> USING locktimeout 30"
db2 "UPDATE DB CFG FOR <DBNAME> using AUTO_MAINT off"
```

NOTE:

- The DB2 database name can not exceed 8 characters
- Example of a 1 database scenario:

| Schema | Database |
|---|---|
| release | wpsdb |
| community | wpsdb |
| customization | wpsdb |
| jcr | wpsdb |
| feedback | wpsdb |
| likeminds | wpsdb |

- Examples of a 6 database scenario:

| Schema | Database |
|---|---|
| release | reldb |
| community | commdb |
| customization | custdb |
| jcr | jcrdb |
| feedback | fdbkdb |
| likeminds | lmdb |

4. Run the following command to update the JCR database.

<*JCRDB*> = name of the jcr database
<*JCRUSR*> = name of the jcr user
<*JCRPWD*> = password of the jcr user

```
db2 "CONNECT TO <JCRDB> USER <JCRUSR> USING <JCRPWD>"
db2 "CREATE BUFFERPOOL ICMLSFREQBP4 SIZE 1000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSVOLATILEBP4 SIZE 16000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSMAINBP32 SIZE 16000 PAGESIZE 32 K"
db2 "CREATE BUFFERPOOL CMBMAIN4 SIZE 1000 PAGESIZE 4 K"
db2 "CREATE REGULAR TABLESPACE ICMLFQ32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLFQ32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMLNF32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLNF32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMVFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMVFQ04') BUFFERPOOL ICMLSVOLATILEBP4"
db2 "CREATE REGULAR TABLESPACE ICMSFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMSFQ04') BUFFERPOOL ICMLSFREQBP4"
db2 "CREATE REGULAR TABLESPACE CMBINV04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('CMBINV04') BUFFERPOOL CMBMAIN4"
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE32 PAGESIZE 32 K
MANAGED BY SYSTEM USING ('icmlssystspace32') BUFFERPOOL ICMLSMAINBP32"
```

```
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlssystspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "CREATE USER TEMPORARY TABLESPACE ICMLSUSRTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlsusrtspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "UPDATE DB CFG FOR <JCRDB> USING DFT_QUERYOPT 2"
db2 "UPDATE DB CFG FOR <JCRDB> USING PCKCACHESZ 16384"
db2 "DISCONNECT <JCRDB>"
db2 "TERMINATE"
```

NOTE:

- If you are using a 1 database scenario, ***<JCRDB>*** will be the name of the one database you are using.

Example:

```
db2 "CONNECT TO wpsdb USER db2inst1 USING ibmroot1"
db2 "CREATE BUFFERPOOL ICMLSFREQBP4 SIZE 1000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSVOLATILEBP4 SIZE 16000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSMAINBP32 SIZE 16000 PAGESIZE 32 K"
db2 "CREATE BUFFERPOOL CMBMAIN4 SIZE 1000 PAGESIZE 4 K"
db2 "CREATE REGULAR TABLESPACE ICMLFQ32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLFQ32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMLNF32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLNF32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMVFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMVFQ04') BUFFERPOOL ICMLSVOLATILEBP4"
db2 "CREATE REGULAR TABLESPACE ICMSFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMSFQ04') BUFFERPOOL ICMLSFREQBP4"
db2 "CREATE REGULAR TABLESPACE CMBINV04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('CMBINV04') BUFFERPOOL CMBMAIN4"
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE32 PAGESIZE 32 K
MANAGED BY SYSTEM USING ('icmlssystspace32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlssystspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "CREATE USER TEMPORARY TABLESPACE ICMLSUSRTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlsusrtspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "UPDATE DB CFG FOR wpsdb USING DFT_QUERYOPT 2"
db2 "UPDATE DB CFG FOR wpsdb USING PCKCACHESZ 16384"
db2 "DISCONNECT wpsdb"
db2 "TERMINATE"
```

- If you are using a 6 database scenario, ***<JCRDB>*** will be the name of the database for the jcr schema.

Example:

```
db2 "CONNECT TO jcrdb USER db2inst1 USING ibmroot1"
db2 "CREATE BUFFERPOOL ICMLSFREQBP4 SIZE 1000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSVOLATILEBP4 SIZE 16000 PAGESIZE 4 K"
db2 "CREATE BUFFERPOOL ICMLSMAINBP32 SIZE 16000 PAGESIZE 32 K"
db2 "CREATE BUFFERPOOL CMBMAIN4 SIZE 1000 PAGESIZE 4 K"
```

```
db2 "CREATE REGULAR TABLESPACE ICMLFQ32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLFQ32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMLNF32 PAGESIZE 32 K MANAGED BY SYSTEM
USING ('ICMLNF32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE REGULAR TABLESPACE ICMVFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMVFQ04') BUFFERPOOL ICMLSVOLATILEBP4"
db2 "CREATE REGULAR TABLESPACE ICMSFQ04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('ICMSFQ04') BUFFERPOOL ICMLSFREQBP4"
db2 "CREATE REGULAR TABLESPACE CMBINV04 PAGESIZE 4 K MANAGED BY SYSTEM
USING ('CMBINV04') BUFFERPOOL CMBMAIN4"
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE32 PAGESIZE 32 K
MANAGED BY SYSTEM USING ('icmlssystspace32') BUFFERPOOL ICMLSMAINBP32"
db2 "CREATE SYSTEM TEMPORARY TABLESPACE ICMLSSYSTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlssystspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "CREATE USER TEMPORARY TABLESPACE ICMLSUSRTSPACE4 PAGESIZE 4 K
MANAGED BY SYSTEM USING ('icmlsusrtspace4') BUFFERPOOL
ICMLSVOLATILEBP4"
db2 "UPDATE DB CFG FOR jcrdb USING DFT_QUERYOPT 2"
db2 "UPDATE DB CFG FOR jcrdb USING PCKCACHESZ 16384"
db2 "DISCONNECT jcrdb"
db2 "TERMINATE"
```

5. There are additional steps if you are going to setup for a Type 2 driver scenario. See the Type 2 configuration in the WebSphere Portal v8 Infocenter for more instructions

# 4. DB2 Drivers (Type 4)

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Installing_DB2_wp8

WebSphere Portal supports the type 4 and type 2 driver scenario. In this section we will be talking about how to setup the driver for a type 4 driver scenario. If you would like to setup a type 2 driver scenario, see the Type 2 configuration in the WebSphere Portal v8 Infocenter.

1. Create the “jdbc” directory on your WebSphere Portal system.

```
        <wp_profile>/PortalServer/jdbc/
```

```
UNIX            /opt/IBM/WebSphere/wp_profile/PortalServer/jdbc/
Windows         C:\IBM\WebSphere\wp_profile\PortalServer\jdbc\
```

2. Copy the ***db2jcc4.jar*** and ***db2jcc_license_cu.jar*** from the DB2 server’s java directory to the WebSphere Portal System’s jdbc directory

   Example FROM DB2:

UNIX

```
<DB2_INSTANCE>/sqllib/java/db2jcc4.jar
<DB2_INSTANCE>/sqllib/java/db2jcc_license_cu.jar

/usr/home/db2inst1/sqllib/java/db2jcc4.jar
/usr/home/db2inst1/sqllib/java/db2jcc_license_cu.jar
```

Windows

```
<DB2_HOME>/SQLLIB/java/db2jcc4.jar
<DB2_HOME>/SQLLIB/java/db2jcc_license_cu.jar

C:/IBM/SQLLIB/java/db2jcc4.jar
C:/IBM/SQLLIB/java/db2jcc_license_cu.jar
```

Example TO PORTAL:

UNIX

```
<PORTAL_JDBC>/db2jcc4.jar
<PORTAL_JDBC>/db2jcc_license_cu.jar

/opt/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc4.jar
/opt/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc_license_cu.jar
```

Windows

```
<PORTAL_JDBC>/db2jcc4.jar
<PORTAL_JDBC>/db2jcc_license_cu.jar

C:\IBM\WebSphere\wp_profile\PortalServer\jdbc\db2jcc4.jar
C:\IBM\WebSphere\wp_profile\PortalServer\jdbc\db2jcc_license_cu.jar
```

# 5. Configuration Files

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Modifying_DB2_database_properties_wp8

You must modify the appropriate property files before transferring your data from the default database to the DB2 database.

## *5.1 wkplc.properties*

1. Backup the wkplc.properties file

```
<WP_PROFILE>/ConfigEngine/properties/wkplc.properties
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/ConfigEngine/properties/wkplc.properties
```

Windows

```
C:\IBM\WebSphere\wp_profile\ConfigEngine\properties\wkplc.properties
```

2. Open the wkplc.properties file with an editor

3. Update the following variables with the correct information for your environment

```
WasUserid
WasPassword
```

Example:

```
WasUserid=uid=wpadmin,o=defaultWIMFileBasedRealm
WasPassword=passw0rd
```

4. Save the wkplc.properties

## 5.4 wkplc_dbtype.properties

1. Backup the wkplc_dbtype.properties file

```
<WP_PROFILE>/ConfigEngine/properties/wkplc_dbtype.properties
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/ConfigEngine/properties/
                                                wkplc_dbtype.properties
```

Windows

```
C:\IBM\WebSphere\wp_profile\ConfigEngine\properties\
                                                wkplc_dbtype.properties
```

2. Open the wkplc_dbtype.properties file with an editor

3. Update/verify the following variable is set. This is usually not changed.

```
db2.DbDriver=com.ibm.db2.jcc.DB2Driver
db2.JdbcProviderName=wpdbJDBC_db2
```

4. Set the following variable to the location of the db2 drivers on your local Portal System

Default:

```
db2.DbLibrary=<SQLLIB>/java/db2jcc4.jar;<SQLLIB>/java/db2jcc_license_cu
.jar
```

UNIX

```
db2.DbLibrary=/opt/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc4.j
ar:/opt/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc_license_cu.ja
r
```

Windows

```
db2.DbLibrary=C:/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc4.jar
;C:/IBM/WebSphere/wp_profile/PortalServer/jdbc/db2jcc_license_cu.jar
```

NOTE:

- Use system specific file separators, for Windows use a semicolon(;) and for UNIX use a colon(:).
- Regardless of the Operating system, use a forward slash(/) instead of the backslash for the directory structure.

5. Save wkplc_dbtype.properties

## 5.4 wkplc_dbdomain.properties

1. Backup the wkplc_dbdomain.properties file

```
<WP_PROFILE>/ConfigEngine/properties/wkplc_dbdomain.properties
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/ConfigEngine/properties/
                                              wkplc_dbdomain.properties
```

Windows

```
C:\IBM\WebSphere\wp_profile\ConfigEngine\properties\
                                              wkplc_dbdomain.properties
```

2. Open the wkplc_dbdomain.properties file with an editor

3. Update the “Personalization Feedback Database Properties” section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

   Default

```
feedback.DbType=derby
InitializeFeedbackDB=true
feedback.DbName=wpsdb
feedback.DbSchema=FEEDBACK
feedback.DataSourceName=wpdbDS
feedback.DbUrl=jdbc:derby:wpsdb;create=true
feedback.DbUser=db2admin
feedback.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:

```
* feedback.DataSourceName can not be one of the reserved values:
```

releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
feedback.DbType=db2
```

```
InitializeFeedbackDB=true
feedback.DbName=wpsdb
feedback.DbSchema=FEEDBACK
feedback.DataSourceName=fdbkDS
feedback.DbUrl= jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
feedback.DbUser=db2inst1
feedback.DbPassword=ibmroot1
```

Example of a 6 database scenario for DB2:

```
feedback.DbType=db2
InitializeFeedbackDB=true
feedback.DbName=fdbkdb
feedback.DbSchema=FEEDBACK
feedback.DataSourceName=fdbkDS
feedback.DbUrl= jdbc:db2://<HOSTNAME>:<PORT>/fdbkdb:returnAlias=0;
feedback.DbUser=db2inst1
feedback.DbPassword=ibmroot1
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com
- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

4. Update the "LikeMinds Database Properties" section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

Default:

```
likeminds.DbType=derby
likeminds.DbName=wpsdb
likeminds.DbSchema=likeminds
likeminds.DataSourceName=wpdbDS
likeminds.DbUrl=jdbc:derby:wpsdb;create=true
likeminds.DbUser=db2admin
likeminds.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:

```
* likeminds.DataSourceName can not be one of the reserved values:
```

releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
likeminds.DbType=db2
likeminds.DbName=wpsdb
likeminds.DbSchema=likeminds
likeminds.DataSourceName=lmDS
likeminds.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
likeminds.DbUser=db2inst1
likeminds.DbPassword=ibmroot1
```

Example of a 6 database scenario for DB2:

```
likeminds.DbType=db2
likeminds.DbName=lmdb
```

```
likeminds.DbSchema=likeminds
likeminds.DataSourceName=lmDS
likeminds.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/lmdb:returnAlias=0;
likeminds.DbUser=db2inst1
likeminds.DbPassword=ibmroot1
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com
- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

5. Update the "Release Database Properties" section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

   Default:

```
release.DbType=derby
release.DbName=wpsdb
release.DbSchema=release
release.DataSourceName=wpdbDS
release.DbUrl=jdbc:derby:wpsdb;create=true
release.DbUser=db2admin
release.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:

`* release.DataSourceName can not be one of the reserved values:`
releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
release.DbType=db2
release.DbName=wpsdb
release.DbSchema=release
release.DataSourceName=relDS
release.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
release.DbUser=db2inst1
release.DbPassword=passw0rd
```

Example of a 6 database scenario for DB2:

```
release.DbType=db2
release.DbName=reldb
release.DbSchema=release
release.DataSourceName=relDS
release.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/reldb:returnAlias=0;
release.DbUser=db2inst1
release.DbPassword=passw0rd
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com

- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

6. Update the "Community Database Properties" section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

Default:

```
community.DbType=derby
community.DbName=wpsdb
community.DbSchema=community
community.DataSourceName=wpdbDS
community.DbUrl=jdbc:derby:wpsdb;create=true
community.DbUser=db2admin
community.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:

* community.DataSourceName can not be one of the reserved values:
releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
community.DbType=db2
community.DbName=wpsdb
community.DbSchema=community
community.DataSourceName=commDS
community.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
community.DbUser=db2inst1
community.DbPassword=ibmroot1
```

Example of a 6 database scenario for DB2:

```
community.DbType=db2
community.DbName=commdb
community.DbSchema=community
community.DataSourceName=commDS
community.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/commdb:returnAlias=0;
community.DbUser=db2inst1
community.DbPassword=ibmroot1
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com
- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

7. Update the "Customization Database Properties" section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

Default:

```
customization.DbType=derby
customization.DbName=wpsdb
```

```
customization.DbSchema=CUSTOMIZATION
customization.DataSourceName=wpdbDS
customization.DbUrl=jdbc:derby:wpsdb;create=true
customization.DbUser=db2admin
customization.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:
* `customization.DataSourceName can not be one of the reserved values:`
releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
customization.DbType=db2
customization.DbName=wpsdb
customization.DbSchema=CUSTOMIZATION
customization.DataSourceName=custDS
customization.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
customization.DbUser=db2inst1
customization.DbPassword=ibmroot1
```

Example of a 6 database scenario for DB2:

```
customization.DbType=db2
customization.DbName=custdb
customization.DbSchema=CUSTOMIZATION
customization.DataSourceName=custDS
customization.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/custdb:returnAlias=0;
customization.DbUser=db2inst1
customization.DbPassword=ibmroot1
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com
- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

8. Update the "JCR Database Properties" section. The information should match your environment. Review the example below and the properties file to get an idea of what to set.

Default:

```
jcr.DbType=derby
jcr.DbName=wpsdb
jcr.DbSchema=JCR
jcr.DataSourceName=wpdbDS
jcr.DbUrl=jdbc:derby:wpsdb;create=true
jcr.DbUser=db2admin
jcr.DbPassword=ReplaceWithYourDbAdminPwd
```

NOTE:
* `jcr.DataSourceName can not be one of the reserved values:`
releaseDS, communityDS, customizationDS, jcrDS, lmdbDS, feedback

Example of a 1 database scenario for DB2:

```
jcr.DbType=db2
jcr.DbName=wpsdb
jcr.DbSchema=JCR
jcr.DataSourceName=jcrdbDS
jcr.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/wpsdb:returnAlias=0;
jcr.DbUser=db2inst1
jcr.DbPassword=ibmroot1
```

Example of a 6 database scenario for DB2:

```
jcr.DbType=db2
jcr.DbName=jcrdb
jcr.DbSchema=JCR
jcr.DataSourceName=jcrdbDS
jcr.DbUrl=jdbc:db2://<HOSTNAME>:<PORT>/jcrdb:returnAlias=0;
jcr.DbUser=db2inst1
jcr.DbPassword=ibmroot1
```

NOTE:

- Set the <*HOSTNAME*> to the db2 hostname. If your using the vmware image that comes with this document, the hostname is wps8.ibm.com
- Set the <*PORT*> to the db2 port. If your using the vmware image that comes with this document, the port is 50001

9. Save wkplc_dbdomain.properties

## 5.4 icm.properties (optional)

It is best practice to backup the icm.properties because during the database transfer, this file is modified with the new database information you are transferring to.

1. Open a command/xterm prompt on the WebSphere Portal System

2. Change directory to the location of the icm.properties

```
<wp_profile>/PortalServer/jcr/lib/com/ibm/icm/
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/PortalServer/jcr/lib/com/ibm/icm
```

Windows

```
C:\IBM\WebSphere\wp_profile\PortalServer/jcr/lib/com/ibm/icm
```

3. Backup the icm.properties file

# 6. Collection JCR Collection Support (optional)

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Collecting_JCR_collation_support_wp8

JCR collation is recommended when the language locales of your users do not natively collate correctly in the DB2 database and when language locale correct ordering is important.

1. Stop the WebSphere Portal Server

2. Copy the "wp.content.repository.install.jar" and registerCollationUDFTemplate.sql" from the WebSphere Portal Server to a temp location on the DB2 server

   From Portal Server:

```
<PORTAL_HOME>/jcr/wp.content.repository.install/lib/
                                        wp.content.repository.install.jar
<WP_PROFILE>/PortalServer/jcr/config/registerCollationUDFTemplate.sql
```

UNIX

```
/opt/IBM/WebSphere/PortalServer/jcr/wp.content.repository.install/lib/
                                        wp.content.repository.install.jar
/opt/IBM/WebSphere/wp_profile/PortalServer/jcr/config/
                                         registerCollationUDFTemplate.sql
```

Windows

```
C:\IBM\WebSphere\PortalServer\jcr\wp.content.repository.install\lib\
                                        wp.content.repository.install.jar
C:\IBM\WebSphere\wp_profile\PortalServer\jcr\config\
                                         registerCollationUDFTemplate.sql
```

   To DB2 Server:

   DB2_TEMP: _____

   Example for DB2_TEMP:

UNIX

```
/opt/tmp/DB2/wp.content.repository.install.jar
/opt/tmp/DB2/registerCollationUDFTemplate.sql
```

Windows

```
C:\temp\DB2\wp.content.repository.install.jar
C:\temp\DB2\registerCollationUDFTemplate.sql
```

3. Login to the DB2 server as the DB2 instance administrator (db2inst1)

4. Change directory to the function's directory

Example for UNIX

```
<DB2_INSTANCE>/sqllib/function/

/usr/home/db2inst1/sqllib/function/
```

Example for Windows

```
<DB2_HOME>\SQLLIB\FUNCTION\

C:\IBM\SQLLIB\FUNCTION\
```

5. Run the following command

```
<DB2_JDK>/bin/jar –xvf
    <DB2_TEMP>/wp.content.repository.install.jar icm/CollationUDF.class
```

UNIX

```
/home/db2inst1/sqllib/java/jdk32/bin/jar –xvf
  /opt/tmp/DB2/wp.content.repository.install.jar icm/CollationUDF.class
```

Windows

```
C:\IBM\SQLLIB\java\jdk\bin\jar –xvf
   C:\temp\DB2\wp.content.repository.install.jar icm/CollationUDF.class
```

NOTE:

- The command is on 1 line
- If you get an error running the command, verify "wp.content.repository.install.jar" has the correct permission

6. Change directory to the <*DB2_TEMP*>

UNIX

```
/opt/tmp/
```

Windows

```
C:\temp
```

7. Open registerCollationUDFTemplate.sql with an editor

8. Change all schema reference to the JCR schema

Default:

```
CREATE FUNCTION <SCHEMA>.SORTKEYJ
(
        VALUE   VARCHAR(32672)
        LOCALID VARCHAR(50)
)
…
GRANT EXECUTE ON FUNCTION <SCHEMA>.SORTKEYJ TO PUBLIC;
UPDATE DBM CFG USING JAVA_HEAP_SZ 4096;
```

Example:

```
CREATE FUNCTION jcr.SORTKEYJ
(
        VALUE   VARCHAR(32672)
        LOCALID VARCHAR(50)
)
…
GRANT EXECUTE ON FUNCTION jcr.SORTKEYJ TO PUBLIC;
UPDATE DBM CFG USING JAVA_HEAP_SZ 4096;
```

NOTE: The jcr schema can be found in the wkplc_dbdomain.properties at the variable "**jcr.DbSchema**"

```
        <WP_PROFILE>/ConfigEngine/properties/wkplc_dbdomain.properties
```

9. Run the following command to connect to the jcr database

```
        db2 connect to <JCRDB> user <JCRUSR> using <JCRPWD>
```

Example: 1 database scenario

```
        db2 connect to wpsdb user db2inst1 using ibmroot1
```

Example: 6 database scenario

```
        db2 connect to jcrdb user db2inst1 using ibmroot1
```

10. Run the update script

```
        db2 -tvf <DB2_TEMP>/registerCollationUDFTemplate.sql
```

Example:

```
UNIX            db2 -tvf /opt/tmp/DB2/registerCollationUDFTemplate.sql
Windows         db2 -tvf C:/temp/DB2/registerCollationUDFTemplate.sql
```

11. Run the following command to disconnect to the jcr database

```
        db2 disconnect <JCRDB>
```

Example: 1 database scenario

```
        db2 disconnect wpsdb
```

Example: 6 database scenario

```
        db2 disconnect jcrdb
```

12. Restart the db2 instance

```
        db2 db2stop
        db2 db2start
```

13. Connect to the db2 command line by typing "db2" on a command prompt

```
        # db2
```

Results

```
        db2 =>
```

14. Connect to the jcr database instance

```
        db2 => connect to <JCRDB> user <JCRUSR> using <JCRPWD>
```

Example: 1 database scenario

```
        db2 => connect to wpsdb user db2inst1 using ibmroot1
```

Example: 6 database scenario

```
        Db2 => db2 connect to jcrdb user db2inst1 using ibmroot1
```

15. Enter the following command register the UDF

```
        db2 => values <JCR_SCHEMA>.sortkeyj('abc','en')
```

Example:

```
        db2 => values jcr.sortkeyj('abc','en')
```

16. Open the icm.properties on the WebSphere Portal Server with a text editor

```
        <WP_PROFILE>/PortalServer/jcr/lib/com/ibm/icm/icm.properties
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/PortalServer/jcr/lib/com/ibm/icm/
                                                        icm.properties
```

Windows

```
C:\IBM\WebSphere\wp_profile\PortalServer\jcr\lib\com\ibm\icm\
                                                        icm.properties
```

17. Add the following section to the end of the file

```
# Enable/Disable collation support for all DB2 platforms
# Disabled by default
jcr.query.collation.db2.enabled = true

# Database specific collation mappings
# These mappings apply map a Java locale name into a collation name
# supported by the underlying database.
# Example mappings for DB2 platform

# English
jcr.query.collation.en = en

# Swedish
jcr.query.collation.sv = sv
```

```
jcr.query.collation.zh = zh
jcr.query.collation.de = de
jcr.query.collation.da = da
jcr.query.collation.hu = hu
jcr.query.collation.jp = jp
```

18. Save the icm.properties file

19. Start/Restart WebSphere Portal

```
        <WP_PROFILE>/bin/startServer.(bat/sh) WebSphere_Portal
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/bin/startServer.sh WebSphere_Portal
```

Windows

```
C:/IBM/WebSphere/wp_profile/bin/startServer.bat WebSphere_Portal
```

# 7. Validate Database

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Configuring_your_portal_to_use_DB2_wp8

The following steps will validate the connection between WebSphere Portal and the DB2 server

1. Open a command/xterm prompt on the WebSphere Portal system

2. Change directory to the ConfigEngine

```
        <WP_PROFILE>/ConfigEngine
```

```
UNIX            /opt/IBM/WebSphere/wp_profile/ConfigEngine
Windows         C:\IBM\WebSphere\wp_profile\ConfigEngine
```

3. Run the following command to validate the database information

```
        ConfigEngine.(sh/bat) validate-database
```

NOTE:

- Set “-DTransferDomainList” option if you want to validate specific domains

  Example:

```
ConfigEngine.(sh/bat) validate-database
        -DTransferDomainList=release,customization,community,jcr,feedback,likeminds
```

- add -DWasPassword to the end of the command if the password was not updated in the wkplc.properties

  Example:

```
ConfigEngine.(sh/bat) validate-database –DWasPassword=passw0rd
```

# 8. Database Transfer

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Configuring_your_portal_to_use_DB2_wp8

Follow these steps to transfer WebSphere Portal, and the Java Content Repository databases from derby to DB2. Do not execute the database transfer in a background process because this may cause the task to stall.

1. Stop all WebSphere Application Servers

```
stopServer.(bat/sh) server1
                        –username <WASADMIN>
                        –password <WASPWD>
stopServer.(bat/sh) WebSphere_Portal
                        –username <WASADM>
                        –password <WASPWD>
```

Example:

```
<WP_PROFILE>/bin/stopServer.(bat/sh) server1
                                     –username wpadmin –password passw0rd
<WP_PROFILE>/bin/stopServer.(bat/sh) WebSphere_Portal
                                     –username wpadmin –password passw0rd
```

2. Open a command/xterm prompt on the WebSphere Portal System

3. Change directory to the ConfigEngine directory

```
        <WP_PROFILE>/ConfigEngine
```

```
UNIX            /opt/IBM/WebSphere/wp_profile/ConfigEngine
Windows         C:/IBM/WebSphere/wp_profile/ConfigEngine
```

4. Run the following command to start the database transfer

```
        ConfigEngine.(sh/bat) database-transfer
```

NOTE:

- Set “-DTransferDomainList” option if you want to transfer specific domains

  Example:

```
ConfigEngine.(sh/bat) database-transfer
        -DTransferDomainList=release,customization,community,jcr,feedback,likeminds
```

- add -DWasPassword to the end of the command if the password was not updated in the wkplc.properties

  Example:

```
ConfigEngine.(sh/bat) database-transfer –DWasPassword=passw0rd
```

- If you have been storing data in Apache Derby for a long time, database transfer could fail with OutOfMemory exceptions. If database transfer fails, add the following property to the command in this step:

```
ConfigEngine.(sh/bat) database-transfer -DDbtJavaMaxMemory=1536M
                                                    -DWasPassword=passw0rd
```

## 9. Database Reorg (optional)

After transferring the database tables, perform a `reorg` check to improve performance. Perform this step for each database in the property file

1. Login to the DB2 server as the DB2 instance administrator (db2inst1)

2. Connect to the each database and run the reorgchk command

```
db2 connect to <DB_NAME> user <DB2USR> using <DB2PWD>
db2 reorgchk update statistics on table all > xyz.<SCHEMA>.out
```

   Example:

```
db2 connect to reldb user db2inst1 using ibmroot1
db2 reorgchk update statistics on table all > xyz.release.out
```

```
db2 connect to jcrdb user db2inst1 using ibmroot1
db2 reorgchk update statistics on table all > xyz.jcr.out
```

3. Look in the reorg column for entries marked with a star or asterisk * in the file xyz.<*SCHEMA*>.out

4. For each line with *, note the tablename and run the following command for each tablename:

```
db2 reorg table <TABLENAME>
```

5. After each table for the schema has been reorg'ed, terminate the connection

```
db2 disconnect <DBNAME>
db2 terminate
```

6. Run the db2rbind command for each database

```
db2rbind <DBNAME> -l db2rbind.<SCHEMA>.out -u <DB_USR> –p <DB_PWD>
```

Example:

```
db2rbind reldb -l db2rbind.release.out -u db2inst1 –p ibmroot1
```

```
db2rbind jcrdb -l db2rbind.jcr.out -u db2inst1 –p ibmroot1
```

NOTE: db2rbind.<*SCHEMA*>.out is only recreated when there is an error.

7. Start/Restart WebSphere Portal

```
<WP_PROFILE>/bin/startServer.(bat/sh) WebSphere_Portal
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/bin/startServer.sh WebSphere_Portal
```

Windows

```
C:\IBM\WebSphere\wp_profile\bin\startServer.bat WebSphere_Portal
```

# 10. Verify Database Transfer

## *10.1 WebSphere Portal*

1. Start the WebSphere Portal Server if it is not started

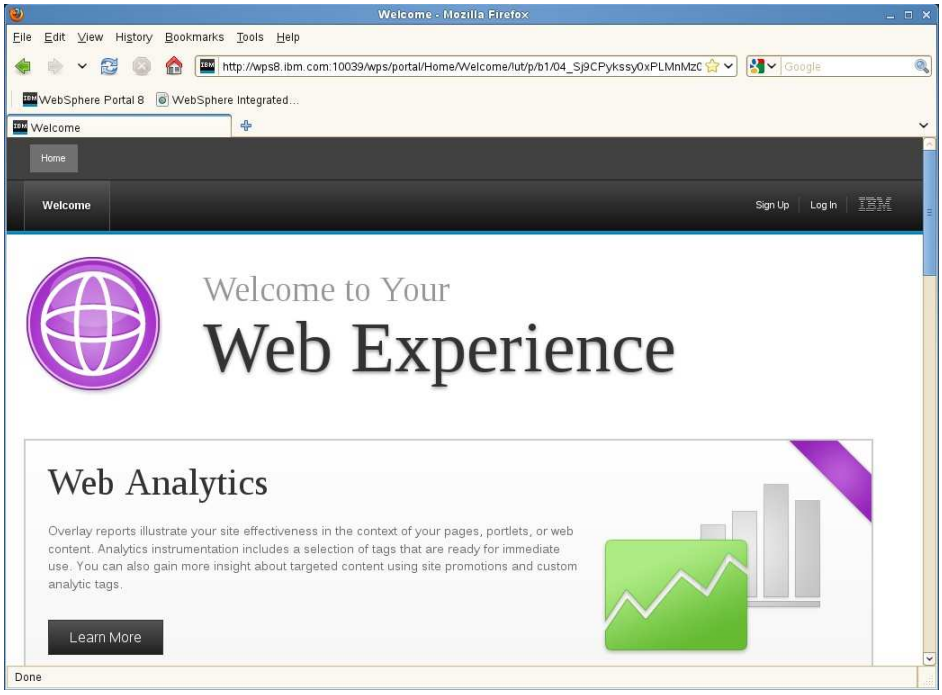
```
<WP_PROFILE>/bin/startServer.(bat/sh) WebSphere_Portal
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/bin/startServer.sh WebSphere_Portal
```

Windows

```
C:\IBM\WebSphere\wp_profile\bin\startServer.bat WebSphere_Portal
```




2. Open a browser and set the URL to the WebSphere Portal page

http://<***HOSTNAME***>:<***PORT***>/<***CONTEXT_ROOT***>/<***DEFAULT_HOME***>

Example:
http://wps8.ibm.com:10039/wps/portal

3. If the WebSphere Portal page does not appear, check the hostname, port, context root, and default home to verify it is correct

4. If the The URL is correct, verify the WebSphere Portal Server is started by checking the SystemOut.log for the following message

```
Server WebSphere_Portal open for e-business
```

5. If the WebSphere Portal page does appear, continue to the WebSphere Application Server verification

## *10.2 WebSphere Application Server*

1. Start the WebSphere Portal Server if it is not started

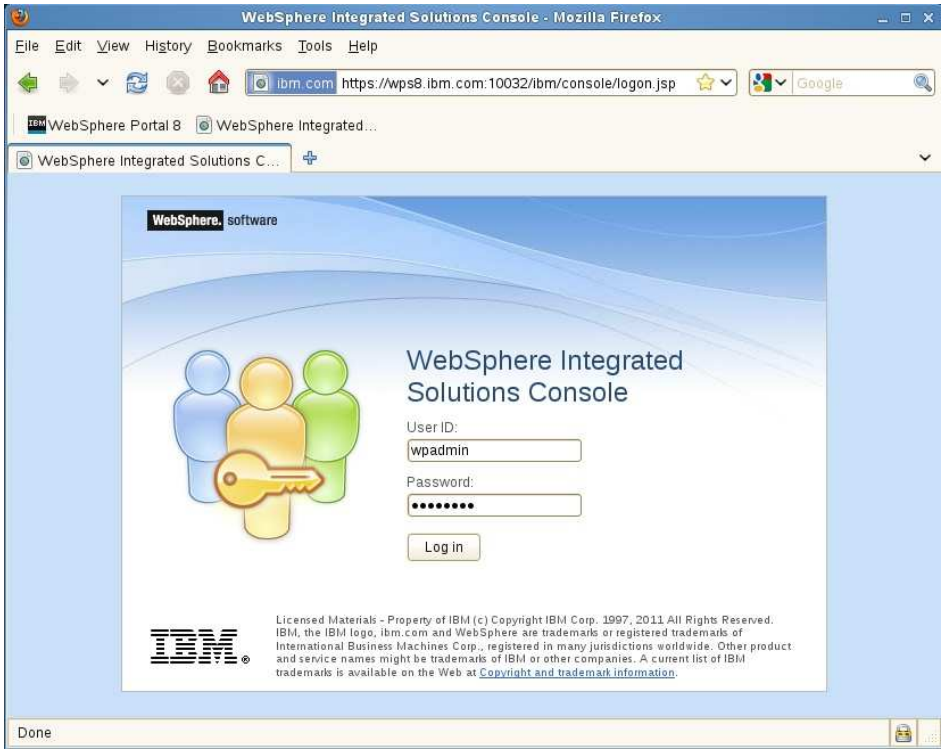
```
<WP_PROFILE>/bin/startServer.(bat/sh) WebSphere_Portal
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/bin/startServer.sh WebSphere_Portal
```

Windows

```
C:\IBM\WebSphere\wp_profile\bin\startServer.bat WebSphere_Portal
```



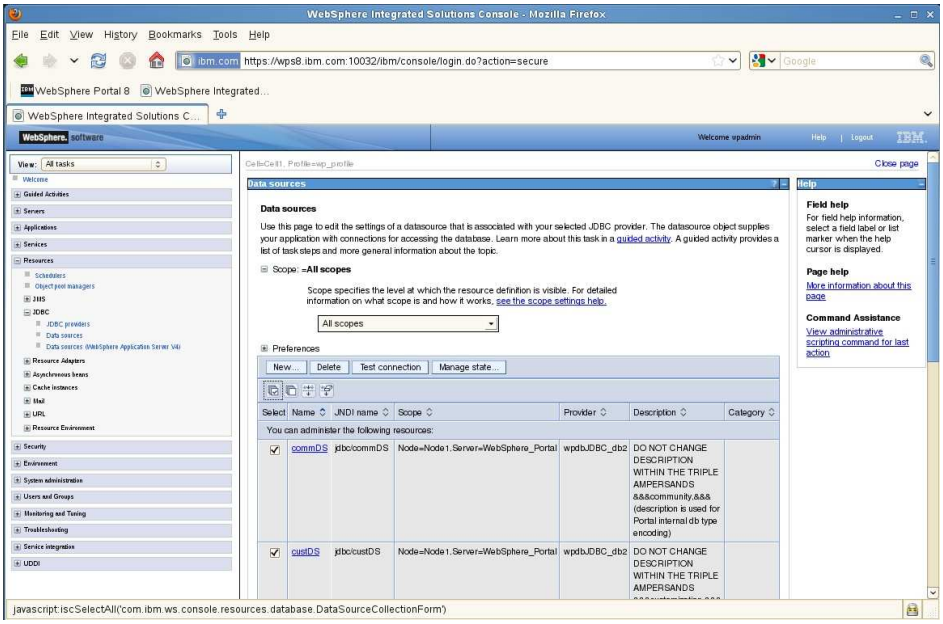

2. Open a browser and set the URL to the WebSphere Application Server Console

```
https://<HOSTNAME>:<PORT>/ibm/console
```

Example:
http://wps8.ibm.com:10042/ibm/console
https://wps8.ibm.com:10032/ibm/console

3. Login with the username and password you set during installation

Example:
wpadmin/passw0rd



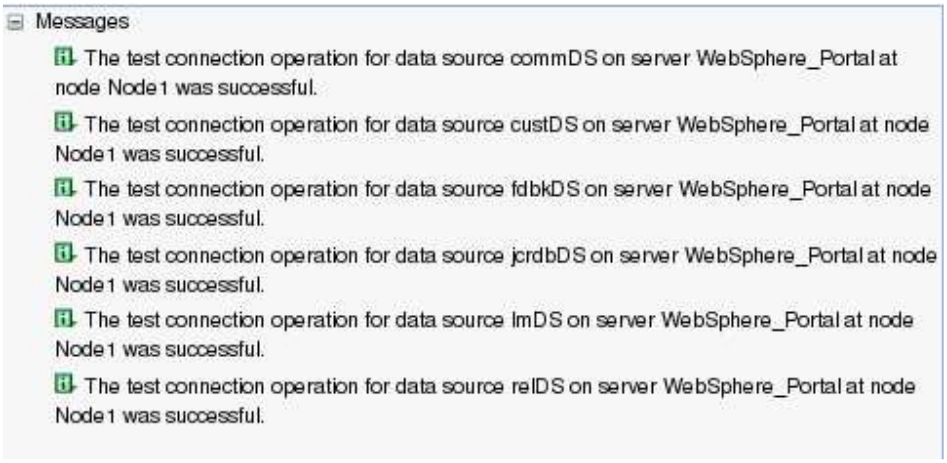

4. Navigate to Resources > JDBC > Data sources

5. Check the checkbox by all of the new data source that the database transfer has created

   Example:

```
commDS, custDS, fdbkDS, jcrdbDS, lmDS, relDS
```

6. Click Test connection




7. Verify each data source was successful

# 11. Configuring DB2 for Large File Handing in WCM

http://www-10.lotus.com/ldd/portalwiki.nsf/dx/Linux_clustered_server_Configuring_DB2_for_large_file_handling_in_WCM_wp8

If you are using Web Content Manager, you must update the database configuration to support large files.

1. Start the WebSphere Portal Server if it is not started

```
<WP_PROFILE>/bin/startServer.(bat/sh) WebSphere_Portal
```

UNIX

```
/opt/IBM/WebSphere/wp_profile/bin/startServer.sh WebSphere_Portal
```

Windows

```
C:\IBM\WebSphere\wp_profile\bin\startServer.bat WebSphere_Portal
```

2. Open a command/xterm prompt on the WebSphere Portal System

3. Change directory to the ConfigEngine directory

```
<WP_PROFILE>/ConfigEngine
```

```
UNIX            /opt/IBM/WebSphere/wp_profile/ConfigEngine
Windows         C:\IBM\WebSphere\wp_profile\ConfigEngine
```

4. Run the following command to update the fullyMaterializeLobData property

```
ConfigEngine.(sh/bat) datasource-enable-fully-materialize-lob-data
```

NOTE:

- add -DWasPassword to the end of the command if the password was not updated in the wkplc.properties

  Example:

```
ConfigEngine.(sh/bat) datasource-enable-fully-materialize-lob-data
                                                    –DWasPassword=passw0rd
```