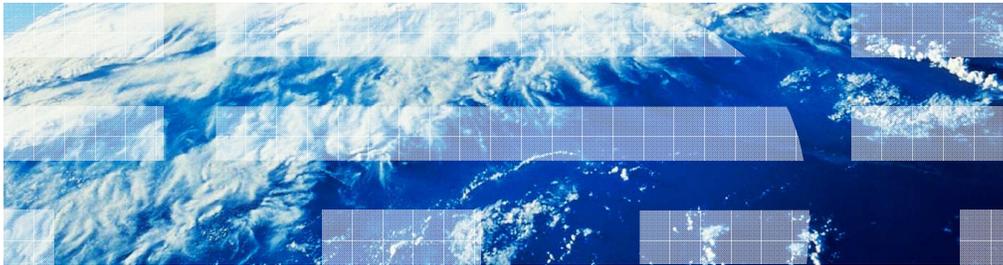


# WebSphere Process Server for z/OS V7.0 WebSphere Enterprise Service Bus for z/OS V7.0

## z/OS simple configuration



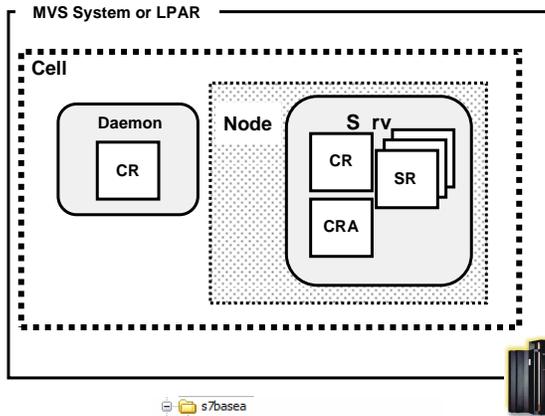
This presentation will look at the simple configuration of a stand-alone application server to enable WebSphere® Process Server for z/OS V7 or WebSphere Enterprise Service Bus for z/OS V7 function. You should look at the **z/OS installation and configuration overview** and the **z/OS DB2® configuration** presentations as prerequisites to this one.

## Goals

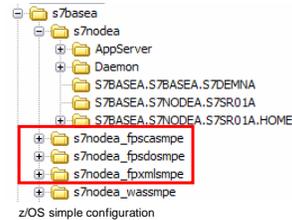
- Describe WebSphere Process Server for z/OS V7 and WebSphere Enterprise Service Bus for z/OS V7 configuration process using a simple configuration scenario

The goal of this presentation is to take you through the necessary steps to complete the configuration of WebSphere Process Server for z/OS V7 and WebSphere Enterprise Service Bus for z/OS V7 in a simple configuration scenario. This configuration involves a stand-alone WebSphere environment.

## Configure a stand-alone application server



- Start with a configured stand-alone application server that has been augmented with SCA, XML and SDO
- Configure it with WebSphere Process Server or WebSphere Enterprise Service Bus



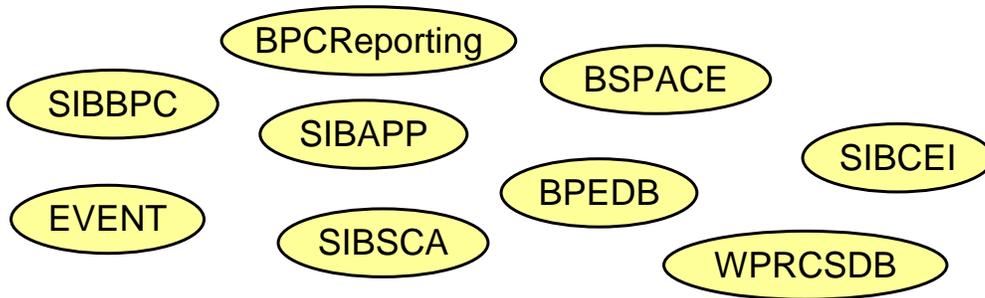
3

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This slide shows an already-configured stand-alone application server that has been augmented with the SCA, XML and SDO feature packs. This presentation begins with that server as the base and explains how to configure it to include the WebSphere Process Server or WebSphere Enterprise Service Bus function. Note that if you have the WebSphere Process Server for z/OS product, you can configure the server with either WebSphere Process Server, which includes the WebSphere Enterprise Service Bus function or WebSphere Enterprise Service Bus only. If you have the WebSphere Enterprise Service Bus for z/OS product, your only option is to configure the server with WebSphere Enterprise Service Bus function.

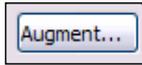
## Configure stand-alone – planning for DB2

- If using DB2:
  - Review the **z/OS DB2 configuration** presentation
  - Determine naming conventions
  - Talk to your DB2 administrator!

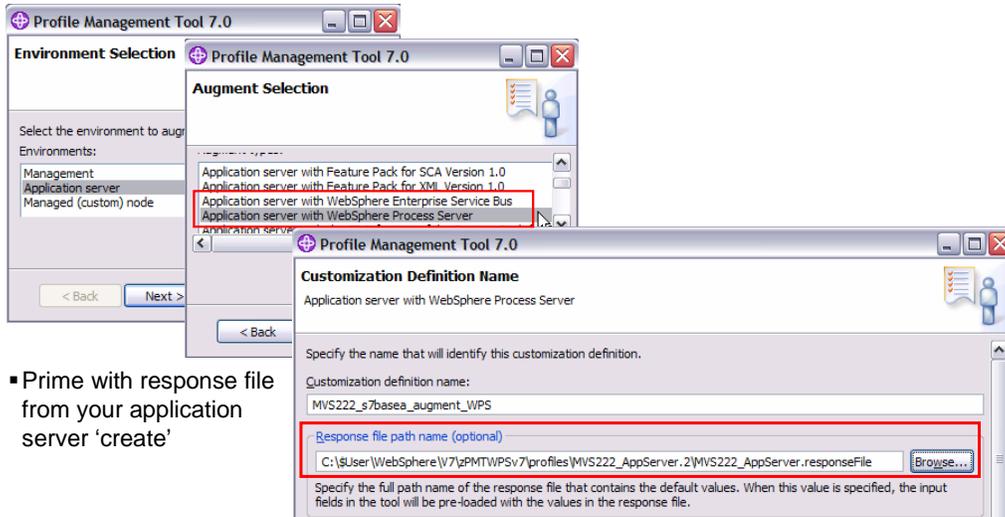


Before you get too far in the configuration process, you need to decide if you will use Derby or DB2 for the databases that are needed for WebSphere Process Server or WebSphere Enterprise Service Bus. If you are putting together a sandbox system to explore some of the features in the products, Derby is a good choice and no further planning is necessary. If you plan on putting this configuration into production or you will eventually federate the server into a Network Deployment cell, you must use DB2. If you are using DB2 in your configuration, you should review the **z/OS DB2 configuration** presentation and talk to your DB2 administrator about the DB2 artifacts that are needed. The slide shows the many databases that are needed for the various components that can be configured. The naming conventions for these databases should be discussed and decided on pretty early in the configuration process.

## 'Augment' application server node using WebSphere Customization Tools



- Need to run augment against application server node already created



- Prime with response file from your application server 'create'

5

z/OS simple configuration

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The first step in the WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS configuration process is to run the Augment in the WebSphere Customization Tools. You need to run this against the Application server node that you already created. You see in the 'Augment Selection' box that you can either augment with WebSphere Process Server or WebSphere Enterprise Service Bus. To prime the values you are prompted for during the augment, specify the response file that was created by the WebSphere Customization Tools during your application server create. It is found in the 'profiles' directory for the Customization Location that you used. You will see the rest of the WebSphere Customization Tools panels on the next few slides.

## WebSphere Customization Tools configuration panels (1 of 5)

### Profile Management Tool 7.0

#### Target Data Sets

Application server with WebSphere Process Server

Specify a high-level qualifier for the target z/OS data sets that will contain the generated jobs and instructions.

High-level qualifier (-HLQ):

HONKEN.WASV70.S7BASEA.WPSV7

Where to upload

The generated batch jobs and instructions will be placed in the following data sets:

**HLQ.CNTL** - a partitioned data set with fixed length records

**HLQ.DATA** - a partitioned data set with variable length records

**Note:** A multi-level high-level qualifier can be used to specify a sub-partitioned data set.

### Profile Management Tool 7.0

#### Base File Systems

Application server with WebSphere Process Server

WebSphere base info

##### Configuration file system

Mount point:

/etc/wasv7config/s7basea/s7nodea

Directory path name relative to mount point:

AppServer

##### WebSphere Application Server product file system

Product file system directory (or path name of intermediate symbolic link):

/etc/wasv7config/s7basea/s7nodea\_wassmpe

**Note:** Refer to the online information center for more information on intermediate symbolic links.

[View the online information center](#)

Change to symbolic link, if used

The next screen will ask you for a location to upload the jobs and response file that are created for you. You are able to specify the same data set that was used for the base application server if you prefer since no members are overwritten. If you specified a response file, the base file system information should be filled in correctly to use the product code your application server was originally created with. However, it is primed with an absolute path to the product code however. This should be changed to a symbolic link instead, if that is what you used for your application server configuration.

## WebSphere Customization Tools configuration panels (2 of 5)

**Profile Management Tool 7.0**  
WebSphere Process Server Product File System  
Application server with WebSphere Process Server

Product file system directory:  
/etc/WAS60C/usr/lpp/zWPS/V7R0

**Intermediate symbolic link**  
 Create intermediate symbolic link  
 Path name of intermediate symbolic link:  
 /etc/wasv7config/s7basea/s7nodea\_wpsmpe

**Note:** If an intermediate symbolic link is specified, symbolic links will be created from the c...  
 be created directly to the WebSphere Process Server file system. Refer to the informatio...  
 file system directory.  
[View the online information center](#)

**Node and Host Names**  
 Application server with WebSphere Process Server

Specify a node name, server name, host name, and cell name for this profile.

Node name:  
s7nodea

Server name:  
s7r01a

Host name:  
mvs222.rtp.raleigh.ibm.com

Cell name:  
s7basea

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The next piece of information you are asked for is information on where the WebSphere Process Server for z/OS product code is installed. Creating an intermediate symbolic link is highly recommended. If an intermediate symbolic link is specified, the BPZDOLNK job is generated to create it for you. Information for the cell/server/node and host name is primed from the response file you specified and need not be changed.

## WebSphere Customization Tools configuration panels (3 of 5)

If you have security enabled on the node that you are augmenting with WebSphere Process Server or WebSphere Enterprise Service Bus, you need to provide an administrative user ID and password. This will result in the `adminUserName` and `adminPassword` keywords being populated in the response file and the values are used to create some authentication aliases that are required. In order to configure business process choreography during augmentation, you should check the box to have a sample Business Process Choreographer configured. You will see the `configureBPC` equals true keyword added to your response file when checked. Note that if you are using DB2, you will need to manually add some parameters to your response file. Without the manual adds, you will end up with a Derby database configured for use with Business process choreography.

## WebSphere Customization Tools configuration panels (4 of 5)

The screenshot displays two overlapping configuration windows from the Profile Management Tool 7.0. The background window is titled "Business Space Configuration" and describes the Business Space component. It includes a checkbox for "Configure Business Space" which is checked, and a yellow box containing the property `configureBSpace=true`. Below it, there is a checkbox for "Configure Webform Server" which is unchecked, followed by input fields for the HTTP location and Webform translator. The foreground window is titled "Business Rules Manager Configuration" and includes a checkbox for "Configure the Business Rules Manager" which is checked, with a yellow box containing the property `configureBRM=true`. The IBM logo is in the top right corner of the slide. At the bottom, the page number "9", the text "z/OS simple configuration", and the copyright "© 2010 IBM Corporation" are visible.

The next couple of screens will allow you to specify that you want to configure the Business Space and Business Rules Manager components. The properties that are generated in the response file are shown on the slide.

## WebSphere Customization Tools configuration panels (5 of 5)

Profile Management Tool 7.0

**Database Design**  
Application server with WebSphere Process Server

You can use a design file that is generated from the database design tool (DDT) to configure WebSphere Process Server databases.

Use a database design file for database configuration

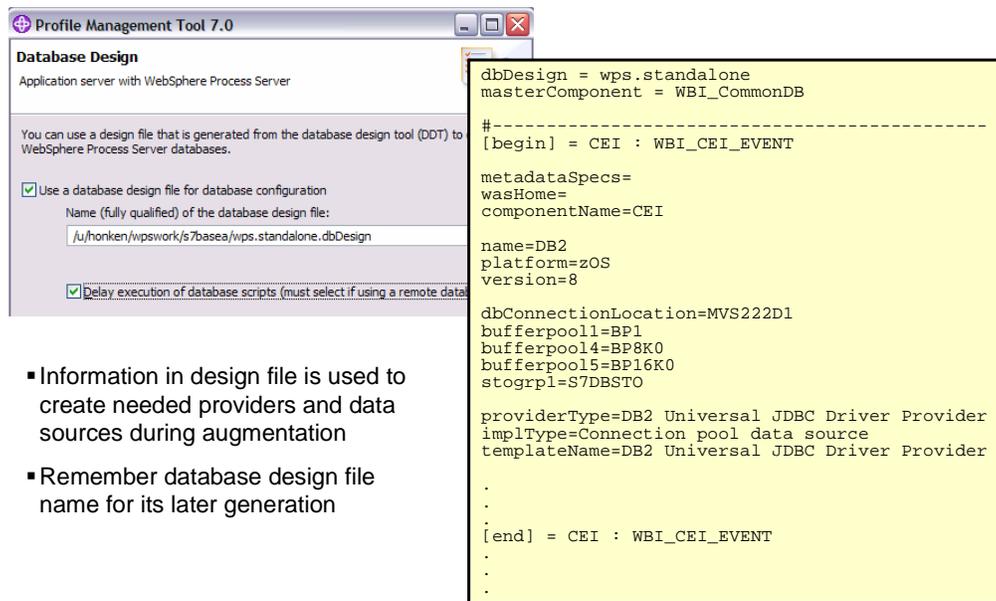
Name (fully qualified) of the database design file:

Delay execution of database scripts (must select if using a remote database).

- DbDesignGenerator.sh can be used to generate database design file
  - Use for DB2 configurations
  - Skip if using Derby

A database design tool (DDT) is available to generate a design file that is used to create the database tables required by WebSphere Process Server and WebSphere Enterprise Service Bus. The DDT generates the design file from a user specified properties file or user interactive input. The DbDesignGenerator shell script is a command that is new to Version 7 that is used to run the DDT. For more information on using this tool, see the presentation titled **z/OS DB2 configuration**. If you are augmenting your node to run WebSphere Process Server or WebSphere Enterprise Service Bus with DB2 you want to check the box to indicate that a design file should be used. You will then indicate the name of the design file which you will see on the next slide. If you are augmenting your node to run WebSphere Process Server or WebSphere Enterprise Service Bus with Derby, you should leave the check box unchecked and provide the information in the WebSphere Customization Tools configuration panels. You will also see an example of that.

## WebSphere Customization Tools configuration panels...database design panel for DB2



**Database Design**  
Application server with WebSphere Process Server

You can use a design file that is generated from the database design tool (DDT) to WebSphere Process Server databases.

Use a database design file for database configuration  
Name (fully qualified) of the database design file:

Delay execution of database scripts (must select if using a remote data

```
dbDesign = wps.standalone
masterComponent = WBI_CommonDB

#-----
[begin] = CEI : WBI_CEI_EVENT

metadataSpecs=
wasHome=
componentName=CEI

name=DB2
platform=zOS
version=8

dbConnectionLocation=MVS222D1
bufferpool1=BP1
bufferpool4=BP8K0
bufferpool5=BP16K0
stogrpl=S7DBSTO

providerType=DB2 Universal JDBC Driver Provider
implType=Connection pool data source
templateName=DB2 Universal JDBC Driver Provider

.
.
.
[end] = CEI : WBI_CEI_EVENT
.
.
.
```

- Information in design file is used to create needed providers and data sources during augmentation
- Remember database design file name for its later generation

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If you are using DB2 as your database, be sure to specify a database design file which is shown here. You have not created the database design file yet, so remember this name for later and name the output of the DbDesignGenerator what you have input here. The 'Delay execution of database scripts' check box should also be checked. Most likely, your DB2 administrator will have to run the scripts for you. A portion of the design file specified is shown in the box on the slide. The information in the database design file is used during augmentation to create the needed providers and data sources. The design file is also used to generate the DDL or SQL needed to configure the needed database objects. Using the design file then provides consistency between the resources defined to WebSphere Process Server or WebSphere Enterprise Service Bus and what is defined in DB2. This reduces configuration errors and is highly recommended during augmentation.

## WebSphere Customization Tools configuration panels...Derby database

The screenshot shows two configuration panels from the Profile Management Tool 7.0. The first panel, 'Database Configuration', is for an application server with WebSphere Process Server. It prompts the user to choose a database product (Derby Embedded is selected) and enter the common database name (WPRCSDB) and the common event infrastructure database name (CEIDB, highlighted with a red box). A yellow callout box notes that if 'Use a database design file' is unchecked, the user is prompted for this information. The second panel, 'Job Statement Definition', prompts for a job statement for generated jobs. A yellow callout box notes that this is the final step for job statement definition. The job statement text is as follows:

```
//jobname JOB [(ACCTNO,ROOM), 'USERID', CLASS=A, REGION=0M,
// MSGCLASS=A, NOTIFY=&SYSUID
// *
// *
```

At the bottom of the screenshot, the page number 12, the text 'z/OS simple configuration', and the copyright notice '© 2010 IBM Corporation' are visible.

If you are using Derby in your configuration, which is a good starting point, you will have left the 'Use a database design file' box unchecked. You will then be prompted on the next screen for information on the databases. The only information needed here is a name for the Common Event Infrastructure database. That is all the information needed for augmentation. The last screen will ask you for job card information for the generated jobs.

## WebSphere Customization Tools configuration panels

MVS222_AugmentWESB_XML	Augment	WebSphere Appli...	Application server with Feat...	Process...
MVS222_AugmentWPS	Augment	WebSphere Proces...	Application server with Webu...	
MVS222_AugmentXML	Augment	WebSphere Appli...	Application server with Feat...	
MVS222_SC&Augment	Augment	WebSphere Proces...	Application server with Webu...	

Upload to z/OS

```

Menu  Functions  Confirm  Utilities  Help
BROWSE                               WSUSER.WASV70.S7BASEA.WPSV7.CNTL
Command ==>
      Name      Prompt      Size      Created
      BPZDOLNK
      **End**
  
```

Job to create symbolic link

```

Menu  Functions  Confirm  Utilities  Help
BROWSE                               WSUSER.WASV70.S7BASEA.WPSV7.DATA
Command ==>
      Name      Prompt      Size      Created
      BBZSMLNK
      BPZRSPA
      PMTBPZA
      **End**
  
```

Response file for augmentation

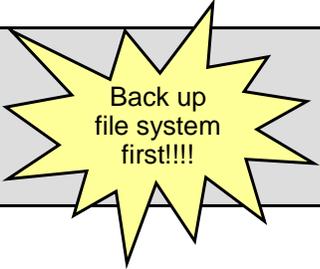
- Eventually will create JCL for augmentation itself (tentatively scheduled for fix pack 2)

Once all the information has been provided, you can 'Process' the definition to upload jobs and data to the z/OS host. Tentatively starting in fix pack 2, jobs will be created to run the augmentation itself. Until then though, you will see a job to create a symbolic link, if used, and a response file that has been populated with the information you provided in the WebSphere Customization Tools.

## Configure stand-alone – ‘install’

- Submit the BPZDOLNK job, if using symbolic links
- Run the zWPSInstall.sh or zWESBInstall.sh script

```
<wps_smpe_root>/zos.config/bin/zWPSInstall.sh  
-smproot <wps_smpe_root>  
-runtime <app_server_root>  
-install
```



Back up  
file system  
first!!!!

- Will perform **-prereqonly** for you
- Run as *WSADMIN*
- ‘install’ creates links to product code, adds plug-ins to the administrative console for new functions

Now that you have processed your profile, you can submit the BPZDOLNK job to create a symbolic link to the WebSphere Process Server for z/OS or WebSphere Enterprise Service Bus for z/OS product code. This symbolic link should be specified in the next step as the smproot parameter when you run zWPSInstall or zWESBInstall. The zWPSInstall or zWESBInstall script will create symlinks in your WebSphere Application Server configuration to the WebSphere Process Server or WebSphere Enterprise Service Bus product code. This is really a task for the system administrator, since it is somewhat of an extension of the SMP/E install. You should use a WebSphere Administrator user ID to run the script. The zWPSInstall script will also add plug-ins to the administrative console for new functions needed for the WebSphere Process Server or WebSphere Enterprise Service Bus. Be sure to back up your file system before running the script.

## zWPSInstall or zWESBInstall

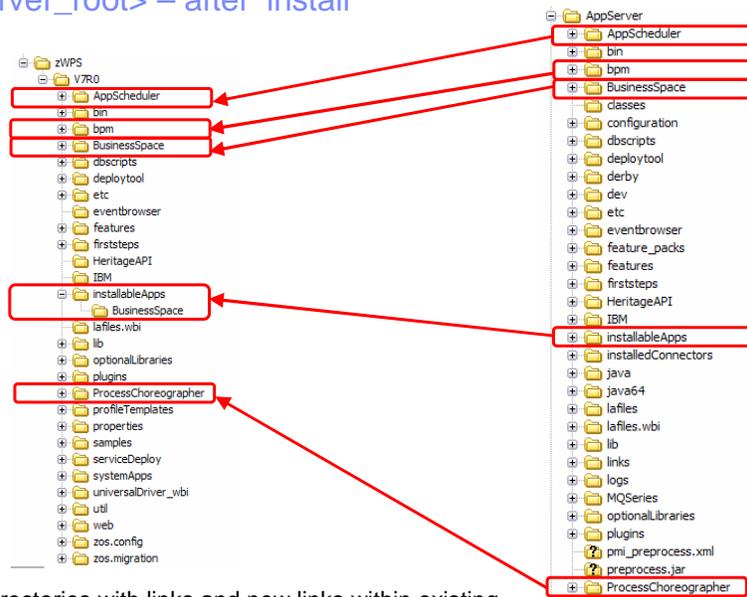
- zWPSInstall.sh or zWESBInstall.sh script

```
//INSTV70 JOB (ACCTNO,ROOM), 'S7ADMIN',CLASS=A,REGION=0M,
// NOTIFY=&SYSUID,TIME=NOLIMIT
// *
//*****
// * WebSphere Process Server -installonly *
//*****
//INSTO EXEC PGM=IKJEFT01,REGION=0M
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
BPXBATCH SH +
export WPS_DEBUG=true; +
/etc/WAS60C/usr/lpp/zWPS/V7R0/zos.config+
/b
-
-runtime /etc/wasv7config/s7basea/s7nodea/AppServer +
-install +
1> /tmp/installonly_84821.out +
2> /tmp/installonly_84821.err
```

...or run from  
USS environment

This slide shows the zWPSInstall script being run from JCL. You can also run it from the USS environment. Note that the symbolic link created by BPZDOLNK is specified for the smprot parameter.

<app\_server\_root> – after 'install'



- New directories with links and new links within existing directories

After running the zWPSInstall script, the WebSphere Application Server configuration is updated with new directories with links to the WebSphere Process Server or WebSphere Enterprise Service Bus product files, and with new links within existing directories.

## Configure stand-alone – ‘augment’

- If using DB2:
  - Run the DbDesignGenerator shell script to create the database design file
    - Found in: <WAS\_HOME>/util/dbUtils
  - Add bpc\* parameters to response file in ‘HLQ.DATA(BPZRSPA)’ if Business Process Choreographer sample is being configured

```
bpcDbName=S7CELLDB
bpcDbStorageGroup=S7DBSTO
bpcDbSqlId=S7CELL
bpcDbProduct=DB2UDBOS390_V8_1
bpcDbConnectionLocation=MVS222D1
bpcDbJDBCClasspath=/usr/lpp/db2810/jcc/classes
bpcDbUser=DB2D
bpcDbPassword=FR1DAY
```

Response file can be found in:  
-prefix-/usr/lpp/zWPS/V7R0/zos.config/standAloneProfileDB2.rsp

If you are using DB2, now that you have run the ‘install’, you can create the database design file. The ‘install’ has created the needed links for the shell script in the <WAS\_HOME> directory. The database design file is needed to run the augment job. For more information on running the DbDesignGenerator tool, see the [z/OS DB2 configuration](#) presentation.

The response file created using the WebSphere Customization Tools is used as input to the augment job. If you are using DB2 and configuring the business process choreographer, however, you need to manually update the response file that was created in the BPZRSPA member with some additional parameters. The additional parameters all start with ‘bpc’ and are shown on the slide. They can also be copied from the sample standAloneProfilesDB2 response file that is shipped with the product and found in the zos.config directory.

## Configure stand-alone – ‘augment’

- Run the zWPSConfig or zWESBConfig shell script

```
cp "//HLQ.DATA(BPZRSPA)" /u/s7admin/standAloneProfile.rsp
<app_server_root>/bin/zWPSConfig.sh
    -response /u/s7admin/standAloneProfile.rsp
    -augment
```

- ‘augment’ will create resources and install applications needed to run the WebSphere Process Server or WebSphere Enterprise Service Bus
- Needs to be run from the <app\_server\_root>/bin directory as ‘WSADMIN’

Before actually running the augment, you will first need to copy the response file from the DATA PDS BPZRSPA member into the HFS as seen on the slide. You can use TSO OPUT to copy the response file to the HFS instead. Use the zWPSConfig or zWESBConfig script to augment your node with the WebSphere Process Server or WebSphere Enterprise Service Bus function. This is found in the bin directory of your app\_server\_root. You should again run the script from a WebSphere administrator user ID. The only parameter you need to specify other than ‘augment’, which takes no value, is the ‘response’ parameter to indicate where the response file can be found.

## zWPSConfig or zWESBConfig

- zWPSConfig or zWESBConfig shell script

```
//AUGMENT JOB (ACCTNO,ROOM),'S7ADMIN',CLASS=A,REGION=0M,
// NOTIFY=&SYSUID,TIME=NOLIMIT
//*****
//* Copy response file to HFS
//*****
//COPY EXEC PGM=IKJEFT01,REGION=0M
//SYSTSPRT DD SYSOUT=*

oput 'S7ADMIN.WASV70.S7BASEA.WPSV7.DATA(BPZRSPA)' +
      '/ / 7 d i / k / 7b / dAl P fil '
/
//AUGMT EXEC PGM=IKJEFT01,REGION=0M
//SYSTSPRT DD SYSOUT=*
//SYSTSIN DD *
BPXBATCH SH +
cd /etc/wasv7config/s7basea/s7nodea/AppServer+
/bin: +
./zWPSConfig.sh +
-response /u/s7admin/wpswork/s7basea/standAloneProfile.rsp +
-augment +
1> /tmp/zWPSConfig_40135.out +
2> /tmp/zWPSConfig_40135.err
```

Here is an example of running the augment function using JCL. This also shows using TSO OPUT to copy the response file to the HFS.

## Configure stand-alone – post configuration tasks

- Stand-alone application server cell (with Derby)
  - No post-configuration tasks!!
  - You are done!
- Stand-alone application server cell (with DB2)
  - Run tailored SQL
    - Run createDB.sh to either run the SQL –OR– generate tailored CEI and concatenated SQL
  - Fix messaging engine schema names



Once your augment job has run successfully, you have to look at what post configuration tasks are needed. If you configured using Derby, you are done. Everything, including your databases, has been automatically configured and you are ready to start using the WebSphere Process Server or WebSphere Enterprise Service Bus function. If you configured using DB2, you most likely have some SQL to run in order to configure your database or databases. To do this, you can use createDB.sh. If you do not plan on using createDB.sh to actually run the SQL, you can still use it to generate tailored SQL for CEI and to provide you with concatenated SQL. You will notice that tailored SQL for CEI does not get generated when you run DbDesignGenerator. DbDesignGenerator also creates multiple SQL files for each component. createDB will concatenate the SQL into one file for each component and create tailored SQL for CEI. For more information, see the presentation titled **z/OS DB2 configuration**. The last thing you need to do is fix the messaging engine schema names to match what you created in DB2.

## Configure stand-alone – fix messaging engines

- Change schema name on each messaging engine
  - Application servers > <serverName> > Messaging engines > <MEName>> Message store

The screenshot shows the configuration page for a messaging engine's data store. The breadcrumb path is: Application servers > s7sr01a > Messaging engines > s7nodea.s7sr01a-BPC.s7basea.Bus > Data store. The page title is 'Data store' and the description is 'The persistent store for messages and other state managed by the messaging engine.' The 'Configuration' tab is active. Under 'General Properties', the 'Schema name' field is highlighted with a red box and contains the value 'S7S1B'. Other fields include 'UUID' (B3380A5B08F6287A), 'Data source JNDI name' (jdbc/com.ibm.ws.sib/s7nodea.s7sr01a-BPC.s7basea.Bus), and 'Authentication alias' (BPCME\_00\_Auth\_Alias). A 'Create tables' checkbox is at the bottom left. On the right, under 'Related Items', there is a link for 'JAAS - J2C authentication data'.

There are some default schema names that are used to create the messaging engines during augment. Since they most likely do not match the naming conventions you chose, you need to go into each messaging engine definition and change the schema name to match what you configured your database with. It is important to have the schema name here match. It is used to qualify your table names. The path to get here is shown on the slide.

## Summary

- Simple configuration of WebSphere Process Server for z/OS V7.0 and WebSphere Enterprise Service Bus for z/OS V7.0
  - Fully automated with Derby
  - Can be highly automated with DB2

The simple configuration of WebSphere Process Server for z/OS V7.0 and WebSphere Enterprise Service Bus for z/OS V7.0 is done on a stand-alone application server. If using Derby, the configuration is fully automated. If using DB2, it can be highly automated. There are some manual tasks that are necessary in the DB2 case. This presentation looked in detail at the steps necessary to configure a simple configuration on z/OS.



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