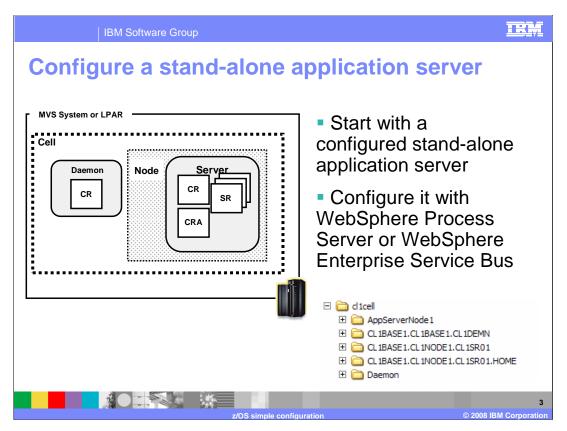


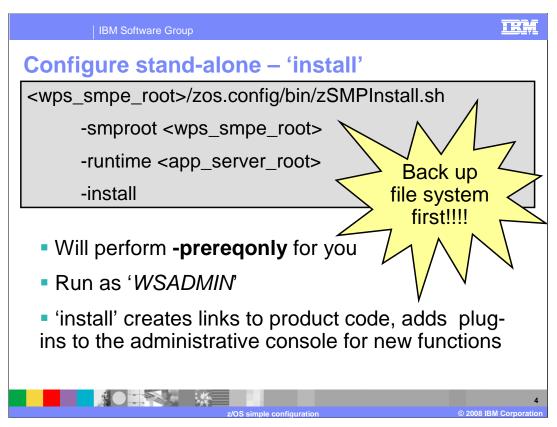
This presentation will look at the simple configuration of a stand-alone application server to enable WebSphere® Process Server for z/OS V6.1 or WebSphere Enterprise Service Bus for z/OS V6.1 function. You should look at the <u>z/OS installation and configuration</u> overview and the <u>z/OS DB2® configuration</u> presentation as prerequisites to this one.



The goal of this presentation is to take you through the necessary steps to complete the configuration of WebSphere Process Server for z/OS V6.1 and WebSphere Enterprise Service Bus for z/OS V6.1 in a simple configuration scenario. This configuration involves a stand-alone WebSphere environment.



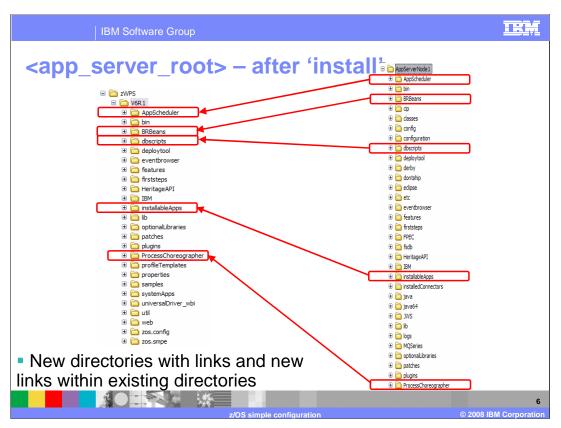
This slide shows an already-configured stand-alone application server. This presentation begins with that server as the base and explains how to configure it to include the WebSphere Process Server or WebSphere Enterprise Service Bus function. Note that if you have the WebSphere Process Server for z/OS V6.1 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 V6.1 product, your only option is to configure the server with WebSphere Enterprise Service Bus function.



The first thing you need to do for the configuration is run the zSMPInstall.sh script in order to 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 zSMPInstall.sh script will also add plug-ins to the administrative console for new functions needed for the WebSphere Process Server or WebSphere Enterprise Service Bus. You need to specify the SMP/E root where you installed the WebSphere Process Server or WebSphere Enterprise Service Bus product code and the app_server_root for the WebSphere Application Server profile you are updating. The script will perform the prerequisite only function for you automatically to ensure that any prerequisites are met. Note that before running the script, you should backup your WebSphere Application Server configuration HFS first. The zSMPInstall script can be run from a telnet session or OMVS. You may find you need to increase some OMVS parameters such as MAXFILEPROC, MAXPROCUSER or MAXCPUTIME when running the shell script this way. For example, you may need to specify: SETOMVS MAXCPUTIME=86400.



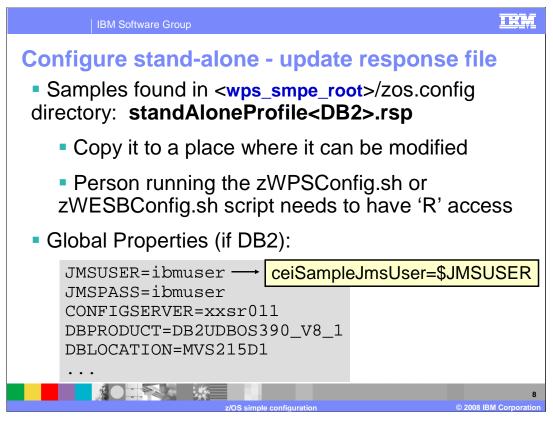
The zSMPInstall.sh script can also be run from JCL. This slide shows an example of running the shell script from JCL.



After running the zSMPInstall.sh 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.

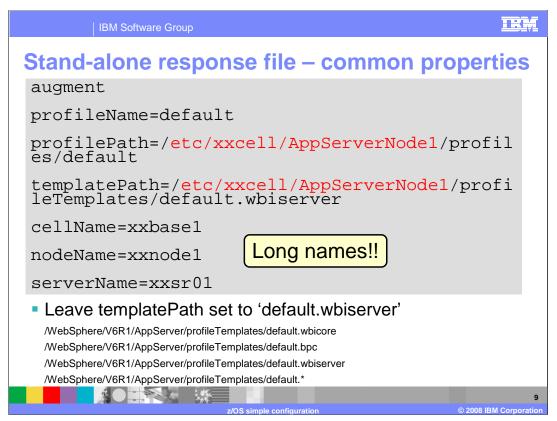


Before going any further in the configuration of WebSphere Process Server or WebSphere Enterprise Service Bus, stop to do some planning. If you are using DB2 in your configuration, you'll need to know the names of the databases that will be used and schema names. Review the **z/OS DB2 configuration presentation** and talk to your DB2 administrator about the DB2 artifacts that are needed. If you decide to use the createDB sample script to create SQL for the databases, you can run that at this point and get your DB2 database configuration underway early.

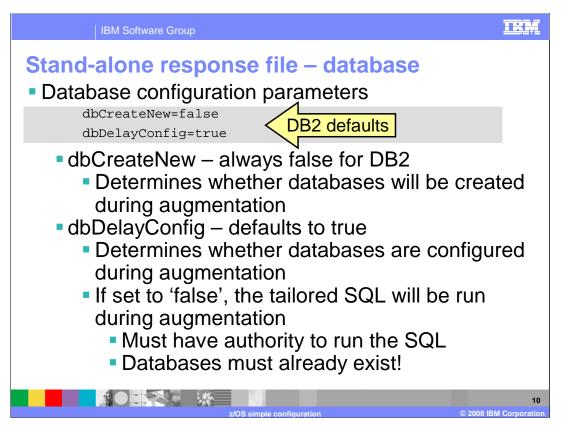


To prepare for running the configuration script, you will need to update one of the response file samples that are shipped with the product. The samples can be found in the zos.config directory in the SMP/E-installed HFS directory path. Since it is a read-only file system, you will need to copy it to a place where it can be modified. Make sure that the userid that you use to run the zWPSConfig script or zWESBConfig script has at least read-access to the file. There are two samples shipped for the Stand-alone configuration: standAloneProfile.rsp and standAloneProfileDB2.rsp. Select the correct one based on whether you plan to use DB2 or Derby for your databases.

The first set of parameters you need to set in the response file are ones that will be used later in variable substitutions as shown in the yellow box. This allows you to specify parameters once, making it easier to override on the command line and cutting down on typing errors. The user IDs and passwords that you are asked to supply will be used to create authentication aliases to protect various resources that are created for you. You are able to change their values in the administrative console at a later time if needed. Note that the DBLOCATION needs to be the location name, not the subsystem name.

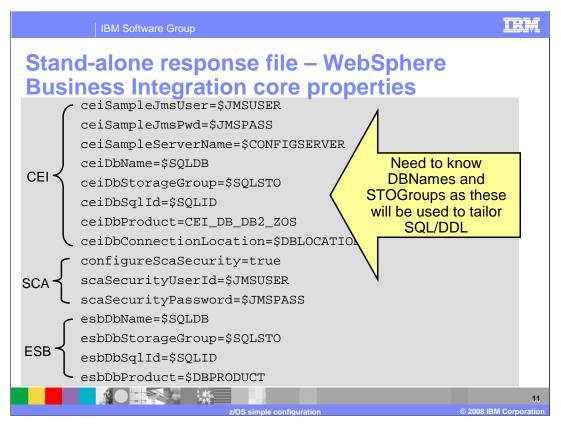


The next set of values you are asked to specify in both cases are some common properties such as cellName, nodeName and serverName. It is important to note that if you set up your cell such that you have different names for the long names and short names, you must specify the long name. On z/OS, the profileName will always be 'default' so that should not be changed. You need to change the path parameters to include your configuration HFS path, being careful to leave the non-highlighted part alone. On the templatePath parameter, this value determines which actions are performed during the profile augmentation portion of the install. It should be left 'as-is' with wbiserver specified unless you have a good reason to change it. One reason might be that the job is timing out so it does not finish. For that reason, you might specify one value at a time and run the job multiple times. In that case, you need to start with the wbicore template and move down the list shown. Each value specified will perform the augment actions for that template plus the augment actions for any pre-requisite templates. This means that the wbiserver value will perform the augment actions for everything. The asterisk value will also perform the augment actions for everything but the output log will get overwritten for each of the values and you are left with only the log from the last template augmentation. By leaving the default as wbiserver, the augmentation actions are performed for all three templates and the output is put in one log. The values shown here are valid for the WebSphere Process Server product. The values for the WebSphere Enterprise Service Bus product are different and can be found in the response file.

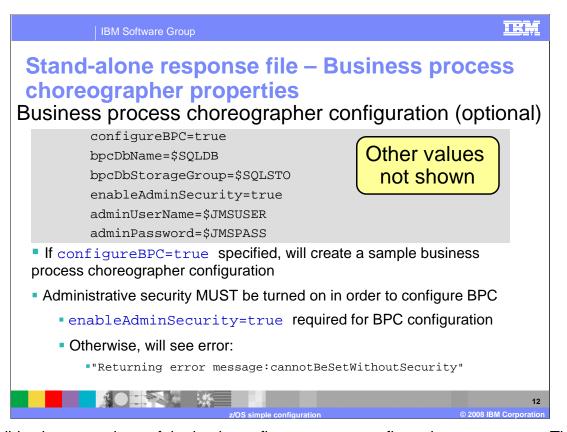


As you saw earlier, many databases and tables are required to run WebSphere Process Server or WebSphere Enterprise Service Bus. The two parameters shown here, dbCreateNew and dbDelayConfig, determine what configuration is done during the augmentation step. The dbCreateNew parameter determines whether the specified databases are created during augmentation. This is set to 'true', by default, when configuring with Derby but MUST be set to 'false' when configuring with DB2. If you are configuring your system to use DB2, the databases MUST be created manually. The augmentation will never create them for you. If you are configuring your system to use Derby, the default of 'true' should not be changed.

The second parameter, dbDelayConfig, determines whether the tailored SQL is run during augmentation or whether it will be run manually after augmentation. Again, the default value for Derby is 'false' but the default value for DB2 is 'true'. Setting this to 'false' allows the configuration to be fully automated. If you are configuring your system to use Derby, you again should not change the default value of 'false' as you want to let the augmentation configure the databases for you automatically. If you are configuring your system to use DB2, you have the option of running the SQL during augmentation if you set this parameter to 'false'. Normally, this parameter is set to 'true' and the SQL will need to be run manually. Remember, you MUST have the required database (or databases) created manually when using DB2. If the databases are already created at the time of augmentation and you have the authority to create tables and indexes for them, then setting the dbDelayConfig value to 'false' will automatically run the SQL needed to configure them.

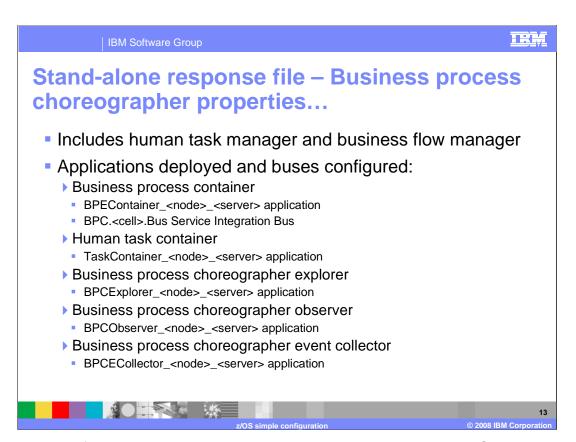


The next set of parameters deal with the configuration of the WebSphere Business Integration Core functions. At this point, you need to know the names you plan to use for the DB2 databases, schema names and storage groups as seen here in a portion of the DB2 version of the response file. These names are used to tailor SQL to be run either during the augmentation or manually after the augmentation. You can use the default database names for the cloudscape version of the response file. Not all CEI parameters are shown here but you should get a good idea of the types of things being asked. For the service component architecture function it will create an authentication alias to protect the system integration buses that are created if you set the configureSCASecurity parameter to 'true'. Finally, you are asked some information for the enterprise service bus setup having to do with the database that is required. Again, not all ESB parameters are shown. The names specified here must match what you decided on for your naming conventions.

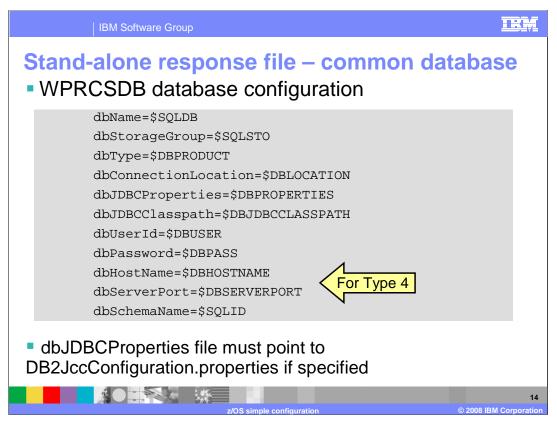


This slide shows a subset of the business flow manager configuration parameters. The business flow manager is not part of the WebSphere Enterprise Service Bus configuration. It is available only when configuring WebSphere Process Server. The business flow manager includes both the business process choreographer and the human task manager. In order for these functions to be configured at this time, you must specify configureBPC=true as shown here on the slide. If configureBPC=false is specified, a sample configuration is not created at this time. It is possible to create a sample configuration later using .jacl scripts or the installation wizards in the administrative console. You can find a sample of running the .jacl script or using the administrative console install wizard in the NetworkDeploymentConfiguration presentation.

Here, 'optional' refers to whether you actually configure the Business Flow Manager at this time. The components needed will still be installed when you run the configuration but you will have to configure them at a later time. It's a good idea to configure the sample at this time, however. Later on, when you get an idea of how you will be using it, you can use the jacl scripts to update the configuration more to your liking.



The sample configuration that is created includes the Business Process Container, the Human Task Container, the Business Process Choreographer Explorer, the Business Process Choreographer Observer and the Business Process Choreographer Event Collector. This includes some applications and a Service Integration Bus as shown on the slide.



This slide shows some values you must specify for the common database configuration in order to create JDBC resources, authentication aliases and the SQL needed to configure the tables that are used. This database is needed for both the WebSphere Process Server and the WebSphere Enterprise Service Bus. Shown here are values from the DB2 response file; the Derby version has just a subset of these parameters. Again, it's important that the database name and storage group parameters match what you specified when you created the database. The ServerPort parameter is used for a Type 4 definition only. If you need to specify a JDBC properties file (dbJDBCProperties), it must be called DB2JccConfiguration.properties.

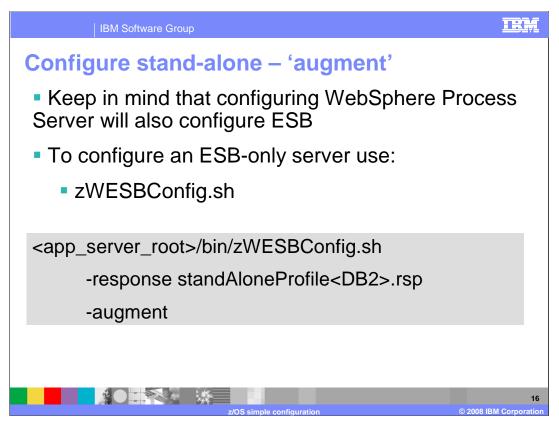
Configure stand-alone – 'augment'
export LIBPATH=/db2810/jcc/lib:\$LIBPATH
<app_server_root>/bin/zWPSConfig.sh
 -response standAloneProfile<DB2>.rsp
 -augment

 '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'

 Need to export LIBPATH first if using DB2 and dbDelayConfig=false

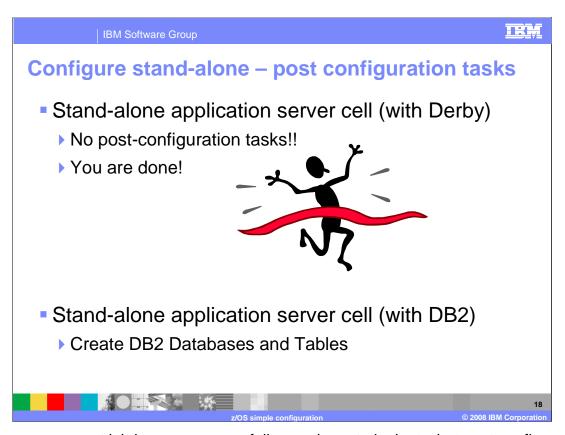
Now that you have completed the update of the response file, you are ready to run the augment job. If using DB2 and you set dbDelayConfig to 'false' in order to configure the databases automatically, you will need to export your LIBPATH first as shown on the slide. The zWPSConfig script, found in the bin directory of your app_server_root is used for the augment. 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 updated copy of the sample response file can be found.



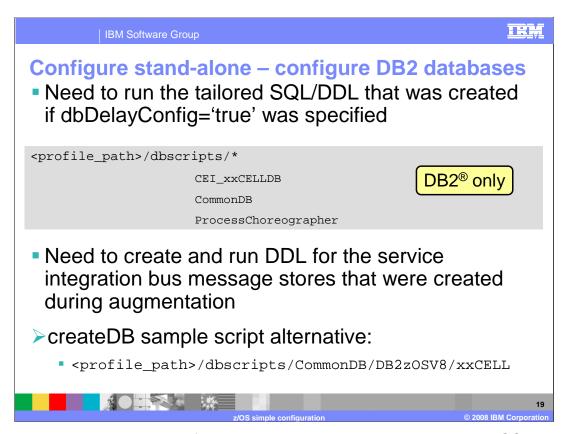
Recall that when you configure WebSphere Process Server, you automatically configure the WebSphere Enterprise Service Bus since that is included as part of the WebSphere Process Server Product. It is also possible to configure only the WebSphere Enterprise Service Bus. The command to do that, zWESBConfig, is shown here. This would be the only available option if you have the WebSphere Enterprise Service Bus for z/OS V6.1 product.



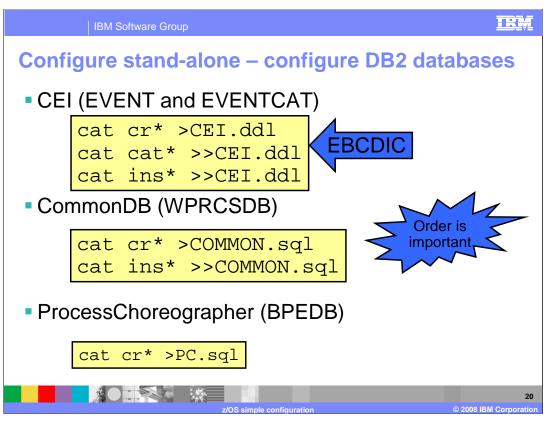
Again, here is an example of running the augment function using JCL. Do not forget to export the native Java common client LIBPATH if dbDelayConfig is set to 'false' and you are using DB2.



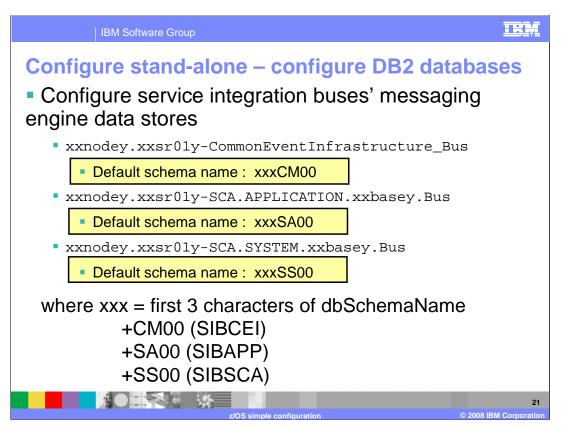
Once your augment job has run successfully, you have to look at what post configuration tasks are needed. If you configured using Derby, you are done. Everything, including your databases, has been automatically configured and you are ready to start using the WebSphere Process Server or WebSphere Enterprise Service Bus function. If you configured using DB2, you most likely have some SQL to run to in order to configure your database or databases. If you were able to specify, dbDelayConfig=false, you are also done at this point.



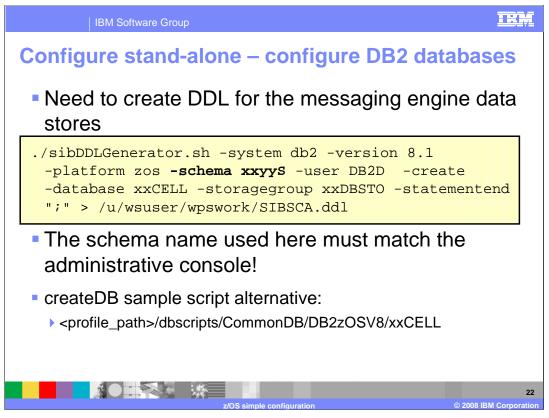
If you are using DB2 in your configuration, you need to now run the tailored SQL or DDL that was created during augmentation. Each component creates a directory under the dbscripts directory where you will find the SQL or DDL needed. It has been tailored to your installation but as seen in the **z/OS DB2 configuration** presentation; this entails multiple files under each directory. The next slide will show you how you can easily combine the files into one but an alternative is to use the createDB sample script as mentioned in the **z/OS DB2 configuration** presentation. You also need to generate DDL to configure the message stores needed for the service integration bus messaging engines that were created. We'll look at these in more detail on a later slide. Keep in mind that all files ending in SQL are encoded in ASCII and all files ending in DDL are encoded in EBCDIC. All files other than the CEI ones are therefore in ASCII.



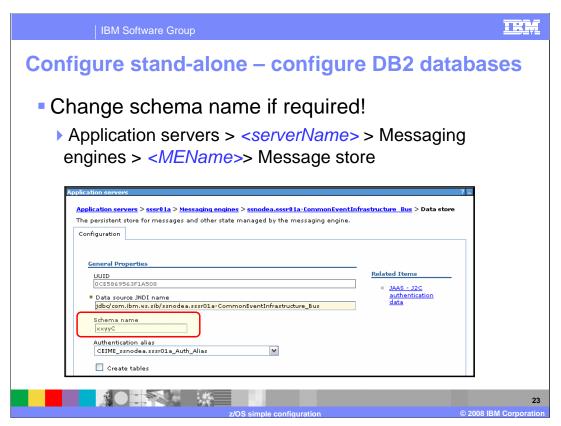
To see the actual files created for each component, you can look at the **z/OS DB2**® **configuration** presentation. What you see here is a sequence of commands in order to put the multiple files into one if you choose not to use the createDB sample script to generate the SQL. Again, note that only the CEI files are encoded in EBCDIC.



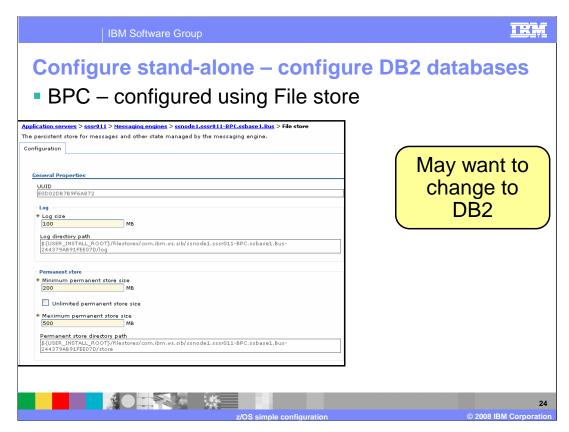
Moving on to the message stores needed for the service integration bus messaging engines, you'll see three service integration buses were created using DB2 as a message store. They are SIBCEI, SIBAPP and SIBSCA. The default schema is shown here. It is formed by taking the first 3 characters of the dbSchemaName variable in the response file and concatenating it with the values shown on the slide. You may want to change these to conform to your standards. You'll see how to do that on a later slide.



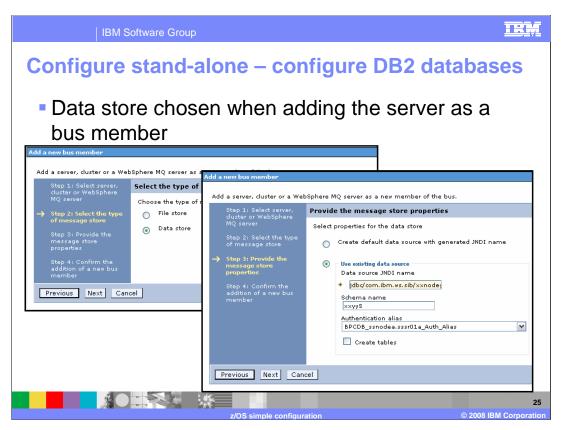
Regardless of the schema names you decide to use, you need to somehow create the DDL that can be used to configure the DB2 database. Shown here is the sibDDLGenerator command which is one way to create the DDL for the service integration bus' message stores. One of the parameters specified on the command is 'schema' so you can customize it here to match your conventions. If you choose to use the createDB sample script instead, the SQL will be found in the directory shown. The schema names in that case are shown in the **z/OS DB2® configuration** presentation.



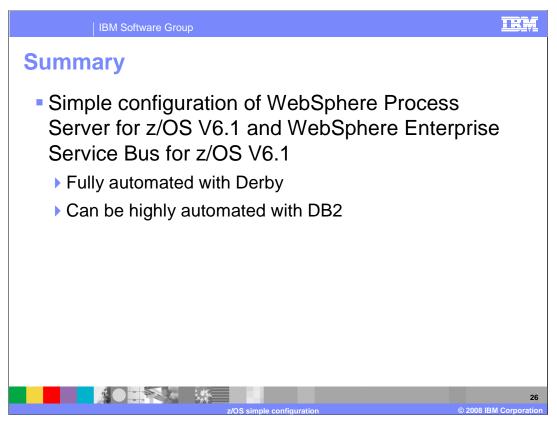
If you decide not use the default schema names chosen for you, you must go into each messaging engine definition and change the schema name to match what you configured your database with. It is important to have the schema name here match. It is used to qualify your table names. The path to get here is shown on the slide.



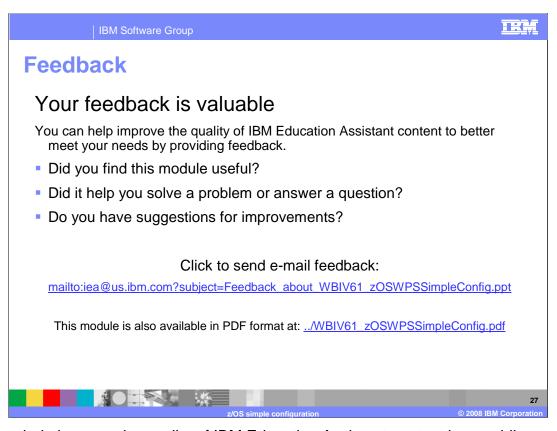
You'll notice that one service integration bus was missing in the list of messaging engines that required DB2 data stores. In the stand-alone configuration, the business process choreographer bus' messaging engine is configured with a File store as its message store. That is shown here on the slide. You may want to change that to DB2. To do that, however, you need to delete the current bus and re-create it.



When recreating the bus, you'll have to add the server as a bus member and it is then that you get the choice of selecting a Data store instead of a File store.



The simple configuration of WebSphere Process Server for z/OS V6.1 and WebSphere Enterprise Service Bus for z/OS V6.1 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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DB2 WebSphere z/OS

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