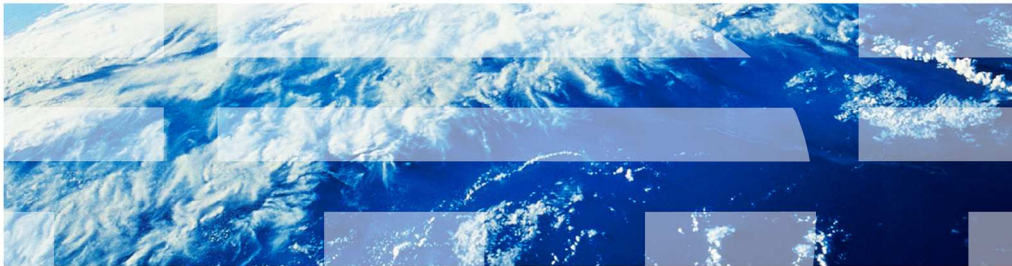# IBM Business Process Manager V8.5

Installation and configuration improvements

This presentation introduces improved and simplified ways to install and configure IBM Business Process Manager V8.5

Goals and agenda

- Changes to installation in IBM Business Process Manager V8.5
  - Simplify - Reduce number of steps to success
  - Consolidate - Minimize redundant function

Installation	• "Typical" is now single node ("SimpleND") • Profile augmentations simplified to "BPM"
Configuration	• Empowerment of deployment environments • BPMConfig

Installation and configuration improvements

This presentation shows you a simplified installation process. The first half of this presentation shows you how to create a simple single-cluster network deployment environment, which lets you get up and running quickly, while also allowing for your environment to expand as your process management project grows. As for the configuration, you can set up databases, create profiles, and configure a single node or a three-cluster network deployment environment, all with the new BPMConfig command.

Section

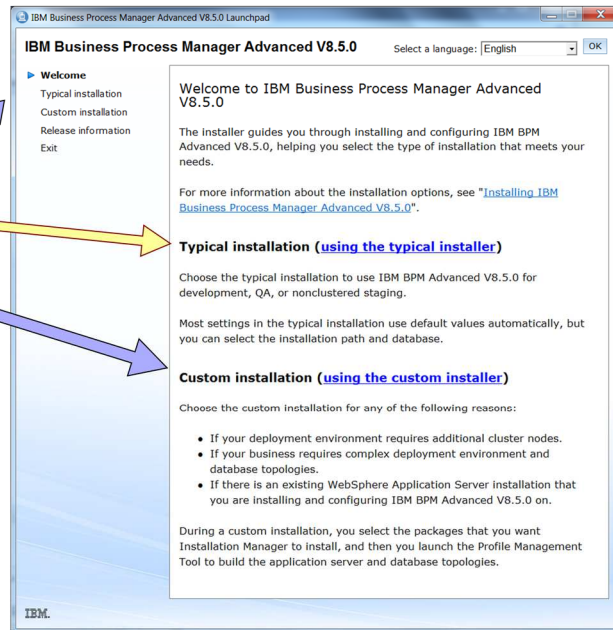# Installation

Installation and configuration improvements

This section introduces the enhanced and simplified installation steps in IBM Business Process Manager V8.5.

Installation Manager and Launchpad

- NOT CHANGED: Installation Manager is the tool to install products

- UPDATED: Launchpad
  – Typical installation now creates a "SimpleND"

  – Custom installation writes binary files, you create configuration later

Allows customized values

IBM Business Process Manager Advanced V8.5.0 Launchpad

IBM Business Process Manager Advanced V8.5.0   Select a language: English   OK

▶ Welcome
Typical installation
Custom installation
Release information
Exit

Welcome to IBM Business Process Manager Advanced V8.5.0

The installer guides you through installing and configuring IBM BPM Advanced V8.5.0, helping you select the type of installation that meets your needs.

For more information about the installation options, see "Installing IBM Business Process Manager Advanced V8.5.0".

Typical installation (using the typical installer)

Choose the typical installation to use IBM BPM Advanced V8.5.0 for development, QA, or nonclustered staging.

Most settings in the typical installation use default values automatically, but you can select the installation path and database.

Custom installation (using the custom installer)

Choose the custom installation for any of the following reasons:

- If your deployment environment requires additional cluster nodes.
- If your business requires complex deployment environment and database topologies.
- If there is an existing WebSphere Application Server installation that you are installing and configuring IBM BPM Advanced V8.5.0 on.

During a custom installation, you select the packages that you want Installation Manager to install, and then you launch the Profile Management Tool to build the application server and database topologies.

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You can choose to perform either a "Typical" or a "Custom" installation.

When you choose "Typical" installation for IBM Business Process Manager Standard, Advanced, or Advanced Process Server, the installation tool creates a single-node network deployment environment. After the installation, under the installation-root/profiles folder, you will see two profiles - one deployment manager (DMGR) profile and one managed node profile. You will also see a deployment environment named either "ProcessServer" or "ProcessCenter." Typical installation for the standard and advanced products configures a single cluster deployment environment on a single node and a single server. In IBM Business Process Manager Version 8.5, typical installation creates a stand-alone server only if you are using IBM BPM Express.

Custom installation followed by BPMConfig

	Step	Tool	comments
1	Create databases	DB tool, such as DB2 command line	Just create DBs and users, not tables. Can get commands from Information Center. The tables can be automatically created during configuration –OR - created through scripting later.
2	Install BPM V8.5	Installation Manager	Many ways to invoke IM, including that a **"Custom Installation" from the Launchpad** starts the IM. When product install is complete, you do not have to launch the PMT
3	Update properties file	File editor	Many sample properties files are provided.
4	Create config	Command line BPMConfig	Creates Dmgr profile, Custom profile, federates custom profile to dmgr, creates Deployment Environment, creates tables in existing DB (also generates SQL scripts if you want to run later)
5	BPMConfig start	Command line BPMConfig	Starts the Dmgr, Node Agent, cluster members

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If you chose to do a custom installation, you need to complete the configuration process either by using the BPMConfig command, or by using the profile management tool and the deployment environment wizard.

If you are using the BPMConfig command, you must complete these three steps:

First, create the databases needed for your installation scenario. Alternatively, you can choose to install DB2 Express locally and use the new BPMConfig command to create the database tables.

Second, follow the steps presented through the Installation Manager user interface, provide necessary configuration details, and install the product.

Third, follow the instructions for using the BPMConfig command to configure the product.

Custom installation followed by PMT and DE wizards

	Step	Tool	Comments
1	Create databases	DB tool, such as DB2 command line	Create DBs and users, not the tables. Can get commands from Information Center DBA can cut and paste from Information Center article
2	Install BPM V8.5	Installation Manager	Many ways to invoke IM, including that a **"Custom Install"** from the Launchpad starts IM. When install is complete, you don't have to launch the PMT immediately.
3	Create Dmgr profile	PMT or manageprofiles *(BPMConfig)*	This creates the dmgr for your cell. CMNDB (CELLDB) tables are not necessary until a DE is created.
4	Start Dmgr	Command line	
5	Create Custom profile(s), federate to Dmgr	PMT or manageprofiles *(BPMConfig)*	This creates the "empty" nodes in your cell.
6	Create DE	DE Wizard	In the DE Wizard panels, manually adjust the database info as needed. CMNDB, BPMDB, PDWDB scripts are generated under <DMGR_HOME>\dbscripts
7	Create DB tables	DB tool, such as DB2 command line	Provide scripts to DBA (alternatively, if permissions are allowed, tables can be created automatically and bootstrapped automatically)
8	Run Bootstrap	Command Line *bootstrapProcessServerData*	Primes the BPM/PDW dbs. Only run once per DE. This is a separate step only if you created the DB tables manually. This step is not required for BPM Advanced-only

No more DDT?
SQL scripts can be proactively generated with BPMConfig

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If you are using the profile management tool and the deployment environment wizard to complete the configuration of your custom installation, start by creating the databases needed for your scenario. Alternatively, you can choose to install DB2 Express locally and use the new BPMConfig command to create the database tables. Then follow the steps presented through the Installation Manager user interface, provide necessary configuration details, and install the product. Third, use the profile management tool to create the necessary profiles. Finally, log in to the administrative console and use the deployment environment wizard to configure the product.

Profiles

- No more stand-alone profile for BPM Standard or BPM Advanced
- Stand-alone profile is for BPM Express and the IBM Integration Developer test environment (UTE) only

Installed Product	Profile type		
	Standalone	Dmgr	Custom Node
BPM Express	Yes	No	No
BPM Standard	No	Yes	Yes
BPM Advanced	No	Yes	Yes
IBM Integration Developer UTE *(BPM Advanced)*	Yes	Optional	Optional

Why no more Standalone?
While the SimpleND configuration does take longer to start than a standalone configuration, it gives you a better starting point as you can now easily grow your configuration by merely adding new BPM nodes as required.

Installation and configuration improvements

This chart shows the profile types that are supported in V8.5. Notice that there no longer is support for creating stand-alone profiles on the Standard and Advanced editions.

Section

Configuration

Installation and configuration improvements

This section describes the enhancements in configuration of IBM Business Process Manager V8.5.

Deployment environment - Product configuration choices

- IBM BPM Standard *(PC or PS)*
  – All functionality of BPM Standard (ProcessServer, PDW, EmbeddedECM)
- IBM BPM Advanced *(PC or PS)*
  – All BPM Standard function PLUS Advanced function (includes SCA, BPC)
- IBM BPM Advanced-only PS
  – ONLY BPM Advanced function (includes SCA, BPC)

Select the type of deployment environment.

Select	Deployment Environment Type
⦿	BPM Standard Process Server
○	BPM Advanced Process Server
○	BPM Advanced-only Process Server

*** *There is no more WESB-only pattern* ***

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There are three IBM BPM products (not counting the IBM BPM Express product), with a total of five possible deployment environments that can be configured:

The IBM BPM Standard product includes the capability for both Process Center and Process Server. Each must be configured in its own deployment environment.

The IBM BPM Advanced product also includes the capability for both Process Center and Process Server, and each must be configured in its own deployment environment.

The BPM Advanced: Process Server product can be configured *only* in a Process Server deployment environment. It does not include Process Center. This deployment environment is typically for a site that wants only the process server capabilities that correspond to IBM WebSphere Process Server (including Service Component Architecture, known as SCA, and Business Process Choreographer, known as BPC).

Deployment environment - Clusters per pattern

Select a cluster pattern for the deployment environment.

Select	Deployment Environment Patterns	Description
●	Application, Remote Messaging, Remote Support	The remote messaging and remote support pattern defines one cluster for application deployment, one remote cluster for the messaging infrastructure, and one remote cluster for the supporting applications.
○	Single Cluster	The single cluster pattern is the simplest pattern. It defines one application deployment target cluster, which includes the messaging infrastructure and supporting applications.

- For each of the three types, there are two choices:
  - Single cluster
  - Application, Remote Messaging, Remote Support (aka the 3-cluster pattern)
- The 3-cluster pattern is recommended for production
- The DE Wizard no longer offers 2-cluster or 4-cluster patterns

Why no more 4-cluster pattern?

The clustered topologies of BPM have been consistently analyzed and refined since the WebSphere Process Server V6.0 timeframe. In V8.5, it became necessary to move a significant component from the web cluster into the AppTarget cluster. This left very little in the web cluster, and became difficult to justify the additional JVMs

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The choices in the number of clusters have been simplified; the four-cluster pattern available in early releases of the product is no longer needed.

In the single-cluster pattern, messaging, application deployment target, and application support functions are all contained in a single cluster. This topology pattern is useful for synchronous messaging, proof of concept, or application testing environments. A single-cluster topology pattern is ideal for limited hardware; because all of the components are installed in the same cluster, fewer physical machines are required.

The three-cluster pattern defines one cluster for application deployment, one remote cluster for the messaging infrastructure, and one remote cluster for supporting applications.

Deployment environment wizard (1 of 6)

- Overall simplified and condensed
- Updated types and patterns

- The information on this panel had previously required three pages

Create a Deployment Environment

Enter the deployment environment name and the deployment environment administrator user name and password.

Deployment environment name   *Name of this DE*
MyDepEnv01

Deployment environment administrator user name
bpmadmin

Password   *Specify DE Administrator*
●●●●●●●

Confirm password
●●●●●●●

Select the type of deployment environment.

Select	Deployment Environment Type *Type of this DE*
○	BPM Standard Process Server
●	BPM Advanced Process Server
○	BPM Advanced-only Process Server

Select a cluster pattern for the deployment environment.

Select	Deployment Environment Patterns	Description *Pattern of this DE*
●	Application, Remote Messaging, Remote Support	The remote messaging and remote support pattern defines one cluster for application deployment, one remote cluster for the messaging infrastructure, and one remote cluster for the supporting applications.
○	Single Cluster	The single cluster pattern is the simplest pattern. It defines one application deployment target cluster, which includes the messaging infrastructure and supporting applications.

Next   Cancel

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The deployment environment wizard has been revised to address 80 percent of simplified use cases. The number of panels has been reduced; properties that go well together are located on the same page; and meaningful default values are provided.

For advanced scenarios, you should use the BPMConfig command.

Deployment environment wizard (2 of 6)

- Select the nodes on which cluster members is created *(unchanged)*

- Specify the number of cluster members on each node *(unchanged)*

There are several steps involved in creating a deployment environment. The first two steps remain unchanged from the previous version. They include selecting the nodes for cluster members and specifying the number of cluster members for each node.

Deployment environment wizard (3 of 6)

- The information on this page previously required multiple pages *(one page for each cluster)*

Previously, the information that you see in this page required multiple pages. Now you can fill out all the information in one step.

Deployment environment wizard (4 of 6)

- For Process Server environments, this panel describes how to connect to the Process Center *(unchanged)*

Create a deployment environment

Step 1: Select Nodes
Step 2: Define Clusters
Step 3: Customize Cluster Name and Ports
→ Step 4: Process Server
Step 5: Configure Databases
Step 6: Summary

Process Server

Use this page to configure Process Server properties. For Process Center connection information, either select to use this Process Server as an offline server or specify the host or virtual host and port of a Process Center.

Process Server

* Environment name:
MyTestProcessServer

Environment type:
Stage

Process Center Connection Information

☑ Use server offline

Protocol:
http://

Host name or virtual host in a load-balanced environment:

Port:

User name:

Password:

Confirm password:

Previous   Next   Cancel

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Step four remains unchanged from the previous version. You can use this page to configure your Process Server to connect to the Process Center.

Deployment environment wizard (5 of 6)

In step 5, you can now optionally choose to create separate databases for messaging and for Business Process Choreographer. By default, they are not created as separate databases.

Deployment environment wizard (6 of 6)

- Ends with a Summary panel
- In IBM BPM V8.0.1's DE, this required 16 pages. Now it is seven pages.

Step 6 ends with a summary page. In the previous release, the configuration of the deployment environment required 16 pages. This release uses only seven steps to configure the deployment environment.

New multi-task tool - BPMConfig (1 of 2)

Performs multiple tasks:	▪ Create profiles ▪ Create DB scripts, tables ▪ Create Deployment Environment
Replaces old tools:	▪ DB Design Tool (DDT) ▪ ConfigNode
Can be used instead of:	▪ Profile Management Tool (PMT) ▪ manageprofiles ▪ DE Wizard

```
<WAS_HOME>\bin\BPMConfig.bat (.sh)
```

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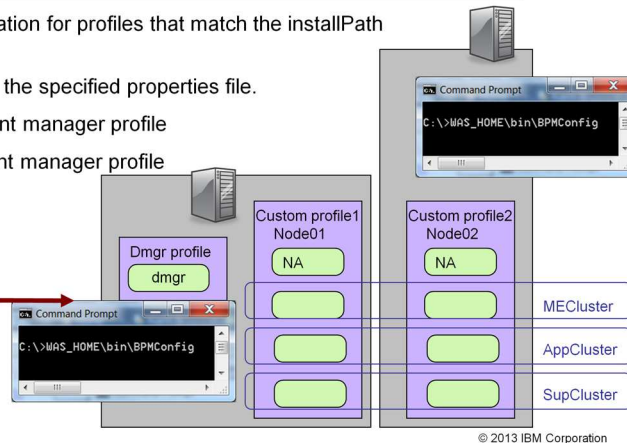
Another enhancement that is introduced in V8.5 is a new command, BPMConfig. It replaces several commands that were used in previous releases. You can use the BPMConfig command to perform multiple tasks such as create profiles, create database scripts and tables, and create deployment environments. It also replaces some old tools such as the DB design tool (DDT) and the ConfigNode tool. Some other commands and tools continue to be available in this release, however, you can use BPMConfig to achieve the same result.

New multi-task tool - BPMConfig (2 of 2)

```
Usage: BPMConfig <action> <type> <propertiesFile>
<action>: -create, -validate, -start
<type>: -profile, -de, -sqlfiles
<propertiesFile>: properties file representing DE config
 -profile and -sqlfiles are valid only for -create action
```

- **Create** creates the profiles and DE configuration for profiles that match the installPath and hostName with the current machine.
- **Validate** validates the DE configuration with the specified properties file.
- **Start** starts the DE within a given Deployment manager profile
- **Stop** stops the DE within a given Deployment manager profile

Execute BPMConfig command on all machines that will participate in the DE with the same property file and with the same command syntax
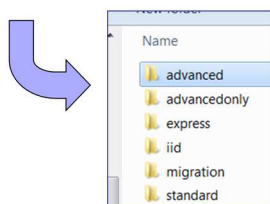
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The BPMConfig command takes an action, an entity type, and a properties file as arguments. The Action of the command can be create, validate, start, or stop.

The Type of the command can be profile, de, or sql files.

BPMConfig - Properties files

- Sample properties files are provided under `<WAS_HOME>\BPM\samples\config`

- Select the folder for the type

  New folder

Name
advanced
advancedonly
express
iid
migration
standard

- Find the sample property file for the pattern and DB type

Name	Type
Advanced-PC-SingleCluster-DB2.properties	PROPERTIES File
Advanced-PC-SingleCluster-DB2zOS.properties	PROPERTIES File
Advanced-PC-SingleCluster-Oracle.properties	PROPERTIES File
Advanced-PC-SingleCluster-SQLServer.properties	PROPERTIES File
Advanced-PC-SingleCluster-SQLServer-WinAuth.properties	PROPERTIES File
Advanced-PC-ThreeClusters-DB2.properties	PROPERTIES File
Advanced-PC-ThreeClusters-DB2zOS.properties	PROPERTIES File
Advanced-PC-ThreeClusters-Oracle.properties	PROPERTIES File
Advanced-PC-ThreeClusters-SQLServer.properties	PROPERTIES File
Advanced-PC-ThreeClusters-SQLServer-WinAuth.properties	PROPERTIES File
Advanced-PS-SingleCluster-DB2.properties	PROPERTIES File
Advanced-PS-SingleCluster-DB2zOS.properties	PROPERTIES File
Advanced-PS-SingleCluster-Oracle.properties	PROPERTIES File
Advanced-PS-SingleCluster-SQLServer.properties	PROPERTIES File
Advanced-PS-SingleCluster-SQLServer-WinAuth.properties	PROPERTIES File
Advanced-PS-ThreeClusters-DB2.properties	PROPERTIES File
Advanced-PS-ThreeClusters-DB2zOS.properties	PROPERTIES File
Advanced-PS-ThreeClusters-Oracle.properties	PROPERTIES File
Advanced-PS-ThreeClusters-SQLServer.properties	PROPERTIES File
Advanced-PS-ThreeClusters-SQLServer-WinAuth.properties	PROPERTIES File

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The properties file is a simple, readable list of name-value pairs. The sample properties files have been organized into folders that correspond to the different product configurations, and the files have been named with a convention that reflects the deployment environment and topology that the properties apply to.
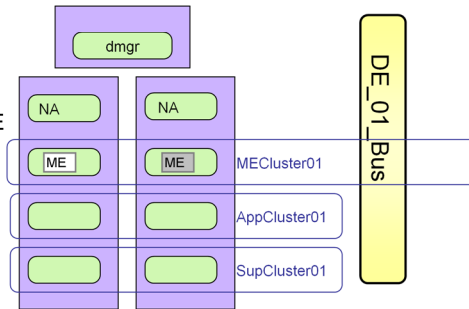
All the sample files have inline comments to help you to determine what value needs to be updated or specified.

BPMConfig - SIBus (System integration bus)

- Single SIBus per deployment environment
  - Replaces unique SIBuses per functional component
- Only one bus member per SIBus
  - Entirely avoids "targetSignificance" and RQP situations due to multiple bus members (multi-DE environments)
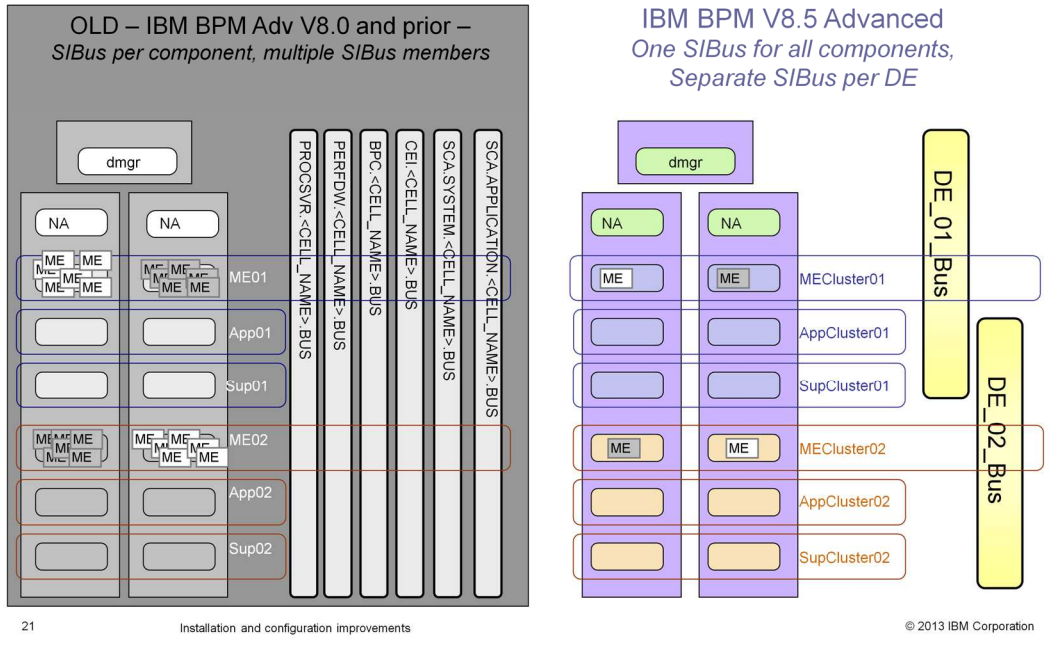
Won't there be too many destinations now with fewer SIBuses?

Previously, while all other SIBuses hosted only a few destinations, by far the greatest number of destinations (100s to one or two thousand) existed on the SCA.SYSTEM SIBus. The number of destinations depends on the number of deployed SCA modules. In V8.5, with all destinations for a DE sharing a single SIBus, the overall gating factor for startup/failover time is still the same: total number of SCA modules.

dmgr

NA   NA

ME   ME   MECluster01

AppCluster01

SupCluster01

DE_01_Bus

Installation and configuration improvements

As a replacement for having a separate system integration bus (SIBus) for each component, there is now a single shared SIBus configuration per deployment environment. This greatly simplifies the database requirements for the IBM BPM product.

This slide shows a configuration with one system integration bus for all components compared with a configuration having a separate system integration bus for each deployment environment.

Troubleshooting

- BPMConfig log files
  - <Install_Root>/logs/config (BPMConfig log files)
  - Generates a new log each time BPMConfig is executed
  - Dumps all messages to common bpmconfig*.log file

- Profile creation logs
  - Same as previous versions
  - <Install_Root>/logs/manageProfiles

- Server logs
  - Same as previous versions
  - <Profile_Root>/logs

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Here are some troubleshooting tips about where you can look for specific log files. Log locations for profile creation and server logs remain the same as in the previous version. The BPMConfig log files are available in logs/config directory of the product. A new log is generated each time BPMConfig is started and dumps all messages to a common bpmconfig*.log file.

Section

Summary

Installation and configuration improvements

This section provides a summary of installation and configuration enhancements in IBM Business Process Manager V8.5.

Summary

- Introduced new installation mechanism
  - Create a simple single-cluster network DE

- Learned new and enhanced configuration process
  - Empowerment of deployment
  - New BPMConfig command

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In summary, you were introduced to more flexible installation and configuration processes in IBM Business Process Manager V8.5. A typical installation process creates a simple single-cluster network deployment environment, which lets you get up and running quickly. It also allows your environment to expand as your process management project grows. You also saw some new and improved configurations. You can now configure your environment using one command including - but not limited to - setting up databases, creating profiles, and configuring a single node or a three-cluster network deployment environment.

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Installation and configuration improvements

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