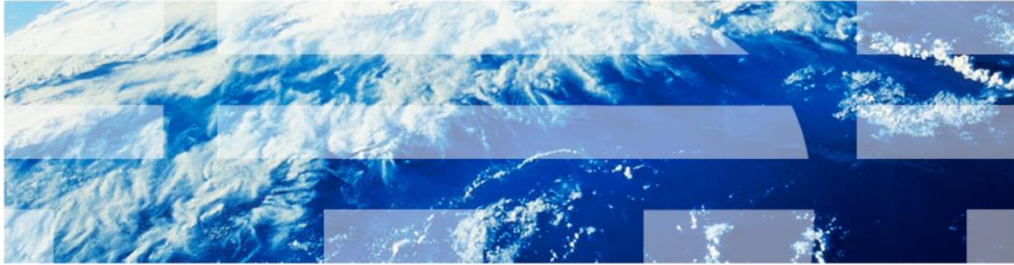


IBM Tivoli Monitoring V6.2.3

Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder



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IBM Tivoli® Monitoring V6.2.3, Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder.

In this module, you learn how to create a Windows Performance Monitor using Agent Builder.

Assumptions

Before you proceed, the module designer assumes that you have the following skills, knowledge, and resources:

- Windows administration skills
- Installed Agent Builder on a Windows system
- Installed and configured IBM Tivoli Monitoring agents
- Knowledge of the IBM Tivoli Monitoring infrastructure

The module developer assumes that you have Windows administration skills. The Agent Builder V6.2.3 Fix Pack 1 should be installed on the Windows system. You need to have experience installing and configuring IBM Tivoli Monitoring agents and have knowledge of the IBM Tivoli Monitoring infrastructure.

Objectives

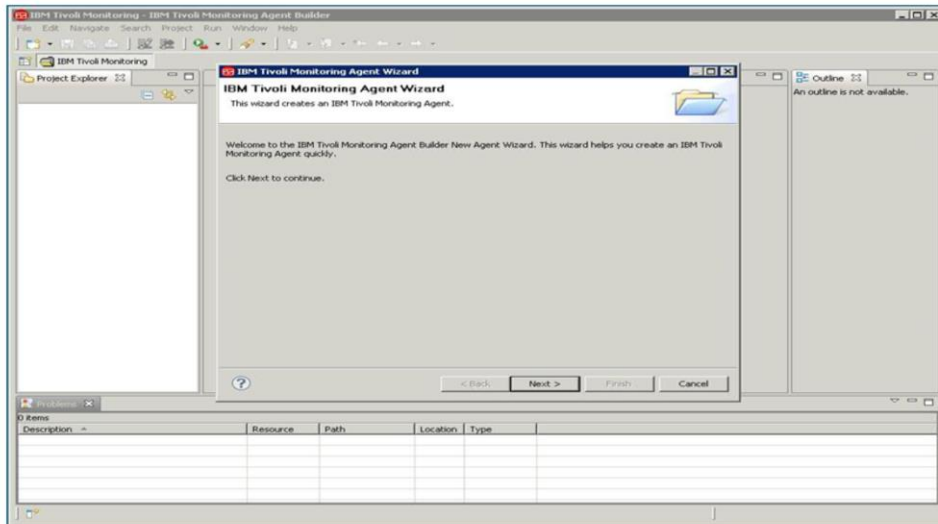
When you complete this module, you can perform these tasks:

- Create an agent by using the Windows Performance Monitor (Perfmon) data source
 - This agent is the database agent in this presentation
- Add new attribute groups to the agent
- Edit attributes under each attribute group
- Install the agent along with application support
- Start monitoring data for the agent in the Tivoli Enterprise Portal client

When you complete this module, you can create a new agent using the Windows Performance Monitor data source also called Perfmon. You learn how to add new attribute groups and edit each attribute group in the Agent Builder. You install the agent and the application support and start monitoring data for the agent in the Tivoli Enterprise Portal client.

Starting the Agent Builder

Select **File > New > IBM Tivoli Monitoring Agent** and click **Next**



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Start the Agent Builder by selecting **File > New > IBM Tivoli Monitoring Agent**. The software displays the IBM Tivoli Monitoring Agent Wizard window. Click **Next**.

New IBM Tivoli Monitoring Agent Project

- Name the project;
for example, *DatabaseAgent*
- Click **Next**

The screenshot shows the 'New IBM Tivoli Monitoring Agent Project' wizard. The title bar reads 'IBM Tivoli Monitoring Agent Wizard'. The main heading is 'New IBM Tivoli Monitoring Agent Project' with a sub-instruction: 'Provide a name for the project that will contain the IBM Tivoli Monitoring Agent files.' The 'Project name' field contains 'DatabaseAgent'. The 'Use default location' checkbox is checked. The 'Location' field shows 'C:\Users\Administrator\workspace\DatabaseAgent' with a 'Browse...' button. Under 'Working sets', the 'Add project to working sets' checkbox is unchecked, and the 'Working sets' dropdown is empty with a 'Select...' button. At the bottom, there are buttons for '< Back', 'Next >', 'Finish', and 'Cancel'.

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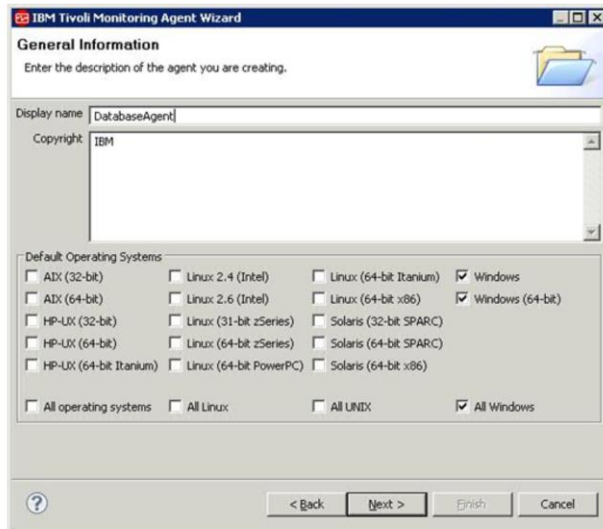
Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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Enter the **Project Name**. The files for the project are stored in the default location or you can browse to specify another location. Click **Next**.

General Information

- Enter the **Display name** for the agent
 - The display name shows in the Tivoli Enterprise Portal Client interface
 - For example, *DatabaseAgent*
- Enter the **Copyright** information
- Choose the platform information by clicking the check box for the platforms or operating systems that you want to install the agent on to
- Click **Next**



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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Enter the **Display name** on the General Information page. This name displays in the Tivoli Enterprise Portal client. Enter the information in the copyright section according to company requirements.

Click the check boxes for the platforms or operating systems that you want to install the agent on. There are options for **All Windows**, **All UNIX**, and so on.

Click **Next**.

Agent Information

- Enter the **Service name** for the monitoring agent
 - This name displays in the Manage Tivoli Enterprise Monitoring Services window
 - For example, *Databases*
- Enter the company identifier
- The remaining fields are populated automatically
- Make any required changes
- Click **Next**

IBM Tivoli Monitoring Agent Wizard

Agent Information

Specify the general information for the agent.

Service name: Monitoring Agent for Databases

Product code: K00

Company identifier: IBM

Agent identifier: K00

Version: 623

Support multiple instances of this agent

Minimum ITM version: 6.2.1

< Back Next > Finish Cancel

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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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Enter the **Service name** for the monitoring agent. This name displays in the Manage Tivoli Enterprise Monitoring Services window. When you enter the information in the **Company identifier** section, the remaining fields populate automatically. Make any necessary changes as required and click **Next**.

Agent Initial Data Source

- In **Monitoring Data Categories**, select **Data from a server**
- In **Data Sources**, select **Perfmon**
- Click **Next**

The screenshot shows the 'Agent Initial Data Source' dialog box from the IBM Tivoli Monitoring Agent Wizard. The dialog has a title bar that reads 'IBM Tivoli Monitoring Agent Wizard' and a subtitle 'Agent Initial Data Source'. Below the subtitle is the instruction: 'Select an initial source of monitoring data for the new agent.' The dialog is divided into two main sections: 'Monitoring Data Categories' and 'Data Sources'. In the 'Monitoring Data Categories' section, the radio button for 'Data from a server' is selected. In the 'Data Sources' section, the radio button for 'Perfmon' is selected. Below the 'Data Sources' list, there is a note: 'Create an attribute group which collects data from a Windows Performance Monitor (Perfmon) object.' At the bottom of the dialog, there are four buttons: '< Back', 'Next >', 'Finish', and 'Cancel'. A help icon (?) is also present at the bottom left.

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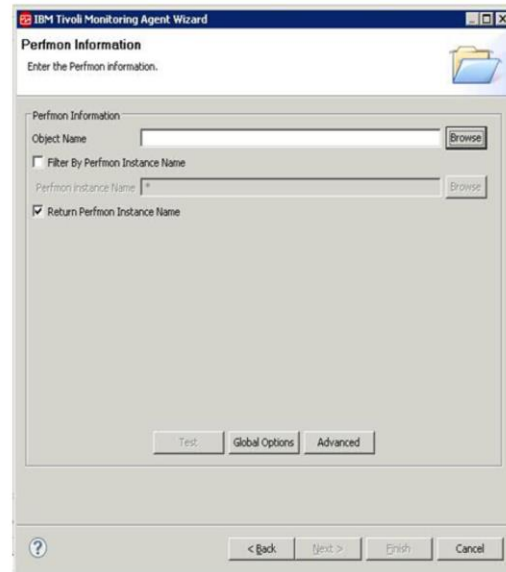
Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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On the Agent Initial Data Source page, select **Data from a Server** under **Monitoring Data Categories**. Select **Perfmon** under **Data Sources** and click **Next**.

Perfmon information

- Enter the name of the object in the **Object Name** field
or
- Click **Browse** to display the list of Perfmon objects



The screenshot shows the 'Perfmon Information' dialog box within the 'IBM Tivoli Monitoring Agent Wizard'. The dialog has a title bar with the text 'IBM Tivoli Monitoring Agent Wizard' and standard window controls. Below the title bar, the text 'Perfmon Information' is displayed, followed by the instruction 'Enter the Perfmon information.' and a folder icon. The main area contains a 'Perfmon Information' section with the following fields and controls:

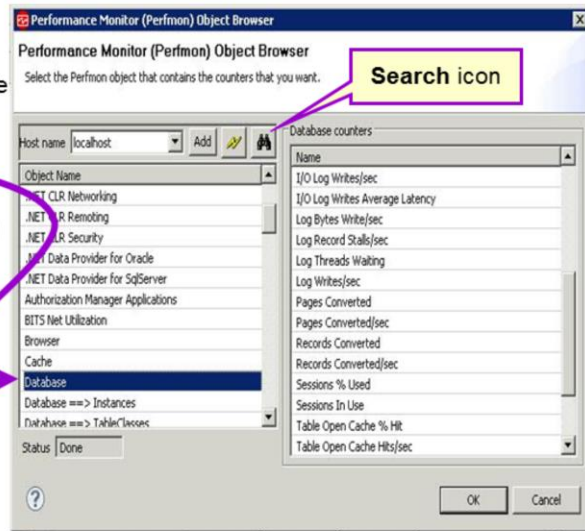
- 'Object Name' text box with a 'Browse' button to its right.
- 'Filter By Perfmon Instance Name' checkbox, which is currently unchecked.
- 'Perfmon Instance Name' text box with a 'Browse' button to its right.
- 'Return Perfmon Instance Name' checkbox, which is currently checked.

At the bottom of the dialog, there are three buttons: 'Test', 'Global Options', and 'Advanced'. At the very bottom, there is a row of navigation buttons: '< Back', 'Next >', 'Finish', and 'Cancel'. A help icon (?) is located on the left side of this bottom row.

Enter the name of the object in the **Object Name** field. Alternatively, you can click **Browse** and all the performance objects on the system display in a list as shown on the next slide.

Performance Monitor (Perfmon) Object Browser

- Clicking **Browse** on the previous screen displays the list of Perfmon objects
- Choose the Perfmon object
For example, *Database*
- Search for a specific object by clicking **Search** (binoculars)
- Click **OK**
- The database counters are selected



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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This list displays if you click **Browse** on the previous screen. On the Performance Monitor Object Browser screen, select an object. You can search the object using the binocular icon.

After you select an object, this action selects all of the database counters for the respective object and lists them in the right screen pane. To finalize the selection, click **OK**.

Perfmon Information

- The Perfmon Information screen displays again
- The selected **Object Name** is populated
- If you want to set global options for the data source, click **Global Options**

IBM Tivoli Monitoring Agent Wizard

Perfmon Information

Enter the Perfmon information.

Perfmon Information

Object Name Database Browse

Filter By Perfmon Instance Name

Perfmon Instance Name Browse

Return Perfmon Instance Name

Test Global Options Advanced

< Back Next > Finish Cancel

The software returns your view back to the Perfmon Information screen with the object that you selected. You can test the object from this screen or later in the process.

The presentation tests the object later. If you need to enable the **Global** option, click **Global Options**. That choice is illustrated in the next slide.

Global Windows Data Source Options

- If you want to include this option, select the **Include remote Windows configuration properties** check box
- Click **OK**



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

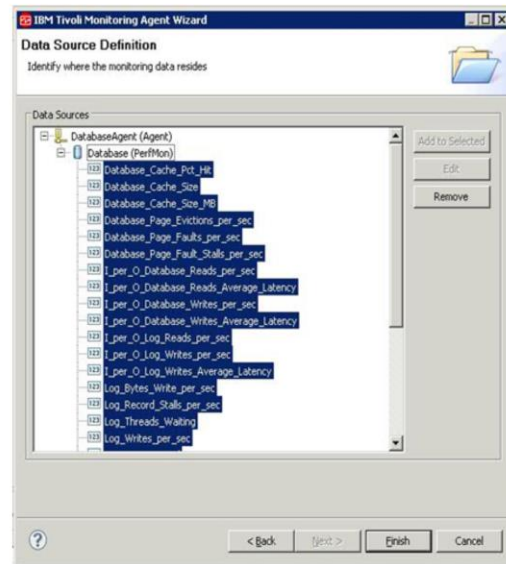
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Windows Management Instrumentation (WMI), Windows Performance Monitor (Perfmon), and Windows Event Log data sources can monitor data on the system where the agent is installed, and on remote Windows systems. These three data source types are referred to as *Windows data sources*. If these Windows data sources are monitoring data remotely, they all share the same **Windows Remote Connection configuration** properties for the agent level where they are defined. If you define a Windows data source in the base level of your agent, Windows Remote Connection configuration properties are not added to the agent automatically to maintain compatibility with earlier versions of agents that might have used the Windows data provider before remote monitoring was enabled. The Windows data source in your agent, monitors data on the local Windows system where the agent is installed. If you want the base agent to remotely monitor a single remote Windows system, click **Global Options** on the Windows Data Source window to open the Global Windows Data Source Options window. There you can select **Include Windows Remote Connection configuration**.

If you define a Windows data source in a subnode in your agent, **Windows Remote Connection configuration** properties are added to the agent automatically. The Windows data source must allow Windows Remote Connection if it is in a subnode and you cannot clear the option until all Windows data sources are removed from all subnodes in the agent. Each instance of a subnode might be configured to monitor a different remote Windows system. All Windows data sources in the subnode share the same **Windows Remote Connection configuration** properties.

Data Source Definition

- On the Performance Information page, click **Next**
- Performance object and the respective counters are listed
- Select and remove the counters that are not required with the **Remove** option
- Click **Finish**



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Use the Windows Performance Monitor (PerfMon) data source to create a database agent with Agent Builder

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After selecting the **Global** option you return to the Perfmon Information page. Click **Next** and the performance object populates with the counters listed underneath.

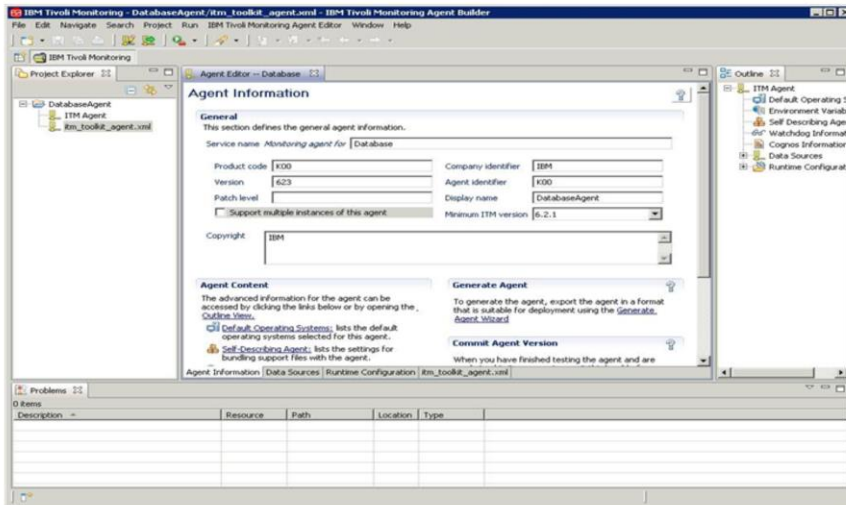
You can delete the unwanted counters here. Press the Shift and Ctrl keys to select counters. Click **Remove** to delete the counters.

The *performance object* also is the *attribute group* and the counters in the object, are object attributes.

When you click **Finish**, your Perfmon agent is ready to use.

Agent Editor

- The DatabaseAgent is created
- Test the agent and make the necessary changes before proceeding further



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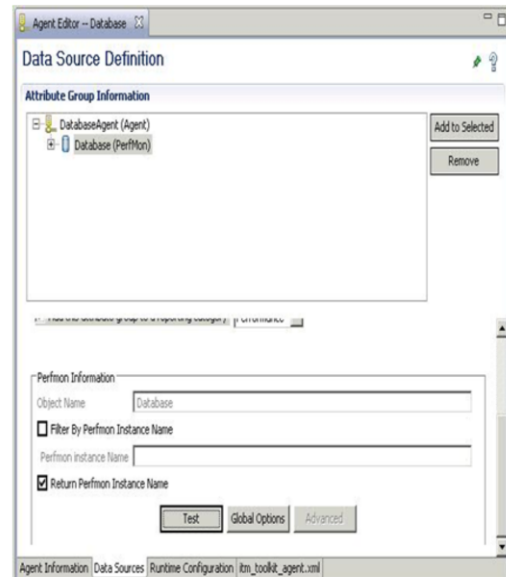
Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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The **Agent Editor** section shows the details of the agent. You can make any necessary changes in the editor.

Testing the agent

- The Agent Editor comprises these tabs
 - Agent Information
 - Data Source
 - Runtime Configuration
 - itm_toolkit_agent.xml
- Ensure all of the information for each tab is correct
- The **Data Source** tab lets you test the new agent
- Click **Test**



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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The agent editor consists of these tabs:

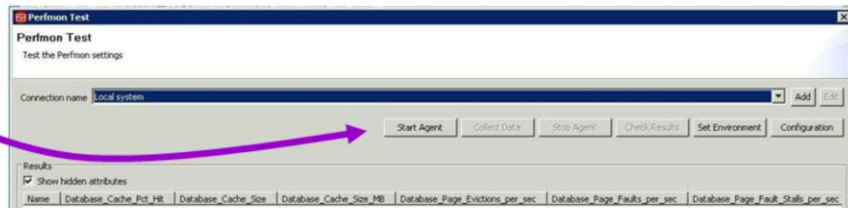
- Agent Information
- Data Source
- Runtime Configuration
- itm_toolkit_agent.xml ...

You can make the required changes under each tab. Ensure the information entered in each tab is correct.

Recall that this presentation shows the agent test later. The next slide shows the test results. On the **Data Source** tab, to test the agent, click **Test**.

Perfmon Test

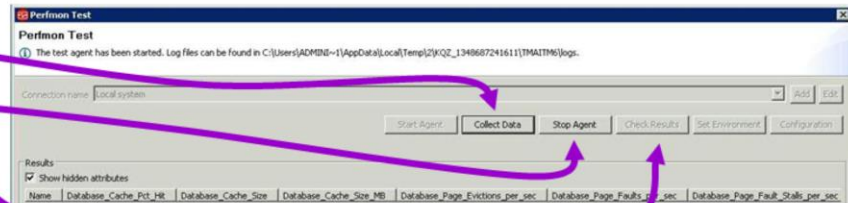
▪ Start Agent



▪ Collect Data

▪ Stop Agent

▪ Check Results



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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A new window opens where you can start the agent by clicking **Start Agent**.

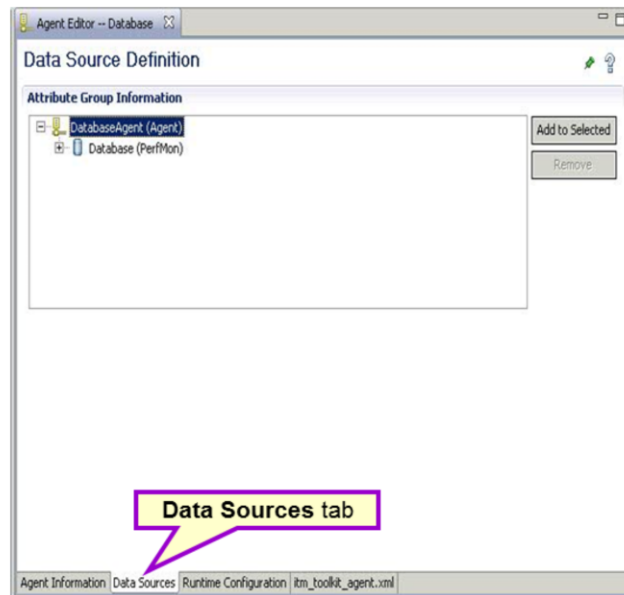
After the agent starts, the **Collect Data** button activates; click it and then, click **Stop Agent**.

After the agent is stopped, the **Check Results** button activates. The **Results** section shows the test results and is not shown in the example screen capture.

Adding attributes

On the **Data Sources** tab, you can add more performance objects as separate attribute groups

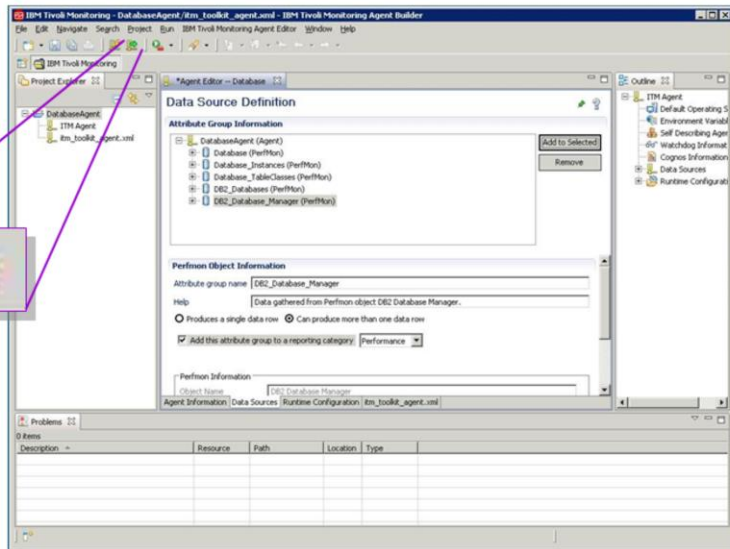
- The counters under each performance object are attributes
- Select the agent, in this case **DatabaseAgent**, and click **Add to Selected**
- The **Agent Initial Data Source** option populates
- To add the required performance objects, click **Add to Selected**



Back on the on the **Data Source Definition** tab, you can also add more attribute groups by selecting the agent name and then clicking **Add to Selected**. This action populates the Agent Initial Data Source page again. You can follow the same steps as previously to add more attribute groups.

Attribute Group Information

- The agent lists all of the attributes under the agent name
- On the icon bar, click the **Generate Agent** icon
- The icon looks like this image



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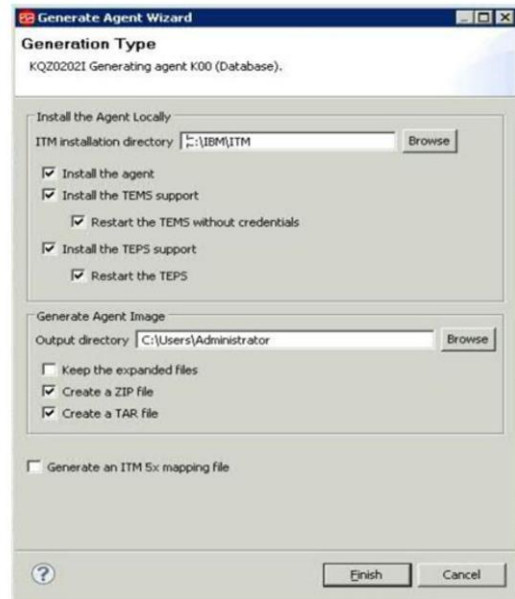
Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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After you finish adding the attribute groups, the attribute groups list displays beneath the agent. These are also the default workspaces for the agent. On the icon bar, click the **Generate Agent** icon; it has a green arrow that points to the right.

Generate Agent Wizard

- **IBM Tivoli Monitoring Agent > Generate Agent** displays the options shown
- Select the options for local and remote installation
 - **Install the Agent Locally**
 - **Generate Agent Image**
- Click **Finish**



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Use the Windows Performance Monitor (Perfmon) data source to create a database agent with Agent Builder

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Choose the appropriate options to install the agent locally, typically that is all of the options.

Typically, you select the check boxes for **Create a ZIP file** and **Create a TAR file**. You use these two files to install the agent on another system. Write down the output directory for the two files. You need to know where they are located.

When you click **Finish**, these selected options install the agent along with the application support on the local system.

Verifying the installation

The agent is populated in the Manage Tivoli Enterprise Monitoring Services window and the **kincinfo** (Windows) or **cinfo** (Linux and UNIX) output

Service/Application	Test/Subsystem	Configured	Status	Configuration	Startup	Account	Desktop	Heritidy	Version	Host	Port
Edge Help Server	HELPFH	Yes	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Tivoli Enterprise Portal	Storage	Yes	Started	N/A	N/A	N/A	N/A	N/A	06.23.00.00	localhost	
Tivoli Enterprise Portal	Desktop	Yes	Started	N/A	N/A	N/A	N/A	N/A	06.23.00.00	NCK037038...	
Tivoli Enterprise Portal Server	VPWSRV	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Universal Agent	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Warehouse Summarization and Pro...	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Agents Monitoring for Solaris OS	Template			N/A					06.23.00.00		
Agents Monitoring for HP-UX OS	Template			N/A					06.23.00.00		
Agents Monitoring for Linux OS	Template			N/A					06.23.00.00		
Agents Monitoring for AIX OS	Template			N/A					06.23.00.00		
Agents Monitoring for Windows OS	Template			N/A					06.23.00.00		
Performance Analyzer	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Monitoring Agent for Windows OS	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	Yes	No	06.23.00.00		
Warehouse Proxy	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Monitoring Agent for Database	Primary	No	Not Started	N/A					06.23.00.00		
Tivoli Enterprise Monitoring Server	TEMSEL	Yes	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		

Monitoring Agent for Database...Primary...No...N/A...06.23.00.00

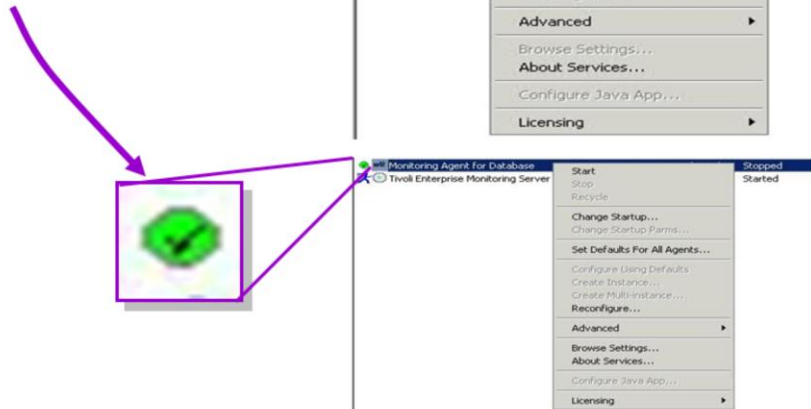
```
00 Monitoring Agent for Database
00 WINNT Version: 06.23.00.00 Build: 201209261550
00 TEMS Support for Database
00 WINNT Version: 06.23.00.00 Build: 201209261550
00 TEPS Support for Database
00 WINNT Version: 06.23.00.00 Build: 201209261550
00 TEPB Support for Database
00 WINNT Version: 06.23.00.00 Build: 201209261550
00 TEPD Support for Database
00 WINNT Version: 06.23.00.00 Build: 201209261550
```

To verify the installation, view the Manage Tivoli Enterprise Monitoring Services window. The row is highlighted in the top screen capture.

Alternatively, you can view the output of **kincinfo**, on Windows OS and **cinfo**, on either Linux or UNIX OS. The information is shown in the bottom screen capture.

Agent configuration

- Complete the agent configuration
- After the check mark displays by the agent, right-click the row and start the agent



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To complete the agent configuration in the Manage Tivoli Enterprise Monitoring Services window, right-click the agent and from the menu select **Configure Using Defaults**.

When the agent row displays a check mark in a green disk, the agent is ready to start. To start the agent, right-click the agent and from the menu, select **Start**.

On a Linux or UNIX OS, to configure the agent, you can run the command **itmcmd config -A <product_code>**. In this example the product code is **00**.

To start the agent, run the command **itmcmd agent start <product_code>**.

Agent displays as having started

The Manage Tivoli Enterprise Monitoring Services window displays the Monitoring Agent for Database agent as having started

Service/Application	Task/SubSystem	Configured	Status	Configuration	Startup	Account	Desktop	HotStdby	Version	Host	Port
Eclipse Help Server	HELPSVR	Yes	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		
Tivoli Enterprise Portal	Browser	Yes		N/A	N/A	N/A	N/A	N/A	06.23.01.00	localhost	
Tivoli Enterprise Portal	Desktop	Yes		N/A	N/A	N/A	N/A	N/A	06.23.01.00	NC9037038...	
Tivoli Enterprise Portal Server	KFWSRV	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		
Universal Agent	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		
Warehouse Summarization and Pru...	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		
Agentless Monitoring for Solaris OS	Template			N/A					06.23.01.00		
Agentless Monitoring for HP-UX OS	Template			N/A					06.23.01.00		
Agentless Monitoring for Linux OS	Template			N/A					06.23.01.00		
Agentless Monitoring for AIX OS	Template			N/A					06.23.01.00		
Monitoring Agent for Database...Primary ...Yes(TEMS) ...Started ...up-to-date....											
Warehouse Proxy		Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		
Monitoring Agent for Database	Primary	Yes (TEMS)	Started	up-to-date	Auto	LocalSystem	No	No	06.23.00.00		
Tivoli Enterprise Monitoring Server	TEMS1	Yes	Started	up-to-date	Auto	LocalSystem	No	No	06.23.01.00		

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Along with other information, you can see agent status in the Manage Tivoli Enterprise Monitoring Services window for the local computer. For the example agent, the Status column value is **Started**.

Tivoli Enterprise Portal: Desktop view

The Tivoli Enterprise Portal client displays the DatabaseAgent and the workspaces

The screenshot shows the Tivoli Enterprise Portal Desktop view. On the left, a tree view displays the following agents and workspaces:

- DatabaseAgent
 - Database Instances
 - Database TableClasses
 - Database
 - DB2 Databases
 - DB2 Database Manager
 - Performance Object Status
- Warehouse Proxy
- Summarization and Pruning Agent
- Performance Analyzer Warehouse Agent

Below the tree view, there are two tabs: "Physical" and "Report". The "Report" tab is active, displaying a table with the following data:

Node	Timestamp	Query Name	Object Name
NC9037038106.00	09/26/12 16:49:51	Database	Database
NC9037038106.00	09/26/12 16:49:51	Database_Instances	Database ==> Instances
NC9037038106.00	09/26/12 16:49:51	Database_TableClasses	Database ==> TableClasses
NC9037038106.00	09/26/12 16:49:51	DB2_Databases	DB2 Databases
NC9037038106.00	09/26/12 16:49:51	DB2_Database_Manager	DB2 Database Manager

In the Tivoli Enterprise Portal client, you can see the agent listed under the node where it is installed. You can see the objects populated as workspaces. When started, the agent automatically starts data collection. You can write situations against the collected data.

Summary

Now that you have completed this module, you can perform these tasks:

- Create an agent by using the Windows Performance Monitor (Perfmon) data source
- Add new attribute groups to the agent
- Edit attributes under each attribute group
- Install the agent along with application support locally or on remote systems
- Start monitoring data for the agent in the Tivoli Enterprise Portal client

Now that you have completed this module, you can create a new agent using the Windows Performance Monitor data source also called Perfmon. You can add new attribute groups and edit each attribute group in Agent Builder. The new agent is installed and configured, and monitoring data is found in the Tivoli Enterprise Portal client.

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