

# IBM Tivoli Composite Application Manager for Application Diagnostics version 7.1

Modifying the request data monitoring level for the IBM Tivoli Composite Application Manager Tivoli Enterprise Monitoring Agent

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In this training module for IBM Tivoli Composite Application Manager for Application Diagnostics 7.1, you learn how to modify the Request Monitoring Level for the IBM Tivoli Composite Application Manager Tivoli Enterprise Monitoring Agent. You also learn the data diagnostic benefits that are gained from monitoring both Level One and Level Two requirements analysis output information.

## Objectives

After you have completed this training module, you can accomplish these tasks:

- Name the three request monitoring levels that can be configured for Request Analysis
- Explain to others the definitions of the terms that are used in Request Analysis output information column headings
- Determine the current Request Monitoring Level
- Access the Tivoli Enterprise Monitoring Agent configuration workspace to modify the Request Monitoring Level
- Configure the Tivoli Enterprise Monitoring Agent to monitor the performance of:
  - SQL messages
  - Java messages
  - Servlets
  - Enterprise JavaBeans (EJBs)

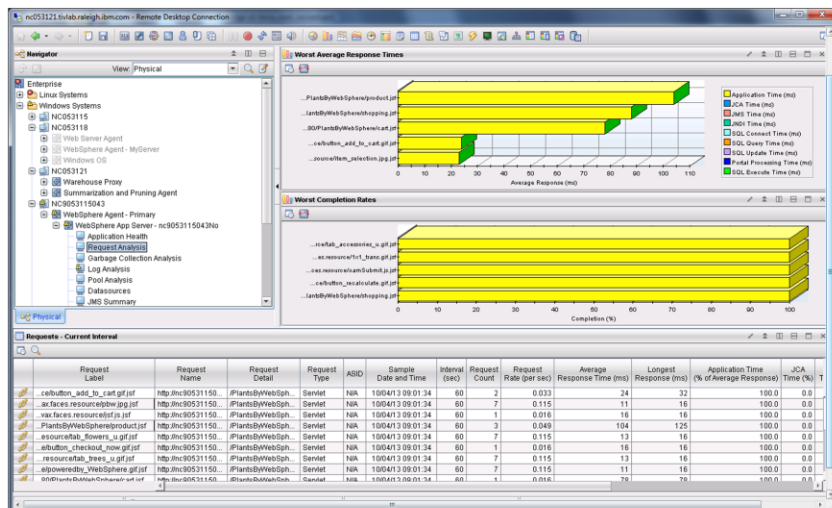
When you have completed this module, you can accomplish these tasks:

- Name the three request monitoring levels that can be configured for Request Analysis.
- Explain to others the definitions of the terms used in Request Analysis output information column headings.
- Determine the current Request Monitoring Level.
- Access the Tivoli Enterprise Monitoring Agent configuration workspace to modify the Request Monitoring Level.
- Configure the Tivoli Enterprise Monitoring Agent to monitor the performance of SQL messages, Java messages, servlets, and Enterprise Java Beans.

## What is request analysis information?

Request analysis information:

- Obtained by the IBM Tivoli Composite Application Manager data collector
- Based on the user data requests, it calculates and generates results by involving a backend database
- Displays user request counts, user request statistics, and completion time information on various user data request types (see this screen capture)



Request Analysis information is obtained by the IBM Tivoli Composite Application Manager Data Collector and is based on the tracking of individual user requests. You are collecting the details of the request and the time a request takes to complete. An example of a request is when a user clicks an item in an online catalog. When a request is generated, it involves a backend database. In the Tivoli Enterprise Portal, there is a default workspace named Request Analysis that displays the performance details of each monitored user request type. The Request Analysis workspace is shown on this slide.

## What are the request data monitoring levels?

IBM Tivoli Composite Application Manager for Application Diagnostics V7.1 request data is collected at different monitoring levels. These monitoring levels determine the types of data detail collected by the Tivoli Enterprise Monitoring Agent

There are three levels of request monitoring:

- Disabled: At this setting, no data collection takes place
  - Level One: The default monitoring level where you are able to see statistics on these:
    - Servlet messages
    - Enterprise Java Beans (EJB) messages
  - Level Two: Message types of level one are monitored along with these:
    - Request data for SQL query and update messages
    - Processing times for Java Connector Architecture (JCA), Java Message Service (JMS), and Java Naming and Directory Interface (JNDI) process times
- Note: At Level Two, you collect more types of data. This puts additional demands on processor and memory utilization

IBM Tivoli Composite Application Manager for Application Diagnostics V7.1 request data monitoring has three levels. They are Disabled, Level One, and Level Two. These monitoring levels determine the types of data detail collected by the Tivoli Enterprise Monitoring Agent. At the Disabled level, no data collection takes place. At Level One, the default monitoring level, you are able to see statistics on servlet and Enterprise JavaBeans messages. At Level Two, you monitor more data than at Level One. Request data for SQL queries and SQL updates are monitored along with processing times for Java Connector Architecture, Java Message Service, and Java Naming and Directory Interface messages are monitored at Level Two, along with all Level One messaging. The added monitoring at Level Two puts additional demands on both processor and memory utilization.

## How to determine the current request data monitoring level

Perform these actions to access the WebSphere Agent configuration workspace in the Tivoli Enterprise Portal Navigator:

1. Right-click **WebSphere App Server**
2. Select **Workspace > WebSphere App Server**
3. Observe the resulting **Application Server Summary** screen
4. View the **Request Data Monitoring Level** column to see the current monitoring level

The screenshot shows the Tivoli Enterprise Portal Navigator interface. On the left, the tree view shows the hierarchy: Tivoli Enterprise Portal Navigator > WebSphere Agent - Primary > WebSphere App Server - nc9. The 'Workspace' menu is open, and 'WebSphere App Server' is selected. The main area displays the 'Application Server Summary' table. The 'Request Data Monitoring Level' column is highlighted with a red circle, showing a value of 'Level1' for process ID '7940'. Other columns include 'Server Subnode Name', 'Level', 'Status', 'Find', 'Properties', 'Memory', 'JVM Memory', 'CPU Used', 'Instrumentation Level', 'Process ID', 'Request Data Monitoring Level', 'Request Data Sampling Rate (%)', 'Resource Data Monitoring', and 'Garbage Collection Monitor'.

Server Subnode Name	Level	Status	Find	Properties	Memory	JVM Memory	JVM Memory	CPU Used	CPU Used	Instrumentation	Process ID	Request Data Monitoring Level	Request Data Sampling Rate (%)	Resource Data Monitoring	Garbage Collection Monitor
nc9053115043No	80	Connected	8.5.0.0	08/29/13 10:24:38	65639088	2121480321	146500944	011	0.8	Basic	7940	Level1	2	Enabled	Enabled

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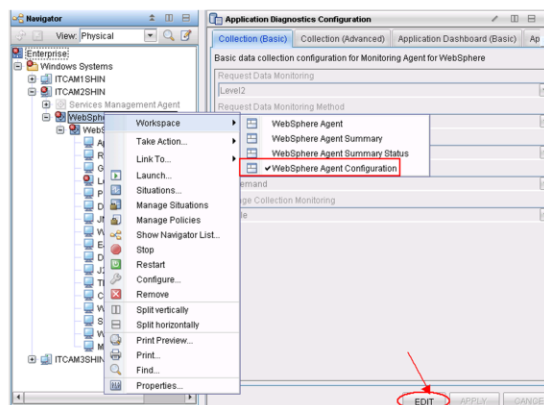
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In order to check the current Request Data Monitoring level, you access the WebSphere Agent in the Tivoli Enterprise Portal navigator. Next, right-click the subnode labeled **WebSphere App Server** followed by your server name. Select **Workspace**. Then, from the resulting menu, select **WebSphere App Server**. The resulting workspace labeled **Application Server Summary** shown on this slide allows you to see the current monitoring level as shown in the column titled **Request Data Monitoring Level**.

## How to modify the request data monitoring level (1 of 2)

Perform these actions to access the WebSphere Agent configuration workspace in the Tivoli Enterprise Portal Server Navigator:

1. Right-click **WebSphere Agent**
2. Select **Workspace > WebSphere Agent Configuration**
3. View the Application Diagnostics Configuration settings
4. Click **EDIT** to make the options active  
Note: by default, options are inactive and appear gray

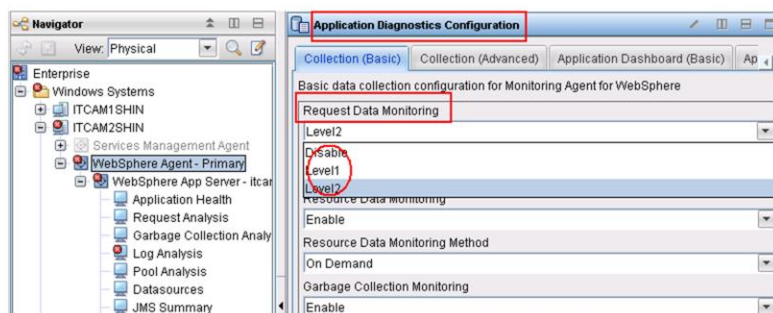


To access the WebSphere Agent configuration workspace in the Tivoli Enterprise Portal Server Navigator, you first right-click **WebSphere Agent**. Next, select **Workspace** and then **WebSphere Agent Configuration**. The resulting screen shows the Application Diagnostics Configuration settings. By default, all options are inactive. To make them active, click **EDIT**.

## How to modify the request data monitoring level (2 of 2)

The options are now selectable. Perform these actions:

1. On the **Collection (Basic)** tab, select **Request Data Monitoring**
2. Choose the required monitoring level from the available options
3. Click **Save**



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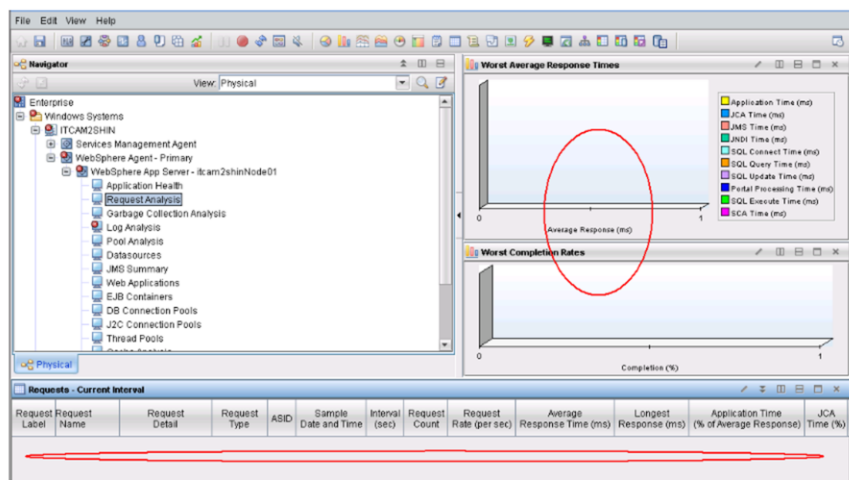
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The options are now active, or selectable. On the **Collection (Basic)** tab, select **Request Data Monitoring**. Choose the required monitoring level from the options menu. Click **Save** to commit the changes. The change is made dynamically to the Tivoli Enterprise Monitoring Agent.

## When the monitoring level is set to disabled

When the Request Monitoring Level is set to **Disabled**:

- No data is displayed in the Requests workspace view
- The Data Collector continues to collect data
- Data is not being collected by the Tivoli Enterprise Monitoring Agent



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When the Request Monitoring Level is set to Disabled, no data is displayed in the Requests workspace view. The IBM Tivoli Composite Application Manager Data Collector does continue to collect data. However; data is not collected by the Tivoli Enterprise Monitoring Agent for display by the Tivoli Enterprise Portal Server .



## Request name and response time-related Request Analysis output information column heading definitions

These definitions apply to request name and response time-related headings that are displayed in output information:

- Request Label - A shortened version of Request Name, used to display the request name in the chart view. The valid format is an alphanumeric string, with a maximum of thirty-two characters
- Average Response Time (ms) - The average time (in milliseconds) required each time this request ran during the interval. The valid format is a positive integer value
- Longest Response (ms) - The maximum time (in milliseconds) it took this request to run during the interval. The valid format is a positive integer value
- Application Time (% of Average Response) - The percentage of time this request spent processing application requests other than JCA, JMS, JNDI, and JDBC requests. The valid format is a decimal (formatted to one decimal place) value

Here on this slide are definitions for the terms Request Label, Average Response Time, Longest Response, and Application Time. These request name- and response time-related terms are column headings that you see later in the first four Request Analysis output information display columns.

## Java-related and WebSphere Portal processing time Request Analysis output information column heading definitions

These definitions apply to Java-related and WebSphere Portal processing headings that are displayed in output information:

- JCA Time (%) - The percentage of time this request spent processing Java EE Connector Architecture (JCA) requests. The valid format is a decimal (formatted to one decimal place) value
- JMS Time (%) - The percentage of time this request spent processing Java Message Service (JMS) requests. The valid format is a decimal (formatted to one decimal place) value
- JNDI Time (%) - The percentage of time this request spent processing Java Naming and Directory Interface (JNDI) requests. The valid format is a decimal (formatted to one decimal place) value
- Portal Processing Time (%) - The percentage of time the request that is spent in processing WebSphere Portal page or portlet requests. The valid format is a decimal (formatted to one decimal place) value

On this slide are definitions for the terms Java EE Connector Architecture, Java Message Service, Java Naming and Directory Interface, and Portal Processing Time Request Label, Average Response Time, Longest Response, and Application Time. These Java-related and WebSphere portal-related terms are column headings that you see later in the second four Request Analysis output information display columns.

## SQL-related and SCA Request Analysis output information column heading definitions

These definitions apply to Structured Query Language (SQL) - related and Service Component Architecture (SCA) headings that are displayed in Request Analysis output information:

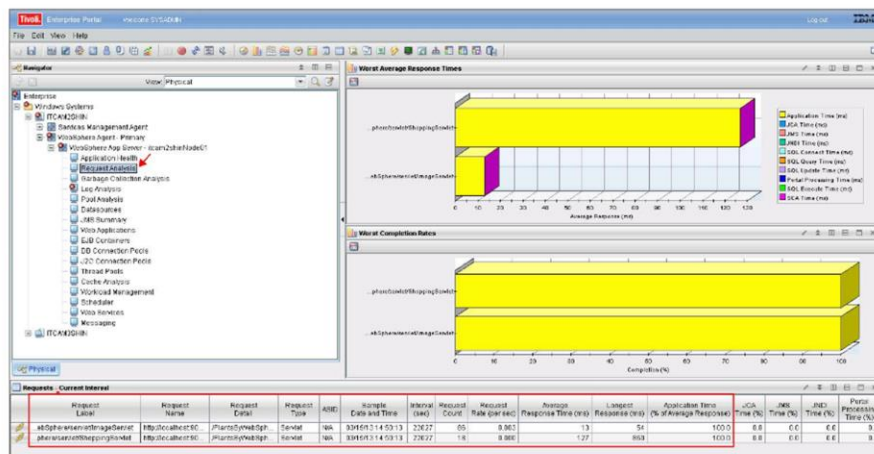
- SQL Connect Time (%) - The percentage of time this request spent connecting to a JDBC database. The valid format is a decimal (formatted to one decimal place).
- SQL Query Time (%) - The percentage of time this request spent querying a JDBC database. The valid format is a decimal (formatted to one decimal place).
- SQL Update Time (%) - The percentage of time this request spent updating a JDBC database. The valid format is a decimal (formatted to one decimal place).
- SQL Execute Time (%) - The percentage of time this request spent executing a JDBC database. The valid format is a decimal (formatted to one decimal place).
- SCA Time (%) - The percentage of time this request spent processing Service Component Architecture (SCA) requests. The valid format is a decimal (formatted to one decimal place).

On this slide are definitions for Java EE Connector Architecture, SQL Query Time, SQL Update Time and SQL Execute Time, and Service Component Architecture. They are headings seen later in the last five Request Analysis output display columns.

## Level one request data monitoring level output information

When the Request Monitoring Level is set to Level One:

- The Tivoli Enterprise Monitoring Agent collects the basic servlet and Enterprise Java Beans (EJB) -based request data for display in the Request Analysis workspaces, as shown below
- Additional data such as JNDI and SQL request data is not collected at this level



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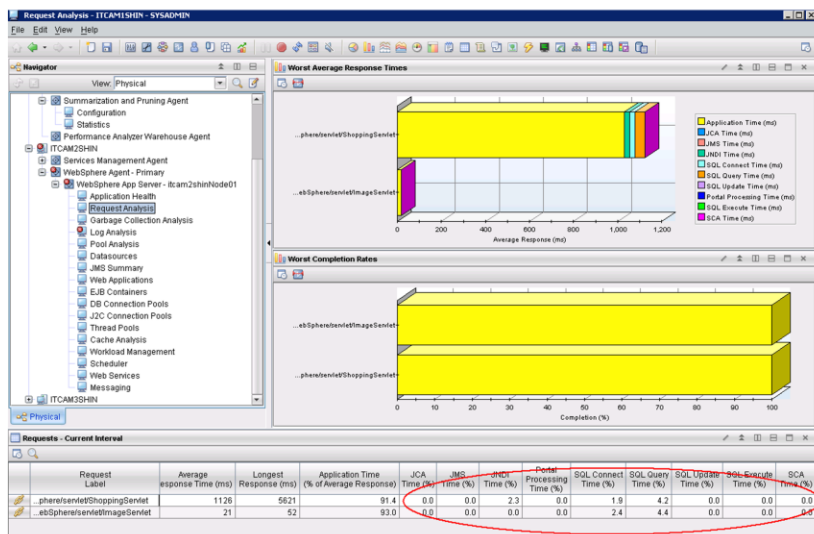
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When the Request Monitoring Level is set to Level One, the Tivoli Enterprise Monitoring Agent collects both the basic servlet and Enterprise Java Beans data. Information statistics on the data can be viewed in the Request Analysis workspaces as shown on this slide.

## Level two request data monitoring level output information

When the Request Monitoring Level is set to Level Two:

- All data that is collected at Level One continues to be captured
- Additional information from SQL queries, SQL updates are available
- Additional information from JCA, JMS, and JNDI processing times (if occurring) are available



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When the Request Monitoring Level is set to Level Two, all of the data collected at Level One continues to be captured. At Level Two you can also collect SQL, JCA, JMS, and JNDI data when these types of data exist. On this slide, the circled values in the lower right corner display the categories of SQL-specific and Java-specific information that is available for users when Level Two Request Monitoring is enabled.

## Summary

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