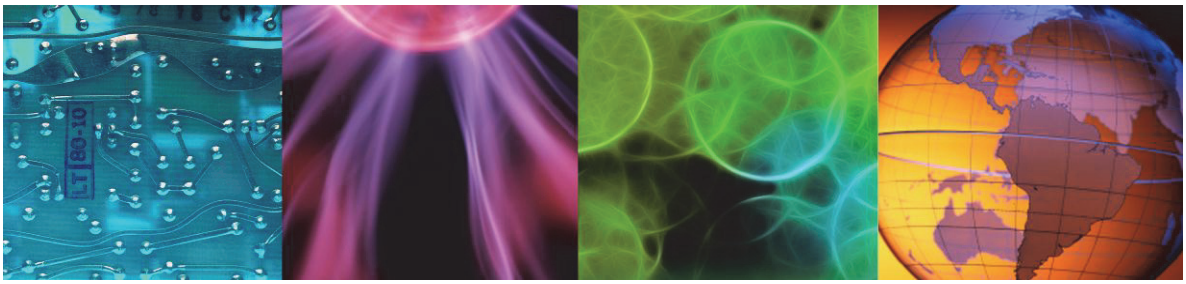
About this course

IBM Agent Builder 6.3.1



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Use IBM® Agent Builder to create, modify, debug, and install custom monitoring agents for use with IBM Tivoli® Monitoring and IBM Performance Management, both on-premises and SaaS.

In this class, you learn to create agents that monitor a vast array of data sources. You learn to add custom IBM Tivoli Monitoring application support, such as queries, situations, and workspaces. You learn to add IBM Performance Management summary dashboards and OSLC properties. You learn to deploy your custom agent in a multiplatform environment. This class includes extensive hands-on experience.

The lab environment for this course uses the Windows and Linux operating systems.

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For information about other related courses, visit the education training paths website:

ibm.com/software/software/tivoli/education/

	Details
Delivery method	Self-paced
Course level	ERC 1.0
	This course is an update of TV382 IBM Agent Builder: IBM Tivoli Monitoring 6.2.1 Agent Builder ERC1.0
Product and version	IBM Agent Builder 6.3.1 IBM Tivoli Monitoring 6.3.0.4 IBM Monitoring 8.1.1
Duration	3 days
Skill level	Intermediate

About the student

This course is intended for agent developers, system administrators, and application administrators who need to create customized agents to monitor resources and integrate that monitoring into an IBM Tivoli Monitoring or IBM Performance Management environment. Before taking this course, make sure that you have the following skills:

- Administrator-level skills in Windows and Linux
- Administrator-level skills in either of the following IBM monitoring environments:
  - IBM Tivoli Monitoring 6.X, including creating queries, situations, Navigators, and workspaces
  - IBM Performance Management 6.x SaaS or 8.1 on-premises
- Experience installing, configuring, starting, and stopping IBM agents and application support in Windows and UNIX or Linux
- Basic understanding of potential data sources, including processes, Windows services, Windows Management Infrastructure (WMI), Windows Performance Monitor (Perfmon), Common Information Model (CIM), Simple Network Management Protocol (SNMP), Simple Network Management Protocol (SNMP) events, Java Database Connection (JDBC), Java Management Extensions (JMX), HyperText Transfer Protocol (HTTP), ICMP ping, log files, Windows Event log, command return codes, socket connections, and Java API

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Learning objectives

Learning objectives

After completing this course, you should be able to perform the following tasks:

- Describe the IBM Agent Builder application and the kinds of agents you can create
- Describe the basic process of creating a custom agent with Agent Builder
- Troubleshoot an Agent Builder agent during the development process and after installation
- Create agents for both the IBM Tivoli Monitoring and IBM Performance Management environments
- Create and test agents that monitor the availability of resources, such as processes, Windows services, command return codes, and network devices
- Create and test agents that monitor events from log systems, log files, and SNMP
- Create and test agents that monitor data from server technologies
- Create and test agents that monitor data from custom technologies, such as scripts, log files, Java applications, and socket connections
- Create and test agents that include remote monitoring, custom attributes, derived attributes, Navigator groups, user-entered configuration information, and Tivoli Enterprise Portal components, such as queries, situations, and workspaces
- Create and test agents that use subnodes to optionally monitor local or remote data sources

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Course agenda

The course contains the following units:

1. Introduction to IBM Agent Builder

   This unit introduces you to Agent Builder by describing key abilities and functions that you use to create IBM agents for custom monitoring solutions.

   This unit has no exercises.

2. Agent creation basics

   The process for creating an agent is simple and straightforward. In this unit, you learn the basic process for creating an agent. The skills you gain in this unit apply to almost all agents. You can create many kinds of agents with Agent Builder. The agents can differ based on what they monitor, how they handle the data they gather, how you install and configure them, and how they display the data. How you create each agent differs based on these same criteria.

   In this unit, you create an agent called My Windows Application with a display name of MyWApp_TEP. It will monitor the HTTP server and DB2® services of any target host.

3. Monitoring Windows resources

   In this unit, you expand your previous solution by adding several new Windows data sources. You are introduced to ways in which you can modify the target attributes your agent gathers. Last, you learn how various data sources organize the data they show in the Tivoli Enterprise Portal Navigator and how you can modify that layout with Navigator groups.

   In this unit, you install an agent in an IBM Tivoli Monitoring environment. You then customize the agent to include custom application support.

4. Monitoring processes and command return codes

   In this unit, you expand your previous solution by adding several new Windows data sources. You are introduced to ways in which you can modify the target attributes your agent gathers. Last, you learn how various data sources organize the data they show in the Tivoli Enterprise Portal Navigator and how you can modify that layout with Navigator groups.

   In this exercise, you modify your My Windows Application agent to monitor the following items:

   - The Web server that provides the HTML portions of the application
   - The DB2 database services and process that provide the database back end of this application
   - The logical disk space where the database is stored
   - Windows systems events for events that are related to the HTTP server and DB2

5. Monitoring custom data sources

   In this unit, you learn how to modify an agent so that you can deploy it within an IBM Performance Management environment. You also learn how to generate and install the agent

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by using the script installers.

In the exercise in this unit, you modify the My Windows Application agent in preparation for installing it into an IBM Performance Management environment.

6. Monitoring processes and command return codes

   In this unit, you learn about availability monitoring of processes and command return codes. Unlike the Windows-only data sources, these data sources are run on multiple operating systems. Up to this point in the class, you worked with the quick installation of your agent. This chapter introduces the script installers that you use to install the agent or agent application support on a computer other than the one on which Agent Builder is running.

   In the exercise in this unit, you create a single, multiplatform agent that can be installed on both Windows and Linux. The agent monitors related, but different items on each platform.

   You add availability monitoring of the HTTP server process so that when the agent is installed on Windows, it monitors the Windows HTTP server process, but when the agent is installed on Linux, it monitors the Linux HTTP server process.

   Furthermore, the HTTP server produces a process ID (PID) file whenever it is running. Using availability monitoring of a command return code, you can create platform-specific commands that confirm the existence of this file.

7. Monitoring custom data sources

   This unit introduces you to custom data sources. Custom data sources require you to provide the instrumentation that is needed to gather the data that you want monitored. Custom data sources include monitoring with scripts, sockets, Java API, and parsing log files. It also introduces the runtime configuration feature, showing you how to create custom runtime configuration parameters. This unit finishes the installation topic by showing you how to generate Agent Builder output with the command-line interface (CLI).

   In the exercise in this unit, you create a single, multiplatform agent that can be installed on both Windows and Linux. The agent monitors related, but different items on each platform.

   You add availability monitoring of the HTTP server process so that when the agent is installed on Windows, it monitors the Windows HTTP server process, but when the agent is installed on Linux, it monitors the Linux HTTP server process.

   Furthermore, the HTTP server produces a process ID (PID) file whenever it is running. Using availability monitoring of a command return code, you can create platform-specific commands that confirm the existence of this file.

8. Monitoring remote and optional resources

   This unit teaches you how to use subnodes in your agent. You can use subnodes to enable a single installed agent to monitor multiple remote resources. You can also use them to create an agent with optional data sources that you can activate or not activate at run time. This unit also introduces several new data sources, including Simple Network Management Protocol (SNMP), HTTP server URLs, ICMP (Ping), Java Management Extension (JMX), Common Information Model (CIM), and Java Database Connectivity (JDBC). Each of these data sources requires runtime configuration, which you must refine for your agent.

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In this unit, you create agents that monitor remote resources and contain optional data sources.

In the first exercise, you create an agent that monitors multiple hosts at the same time. It pings a list of hosts to confirm their availability. It test multiple URLs from multiple HTTP servers to confirm their availability. It uses subnodes to gather the same network data from multiple servers.

In the second exercise, you place optional sets of monitored data sources into their own subnode. With this setup, you have the option to configure the subnodes when you configure the agent.

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