

Administration of IBM DataPower Gateway 10

WE531 (Classroom)

ZE531 (Self-paced)

Course description

In this course, you learn how to run system administration tasks for IBM DataPower Gateways. You manage the DataPower Gateway using various management interfaces, such as CLI, SOAP, and the WebGUI. You configure DataPower Gateway service resources. You examine the services supported on the DataPower Gateway. You create new user accounts, user groups, and domains in the DataPower Gateway interface. You troubleshoot the DataPower Gateway. You secure connections with cryptographic tools and TLS. Finally, you capture information from DataPower events with custom log settings.

For information about other related courses, see the IBM Training website:

**ibm.com**/training

General information

Delivery method

Classroom or self-paced virtual classroom (SPVC)

Course level

ERC 1.0

Product and version

IBM DataPower Gateway 10

Audience

This course is intended for administrators of the IBM DataPower Gateway product.

Learning objectives

After completing this course, you should be able to:

* Describe the DataPower deployment environments
* Set up the DataPower Gateway
* Manage the DataPower Gateway
* Explain DataPower administration
* Create and manage requests with DataPower Gateway
* Understand DataPower services
* Configure software access
* Troubleshoot and debug services
* Configure the DataPower Gateway security
* Understand logging and log targets

Prerequisites

* None

Duration

2 days

Skill level

Intermediate

Notes

The following unit and exercise durations are estimates, and might not reflect every class experience. If the course is customized or abbreviated, the duration of unchanged units will probably increase.

This course is an update of the following previous course:

* WE761: Administration of IBM DataPower Gateway V7.6

Course agenda

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| Course introduction  Duration: 15 minutes |

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| Unit 1. DataPower deployment environments  Duration: 1 hour | |
| Overview | This unit presents the various environments that a DataPower Gateway can be deployed into. A DataPower Gateway can still be deployed as a physical appliance, although there are many options for deployment of a virtual edition of the gateway. The VMware, Citrix, Linux, Docker, and cloud possibilities are listed. |
| Learning objectives | After completing this unit, you should be able to:   * Identify the different versions of the Virtual Edition, and how they differ * Describe the DataPower deployment options * List some of the physical characteristics of the DataPower hardware * Describe the Ethernet interface options for the physical and virtual gateway * List the supported runtime environments for the Virtual Edition * List the basic steps for deploying a virtual gateway in the VMware, Linux, and Docker environments |

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| Unit 2. Setting up the DataPower Gateway  Duration: 1 hour | |
| Overview | This unit introduces you to the initial process of setting up the DataPower appliance. It covers both physical and virtual appliances. You learn how to use the serial interface to connect to the CLI interface to complete the initial box setup. You also learn about some of the other appliance settings. |
| Learning objectives | After completing this unit, you should be able to:   * Describe how to start the DataPower Gateway on the various deployment types * Identify the Ethernet connections for physical and virtual appliances * Use the console connector or console view for initial configuration * Deploy a virtual appliance on various hypervisors * Describe the minimal steps that are done during the initial configuration * Access the Web Management graphical interface * Configure the Ethernet interfaces for an appliance * Configure RBM, DNS, NTP, and System Settings * Configure user interface settings * Prepare the appliance auxiliary storage * Enable support for other languages for the Web Management graphical interface logs and messages |

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| Unit 3. Managing DataPower Gateway  Duration: 1 hour | |
| Overview | This unit shows you how to download and upgrade firmware for a DataPower appliance. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the actions that you can take to manage the DataPower firmware * Explain how to download the appropriate firmware for the appliance configuration * List the add-on modules for the DataPower Gateway * Describe the tenant feature that is available for a physical DataPower Gateway * Explain how to use the web management interface to install firmware upgrades |

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| Exercise 1. Configure DataPower  Duration: 1 hour | |
| Overview | In this exercise, you configure the environment for DataPower. You log into the Command Line Interface (CLI) enable web management, review the environment, and identify the current firmware level. You also configure role-based management settings and enable the XML Management Interface (XMI). |
| Learning objectives | After completing this exercise, you should be able to:   * Enable web management for DataPower * Identify the current firmware level on the gateway * Enable the XML Management Interface (XMI) * Configure role-based management |

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| Unit 4. DataPower administration overview  Duration: 1 hour | |
| Overview | This unit shows you how to manage the DataPower appliance by using the various management interfaces, such as the CLI, SOAP, and the WebGUI. You learn how to manage resources on the DataPower flash memory. You also learn good practices for securing the DataPower appliance. |
| Learning objectives | After completing this unit, you should be able to:   * List the methods that can be used to administer the DataPower appliance * Describe how to work with files on the DataPower appliance * Determine the status of various aspects of the appliance * Explain how to run secure backup and restore * Explain how to quiesce traffic to the appliance |

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| Unit 5. Using CLI and the XML Management Interface to configure appliance access  Duration: 1 hour and 15 minutes | |
| Overview | This unit focuses on the nonbrowser approach to defining appliance and service resources. It begins with the traditional text-based approach, the command-line interface (CLI). It reviews basic syntax and commands, provides examples of resource configuration, and explains several of the ways to control CLI access. The unit then reviews the SOAP configuration management (SOMA) approach, explaining basic syntax and providing examples of XML Management Interface requests and responses. Lastly, the unit explains Appliance Management Protocol (AMP) and its syntax. |
| Learning objectives | After completing this unit, you should be able to:   * Compare and contrast the DataPower management approaches: CLI, XML Management Interface, and the WebGui * Use the CLI to configure domains, user groups, and users * Configure administrative and development access to the appliance and resources * Issue CLI commands to define and manage network resources * Construct SOAP configuration management (SOMA) requests * Use SOMA requests to configure resources and perform management functions * Construct Appliance Management Protocol (AMP) requests * Use AMP requests to run management functions |

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| Exercise 2. Managing DataPower software with the CLI and XML Management Interfaces  Duration: 1 hour | |
| Overview | In this exercise, you learn how to manage user resources and domain configuration, run simple network testing, and retrieve appliance status information. You use the CLI, SOMA, and AMP administrative interfaces. |
| Learning objectives | After completing this exercise, you should be able to:   * Create DataPower resources by using the CLI * Create DataPower resources by using SOMA requests * Send appliance management requests by using AMP |

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| Unit 6. DataPower services overview  Duration: 45 minutes | |
| Overview | This unit describes the service types that are supported on the DataPower Gateway. You examine, at a high level, what a service is and what it can communicate with. You also review the characteristics of each service type and examine the relationships between the XML-based services. |
| Learning objectives | After completing this unit, you should be able to:   * Define what a DataPower service is * List the supported services on the DataPower Gateway * Describe the similarities and differences in the features that each DataPower service supports |

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| Unit 7. Configuring software access  Duration: 45 minutes | |
| Overview | This unit shows you how to create new user accounts, user groups, and domains. You also learn how to obtain domain configuration from external resources and manage domain resources remotely. The unit describes the Blueprint Console approach to resource definition, and explains how to complete Web Management authentication by using external Directory Services such as LDAP. |
| Learning objectives | After completing this unit, you should be able to:   * Use the Web Management Blueprint Console to create user accounts, user groups, and domains * Use the role-based management (RBM) policy builder to restrict access to objects within a domain * Use the Blueprint Console to configure authentication with the Lightweight Directory Access Protocol (LDAP) |

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| Unit 8. Troubleshooting and debugging tools  Duration: 1 hour | |
| Overview | This unit describes the troubleshooting tools that are available for debugging problems on the DataPower Gateway. Several tools are available for various problems, ranging from low-level networking tools to probes that aid in debugging service policies. The logging utilities are available for capturing information that the DataPower objects generate. |
| Learning objectives | After completing this unit, you should be able to:   * Identify the troubleshooting tools that are available on the DataPower appliance * Capture information by using system logs for messages that pass through the DataPower Gateway * Configure the default system log for debugging * Configure a multi-step probe to examine detailed information about actions within rules |

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| Exercise 3. Debugging errors with troubleshooting tools  Duration: 1 hour | |
| Overview | The exercise introduces you to the most commonly used troubleshooting tools that are available on DataPower appliances. |
| Learning objectives | After completing this exercise, you should be able to:   * Set up and analyze the default system logs * Configure a multi-step probe to conduct message-level process debugging |

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| Unit 9. Configure DataPower security  Duration: 1 hour | |
| Overview | This unit describes how to use the cryptographic tools to create keys and certificates. You learn how to set up the DataPower objects that are used to validate certificates. You also configure certificate monitoring to ensure that only valid certificates exist on the appliance. Finally, you learn how to secure connections by using SSL to and from the DataPower appliance. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how to use the DataPower tools to generate cryptographic keys * Create a cryptographic identification credential object that contains a matching public and private key * Create a cryptographic validation credential to validate certificates * Set up certificate monitoring to ensure that certificates are up to date * Configure a TLS server profile that accepts an SSL connection request from a client * Configure a TLS client profile that initiates an SSL connection from a DataPower service * Configure a TLS SNI server profile that supports SNI requests |

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| Exercise 4. Securing connections with SSL  Duration: 45 minutes | |
| Overview | This exercise shows you how to create cryptographic keys by using the DataPower crypto tools. You create a crypto identification credential that stores certificate-key pairs that are used in securing SSL connections. You also create a validation credential object for validating certificates. These objects are used as part of a crypto profile. Finally, you modify a crypto profile to use the new key and certificate. |
| Learning objectives | After completing this exercise, you should be able to:   * Use the DataPower cryptographic tools to generate cryptographic keys * Use a cryptographic key and certificate object to create a cryptographic identification credential * Use a validation credential object to validate certificates * Create an SSL proxy profile to accept SSL connections from a client |

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| Unit 10. Logging and log targets  Duration: 1 hour | |
| Overview | This unit shows you how to capture information that can be generated by DataPower events by using the logging utilities, such as the log target and log action. You learn how to configure a log target to limit the messages to specific severities, categories, and event codes. You also learn how to send log messages to a remote system. |
| Learning objectives | After completing this unit, you should be able to:   * Describe the publish/subscribe model of log targets and log events * Define log levels, event categories, and event codes * Create a log category to capture messages that objects on the appliance generate * Generate a test message for the log category |

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| Exercise 5. Logging to an external system  Duration: 1 hour | |
| Overview | This exercise shows you how to capture log messages and move them off the DataPower appliance. The DataPower appliance has limited memory capacity, and the on-box system logs can quickly become full. As a logging good practice, log messages that are generated on the appliance should be moved off the appliance. Most enterprises already have a logging system such as syslog, and the DataPower appliance supports many mechanisms for integrating with these systems. |
| Learning objectives | After completing this exercise, you should be able to:   * Use the Generate Log Event action to test the log target configuration * Create a log target that subscribes to specific log categories * Create a log target that sends log messages to an external logging system |

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| Unit 11. Course summary  Duration: 15 minutes | |
| Overview | This unit summarizes the course and provides information for future study. |
| Learning objectives | After completing this unit, you should be able to:   * Explain how the course met its learning objectives * Identify IBM credentials that are related to this course * Locate resources for further study and skill development |

For more information

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