Cloud Pak for Integration

Duration: 5 Days

Overview

This training program helps IBM Administrator to gain extensive knowledge and experience of IBM Cloud Pak for Integration, User can perform the intermediate to advanced tasks related to daily management and operation, security, performance, configuration of enhancements (including fix packs and patches), customization and/or problem determination.

Audience

1.IBM System Administrator – IIB, IBM App Connect, IBM API Connect, Data Power
2.Solution Architect

Prerequisites

Knowledge about API Connect
Knowledge about APP Connect
Knowledge about DataPower
Knowledge about Message Queue Services

Course Outline

Section 1 - Planning & Installation
1.1. Understand System Requirements.
1.1.1. Understand the CPU, memory, and storage requirements for each Integration Capability
1.1.1.1. Platform Navigator
1.1.1.2. Asset Repository
1.1.1.3. API Lifecycle and Management (APIC)
1.1.1.4. Queue Manager (MQ)
1.1.1.5. Event Streams
1.1.1.6. Application Integration (ACE)
1.1.1.7. High Speed File Transfer (Aspera)
1.1.2. Understand file systems types and storage for each Integration Capability (Block or File, Access Mode, IOPS)
1.1.2.1. Platform Navigator
1.1.2.2. Asset Repository
1.1.2.3. API Lifecycle and Management (APIC)
1.1.2.4. Queue Manager (MQ)
1.1.2.5. Event Streams
1.1.2.6. Application Integration (ACE)
1.1.2.7. High Speed File Transfer (Aspera)
1.1.3. Understand High Availability modifications needed for each cluster size
1.1.4. Understand Disaster Recovery options for the following integration capabilities
1.1.4.1. API Lifecycle and Management (APIC)
1.1.4.2. Event Streams

1.2. Understand Cloud-based Installation specifics.

1.2.1. Understand installation on IBM Managed OpenShift
1.2.1.1. Create Managed Openshift Cluster
1.2.1.2. Install CP4I using IBM Cloud Schematic
1.2.2. Understand installation on Amazon Web Services
1.2.2.1. Does not include questions on OpenShift installation
1.2.3. Understand installation on Azure
1.2.3.1. Does not include questions on OpenShift installation
1.2.4. Understand on premise installation

1.3. Install IBM Cloud Pak for Integration cluster.
1.3.1. Understand installation options
1.3.1.1. New Installation on Red Hat OpenShift
1.3.1.2. New Installation using Entitled Registry
1.3.1.2.1. On IBM Red Hat OpenShift Kubernetes Service
1.3.1.2.2. Install using IBM Cloud-based installer (no downloads required)
1.3.2. Installing the different Integration capabilities

1.4. Validate access to the Platform Navigator.
1.4.1. Understand how to access the Platform Navigator
1.4.2. Understand how to access the management console

Section 2 – Security & Configuration
2.1. Understand how to configure Cloud Provider access.
2.1.1. Understand Supported Cloud Providers (includes the ones supported by IBM Cloud Private)
2.1.1.1. AWS, OpenStack, VMWare, IBM Cloud, Terraform module, Azure
2.1.2. Understand IBM Cloud Pak for Integration on Microsoft Azure
2.1.2.1. Understand deployment of Platform Navigator

2.2. Install and/or configure Identity and Access Management.
2.2.1. Understand the configuration of the Platform Identity and Access Management
2.2.1.1. Create Groups
2.2.1.2. Create Users
2.2.1.3. Define Access
2.2.2. Understand the Cloud Pak Identity and Access Management
2.2.2.1. Create Groups
2.2.2.2. Create Users
2.2.2.3. Define Access

2.3. Create a product instance of API Connect.
2.3.1. Deploy the API management capability from the Platform Navigator
2.3.2. Defining the API Connect cloud topology
2.3.2.1. Configuring management services
2.3.2.2. Registering gateway services
2.3.2.3. Registering analytics services
2.3.2.4. Registering portal services
2.3.2.5. Associating analytics services with gateway services

2.4. Create a product instance of App Connect.

2.4.1. Deploy the application integration capability from the Platform Navigator
2.4.2. Identify the process for deploying the toolkit required to create a BAR file
2.4.3. Deploy an App Connect server with a user's BAR file
2.4.4. Identify the tasks that can be performed using the App Connect dashboard
2.4.5. Create and deploy a profile

2.5. Create a product instance of DataPower.
2.5.1. Deploy the gateway capability from the Platform Navigator
2.5.2. Identify the process for running a working DataPower Gateway configuration using a containerized DataPower Gateway

2.6. Create a product instance of MQ.
2.6.1. Deploy the messaging from the Platform Navigator
2.6.2. Configure containerized MQ as a multi-instance queue manager
2.6.3. Configure containerized MQ as a single resilient queue manager
2.6.4. Connecting to a queue manager deployed in an OCP cluster
2.6.5. Identify settings of a deployed queue manager
2.6.6. Modifying the default settings for a queue manager deployment

2.7. Create a product instance of Event Streams.
2.7.1. Deploy the event streams capability from the Platform Navigator
2.7.2. Identify the underlying technology stack for IBM Event Streams
2.7.3. Configure deployment settings for Event Streams
2.7.3.1. Configure persistent storage for Kafka
2.7.3.2. Configure persistent storage for ZooKeeper
2.7.3.3. Configure persistent storage for the Schema Registry
2.7.3.4. Specify a ConfigMap for Kafka
2.7.4. Configure a multizone cluster for Event Streams
2.7.5. Explain the use of geo-replication and geo-replication nodes

2.8. Create a product instance of Aspera.
2.8.1. Deploy the high-speed transfer capability from the Platform Navigator
2.8.2. Access the Aspera desktop client (Connection Manager)
2.8.3. Explain the deployment topology for the IBM Aspera
2.8.3.1. Define Forward Proxy
2.8.3.2. Define Reverse Proxy
2.8.4. Explain the capabilities of the Aspera high-speed data transfer solution

Section 3 – Platform Administration
3.1. Understand general Administration.
SUBTASK(S):
3.1.1. Openshift Administration
3.1.1.1. Image Pull Policy
3.1.1.2. Config Maps
3.1.1.3. Secrets
3.1.1.4. Security Context Constraints
3.1.1.5. Projects
3.1.2. Uninstall CP4I
3.1.3. User Roles/Teams

3.2. Understand platform scaling mechanisms.
3.2.1. Add/Remove nodes
3.2.1.1. Add additional nodes to OCP Cluster
3.2.1.2. Remove nodes from OCP Cluster
3.2.2. Scale PODs using Horizontal Pod Autoscaler
3.2.2.1. Set scaling parameters within the workload definition
3.2.2.2. Scale up additional PODS using the OpenShift Console
3.2.2.3. Scale down the number of PODs using the OpenShift console

3.3. Understand built-in platform administration capabilities.
SUBTASK(S):
3.3.1. Monitoring
3.3.1.1. Describe the underlying products used
3.3.1.2. Describe the monitoring role-based access control (RBAC) structure
3.3.1.3. Access the monitoring dashboard
3.3.1.4. Install the monitoring service
3.3.1.5. Configure applications to use the monitoring service
3.3.1.6. Access the monitoring service APIs
3.3.2. Metering
3.3.2.1. Describe the default metrics collected
3.3.3. Alerting
3.3.3.1. Describe the default alerts
3.3.3.2. Manage alerting rules

3.4. Understand the use of log aggregation. SUBTASK(S):
3.4.1. Describe the options available for logging
3.4.2. Describe how to view and query logs
3.4.2.1. Describe the fields that are available for collating log entries
3.4.3. Describe the use of the ElasticSearch APIs
3.4.4. Configure security for logging
3.4.5. Configure logging
3.4.6. Understand how to forward to a centralized logging service

Section 4 – Product Capabilities
4.1. Understand the capabilities of Asset Repository.
SUBTASK(S):
4.1.1. Understand the purpose of Asset Repository
4.1.2. Deploy Asset Repository on Cloud Pak for Integration
4.1.3. Link to a remote Git repository and synchronize assets

4.2. Demonstrate knowledge of Application Integration capabilities.
SUBTASK(S):
4.2.1. Understand application integration capabilities
4.2.2. Create integration flows
4.2.3. Use connectors and graphical mapping

4.3. Demonstrate knowledge of creating, securing, and managing APIs.
SUBTASK(S):
4.3.1. Author an API using App Connect Designer

4.3.2. Deploy the API in Integration Server on Cloud Pak for Integration
4.3.3. Manage API using API management capability
4.3.4. Understand API Management capability
4.3.5. Understand Integration Gateway capability

4.4. Demonstrate knowledge of Event driven interactions. SUBTASK(S):
4.4.1. Understand Event Streaming capability
4.4.2. Produce and consume messages

4.5. Demonstrate knowledge of Messaging capabilities.
SUBTASK(S):
4.5.1. Understand the Messaging capability
4.5.2. Configure messaging to allow message production and consumption
4.5.3. Produce and consume messages
4.5.4. Connect Event Streams to message queues

Section 5 – Troubleshooting
5.1. Understand how to use platform tracing feature to diagnose application problems.
SUBTASK(S):
5.1.1. Understand command line utilities to view workload logging and tracing
5.1.2. Enable debugging for user authentication issues
5.1.3. Understand the troubleshooting techniques and tools within each of the Cloud Pak's capabilities
5.1.4. Understand platform capabilities to view and analyze workload resource allocation and usage

5.2. Understand logging to troubleshoot platform issues.
5.2.1. View Events and Logs through the Common Services Kibana Console
5.2.2. View events and logs using OpenShift Cluster Management Console
5.2.3. View application specific logs by accessing the Container in interactive mode
5.2.4. Understand the use of the command line to get pod details

5.3. Understand how to troubleshoot using platform command line capabilities.
5.3.1. Understand the use of the command line to get pod details
5.3.2. Retrieve the log output for a specific build, deployment, or pod
5.3.3. Open a remote shell session to a container
5.3.4. Enable verbose output from command lines