IBM DATA POWER DEVELOPMENT TRAINING

Environment Readiness Guide

Irfan Shahzad
Irfan.shahzad@outlook.com
Independent Technology Consultant
www.linkedin.com/in/irfan-shahzad
medium.com/@irfan-shahzad
github.com/ishahzad

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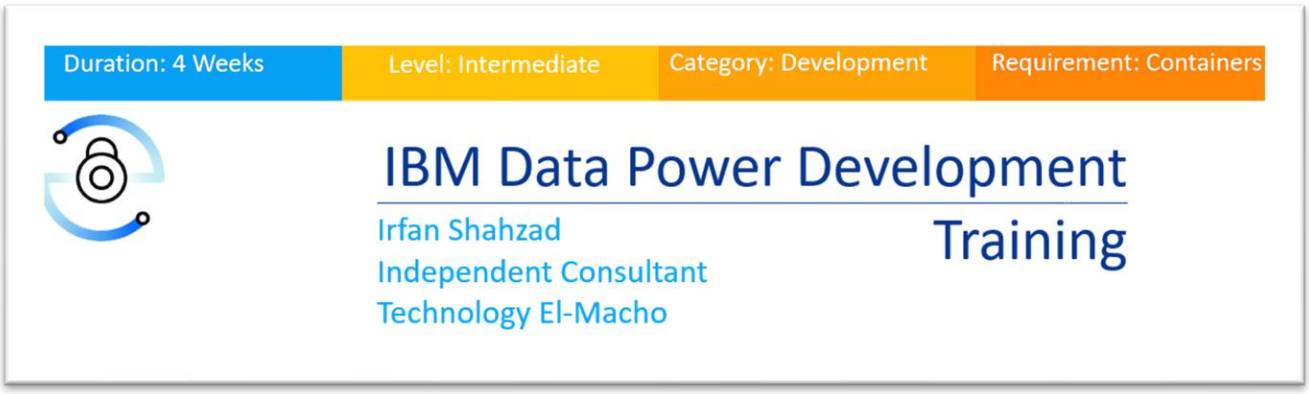
Introduction & Training Objective

Welcome to IBM Data Power v10.x development course. This training course is **designed for integration developers** interested in gaining hands on experience with IBM Data Power v10.x product. During the training course, we will learn how to implement different integration scenarios supported by the product along with enforcement of necessary security mechanisms.

By the end of this course, you will hopefully be comfortable with the product itself and should be able to develop different types of services and supporting objects according to your use case within IBM Data Power Web Console.

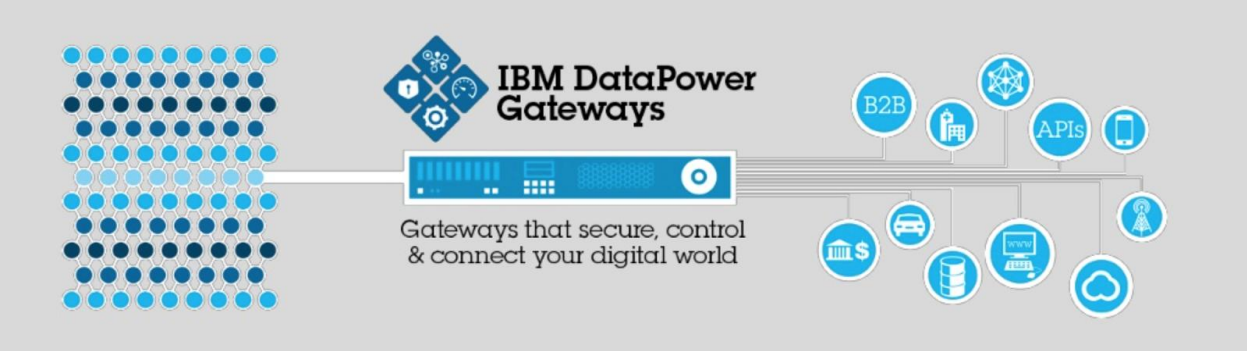


Note: Some of the advanced features of the product will not be covered during this training.

IBM Data Power Gateway

IBM® DataPower® Gateway serves as the enterprise-grade, field-proven, security-rich API gateway. The DataPower Gateway is available in physical, virtual, cloud, Linux®, and Docker form factors.

The DataPower Gateway is a single multichannel gateway that helps provide security, control, integration, and optimized access. These capabilities apply to a full range of mobile, web, application programming interface (API), service-oriented architecture (SOA), B2B, and cloud workloads. The capabilities help you to rapidly expand the scope of valuable IT assets to new channels that provide customers, employees, and partners with access to critical resources.



IBM Data Power Gateway for Developers

As mentioned earlier, IBM Data Power is available in many form factors and covering details for each is beyond the scope of this training. IBM® provides options to run the DataPower® Gateway in a variety of software-only form factors. A virtual DataPower Gateway provides similar function to a physical appliance. Each form factor has inherent advantages and considerations that are specific to the deployment environment and its intended use.

To get you easily started, we will be using the Virtual offering of the IBM Data Power, specifically IBM Data Power Gateway for Developers.

Note: IBM Data Power Gateway for developers is a no-cost offering that is available for running in only a Docker environment and does not include IBM Software Subscription and Support.

Development Environment Readiness

Prerequisites for this training require following software to be installed on the development machine. Installation of some software is optional (but recommended) while others are mandatory (highlighted in bold). Refer to the following table for details:

Category	Software	
Container Management Platform	**Podman** or Docker	
Version Control	**Git**	GitHub
Messaging & Event Steaming	IBM MQ v9.x	Apache Kafka
Development & Testing	Visual Studio Code	Postman

Installing Podman or Docker

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of Podman Desktop on RedHat Enterprise Linux v9.x.

Podman Desktop:

https://podman.io/

https://podman.io/docs/installation

https://podman.io/get-started

Docker Desktop:

https://www.docker.com/

https://www.docker.com/products/docker-desktop/

https://docs.docker.com/engine/install/

https://docs.docker.com/get-started/workshop/

Installing Version Control – Git

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of Git on RedHat Enterprise Linux v9.x.

Download Git:

https://git-scm.com/downloads

https://git-scm.com/downloads/linux

Clone IBM Data Power Training repository from GitHub:

git clone https://github.com/ishahzad/ibm-datapower-training.git

Learning Material:

https://git-scm.com/videos

https://git-scm.com/book/en/v2

Installing IBM MQ v9.x Server

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of IBM MQ v9.x on RedHat Enterprise Linux v9.x using OCI Image from IBM Container Registry.

Download IBM MQ v9.x:

https://developer.ibm.com/articles/mq-downloads/

https://developer.ibm.com/tutorials/mq-connect-app-queue-manager-windows/

https://developer.ibm.com/tutorials/mq-connect-app-queue-manager-ubuntu/

Download IBM MQ v9.x Image from IBM Container Registry:

podman pull icr.io/ibm-messaging/mq:latest

podman volume create qmdata

podman run --env LICENSE=accept --env MQ_QMGR_NAME=QMGR --env MQ_DEV=true /

--volume qmdata:/mnt/mqm --publish 1414:1414 --publish 9443:9443 /

--detach --name ibm-mq-server icr.io/ibm-messaging/mq:latest

Note: Replace **podman** with **docker** in the aforementioned commands in case you are using docker.

Learning Material:

https://developer.ibm.com/tutorials/mq-connect-app-queue-manager-containers/

Installing Visual Studio Code

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of Visual Studio Code and required plugins on RedHat Enterprise Linux v9.x.

Download and Install Visual Studio Code:

https://code.visualstudio.com/download

https://code.visualstudio.com/docs/setup/setup-overview

Install Following Plugins:

https://marketplace.visualstudio.com/items?itemName=redhat.vscode-xml

https://marketplace.visualstudio.com/items?itemName=redhat.vscode-yaml

https://marketplace.visualstudio.com/items?itemName=42Crunch.vscode-openapi

https://marketplace.visualstudio.com/items?itemName=Postman.postman-for-vscode

https://marketplace.visualstudio.com/items?itemName=donjayamanne.githistory

Learning Material:

https://code.visualstudio.com/docs/getstarted/getting-started

Installing Postman

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of Postman on RedHat Enterprise Linux v9.x.

Download and Install Postman:

https://www.postman.com/downloads/

https://learning.postman.com/docs/getting-started/installation/installation-and-updates/

Learning Material:

https://www.postman.com/learn/

Installing Apache Kafka

Refer to the product documentation for requirements and installation steps for desired platform and architecture. I will be covering steps for the installation of Apache Kafka on RedHat Enterprise Linux v9.x.

Download and Install Apache Kafka:

https://kafka.apache.org/downloads

https://kafka.apache.org/quickstart

Learning Material:

https://kafka.apache.org/intro