Foundations for HPE Ezmeral Solutions, Rev. 22.41 H61N6AAE

HPE course number	H61N6AAE
Course length	4 hours
Delivery mode	eLearning
Access period	Unlimited access for one year from the date of purchase
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This course provides an overview of the prerequisites required for HPE Ezmeral solutions. Topics include introduction to big data, containers, Docker, Kubernetes, authentication protocols, data formats, distributed file system (DFS), and MapR data fabric. After completing this course, you should be able to identify various technologies and their usage with respect to HPE Ezmeral solutions. The course consists of 80% theoretical concepts and 20% practice exercises (Docker and Kubernetes modules).

Audience

This course is for system administrators who would like to understand the basic technologies with respect to HPE Ezmeral prior to registering for the HPE Ezmeral Runtime Enterprise Administration course.

Course objectives

At the end of the course, the participant should be able to:

- Demonstrate basic knowledge of HPE Ezmeral Runtime Enterprise pre-requisites

- Describe the big data concept, define big data and data types, understand big data storage, and understand some big data frameworks

- Explain the concept of virtual machines and containers, make a comparison between them, and describe container use cases

- Recognize the Docker concept, architecture, and its components

- Install Docker, use some Docker commands, and navigate Docker Hub

- Understand the Kubernetes concept, architecture and its components, and use some kubectl commands

- Explain the need for security authentication protocols

- Explain Kerberos, and the LDAP and SAML protocols

- Describe data serialization, data exchange formats,

- Define XML

- Explain JSON and YAML formats

- Describe the HPE Ezmeral Runtime Enterprise solution, compare SKUs and describe some features

- Describe the distributed file system concept, the Hadoop file system, and HPE Ezmeral data fabric advantages

Detailed course outline

Lesson		
Lesson 1: Introduction to Big Data	• Define the concept of big data • Define types of data • Describe some big data characteristics	• Explain how big data is stored and the need for distributed storage/processing • Recognize commonly used big data applications
Lesson 2: Introduction to the Virtualization	• Describe virtualization concept basics • Explain the container platform	• Identify the difference between VMs and containers • List container applicability and usage
Lesson 3: Introduction to Docker	• Describe the Docker concept • Describe Docker architecture • Demonstrate how to install Docker on the Linux platform	• Demonstrate how to use Docker image files • Demonstrate the Docker image library (Docker Hub) • Distinguish repositories such as Docker public repo, Harbor Repo, Google Repo and HPE Repo
Lesson 4: Introduction to Kubernetes	• Define Kubernetes • Describe the Kubernetes concept and usage • Recognize Kubernetes cluster architecture and its components	• Define Kubernetes namespaces • Execute commonly used Kubectl commands
Lesson 5: Introduction to Security Authentication Protocols	• Describe Kerberos and use cases • Describe LDAP and use cases	• Describe SAML and use cases
Lesson 6: Introduction to Data Formats	• Describe data serialization • Define an XML file type	• Interpret the structure of a YAML file type and use cases • Interpret the structure of a JSON file type and use cases
Lesson 7: Introduction to HPE Ezmeral Runtime Enterprise	• Define the HPE Ezmeral Runtime Enterprise solution • Describe the various HPE Ezmeral Runtime Enterprise product offerings	• Recognize the differences between HPE Ezmeral Runtime Enterprise product offerings
Lesson 8: Introduction to HPE Ezmeral Data Fabric	• Describe the need for DFS • Explain Hadoop concepts	• Describe the MapR data fabric concept • Differentiate between HDFS and MapR

Detailed lab outline

Lesson		
Lesson 3: Introduction to Docker	• Docker installation	• Test some frequently used commands
Lesson 4: Introduction to Kubernetes	• Practice some of the frequently used kubectl commands	

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