HPE Digital Learner Ezmeral

This content pack delivers information and skills related to the HPE Ezmeral Container Platform. The content includes an overview of HPE ML Ops, new features and updates from EPIC 3.7 to 4.0, and teaches developers how to deploy clusters and provide real life prediction analysis for specific use cases. This content pack also provides a safe environment to perform hands-on labs related to the installation of HPE Ezmeral Container Platform 5.2 and performance of basic user testing on the deployment.

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**Audience**
Customers and HPE personnel who are system developers, big data application developers, business analysts, data scientists, data engineers, HPE ECP administrators, Hadoop administrators, system administrators, network administrators, and IT managers

**Prerequisites**
- Hands-on knowledge of EPIC
- Hadoop/Al/ML/ big data application administration experience (Cloudera/ Hortonworks, Spark, Jupyter Notebook, Tensorflow, etc.)
- Unix/Linux user and administration experience
- Experience with the machine learning lifecycle (e.g. model training/development and model deployment)
- Bash/shell/python scripting

**Content Pack objectives**
During this course, students will learn:
- Artificial intelligence (AI)/machine learning (ML)
- Improved manageability and flexible resource control
- Enhanced enterprise security
- Expanded support for application images
- How to set up the project repository
- How to create a training cluster
- How to create a Jupyter notebook and attach it to a training cluster
- An example of a typical machine learning workflow
- How to operationalize your model
- How to make a prediction (inference)
- How to obtain in-depth knowledge of HPE Ezmeral ML Ops
- How to apply best practices to help accelerate the development of user-based prediction analysis
- The HPE ECP installation requirements and deployment procedures to independently and successfully perform the tasks in a customer production environment

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## Detailed Content Pack outline

### HPE Ezmeral Container Platform Delta (version 3.7 – 4.0)

- HPE ML Ops
- Improve Manageability and Resource Optimization—New WebUI
- Improve Manageability and Resource Optimization—Five User Personas
- Improve Manageability and Resource Optimization—Auto-Scaling
- Improve Manageability and Resource Optimization—HAProxy Application Service Load Balancing
- Improve Manageability and Resource Optimization—Local Tenant HDFS Storage/Compute Separation
- Improve Manageability and Resource Optimization—Improved Data Metric Collection
- Improve Manageability and Resource Optimization—Security Improvements

### HPE Ezmeral ML Ops

- Machine Learning Ops Overview
- Personas Overview
- Project Repository Setup
- Training Cluster Setup
- Notebook Setup
- Model Registry and Deployment
- Inference

### HPE Ezmeral Container Platform 5.2 Install

- Lab 1: Login to HPE vLab
  - Task 1: Initial log-on to HPE vLab
  - Task 2: Lab system setup
  - Task 3: Initial log-on to controller and hosts
- Lab 2: HPE ECP Package Deployment—Controller
  - Task 1: HPE ECP package deployment
  - Task 2: Controller configuration and installation via GUI
- Lab 3: Gateway and Worker Hosts Deployment
  - Task 1: HPE ECP Gateway deployment
  - Task 2: Kubernetes hosts deployment
  - Task 3: EPIC hosts/workers deployment

- Lab 4: Deploy “Springboot” Kubernetes Application (KubeDirector) via Web Terminal
  - Task 1: Create Kubernetes cluster and tenant
  - Task 2: Deploy KubeDirector application in HPE Container Platform
  - Task 3: Delete application
- Lab 5: Deploy Hello World Application Image and Create a Virtual Cluster
  - Task 1: Install and register app in the EPIC App Store
  - Task 2: Create a cluster with Hello World

- Lab 1: Initial Epic Access
- Lab 2: Get Started with ML Ops
- Lab 3: User Roles
- Lab 4: Create Notebooks with Training Cluster
- Lab 5: Training First Model
- Lab 6: Register and Deploy the Model
- Lab 7: Inference
- Lab 8: Local Notebook to ML Ops Training Cluster
- Lab 9: Spark Deployment
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