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## HDP Developer: Custom YARN Applications

### Overview

This course is designed for developers who want to create custom YARN applications for Apache Hadoop. It will include: the YARN architecture, YARN development steps, writing a YARN client and ApplicationMaster, and launching Containers. The course uses Eclipse and Gradle connected remotely to a 7-node HDP cluster running in a virtual machine.

### Course Objectives

- Describe the YARN architecture
- Describe the YARN application lifecycle
- Write a YARN client application
- Run a YARN application on a Hadoop cluster
- Monitor the status of a running YARN application
- View the aggregated logs of a YARN application
- Configure a ContainerLaunchContext
- Use a LocalResource to share application files across a cluster
- Write a YARN ApplicationMaster
- Describe the differences between synchronous and asynchronous ApplicationMasters
- Allocate Containers in a cluster
- Launch Containers on NodeManagers
- Write a custom Container to perform specific business logic
- Explain the job schedulers of the ResourceManager
- Define queues for the Capacity Scheduler

### Hands-On Labs

- Run a YARN Application
- Setup a YARN Development Environment
- Write a YARN Client
- Submit an ApplicationMaster
- Write an ApplicationMaster
- Requesting Containers
- Running Containers
- Writing Custom Containers

### Duration

2 days

### Target Audience

Java software engineers who need to develop YARN applications on Hadoop by writing YARN clients and ApplicationMasters.

### Prerequisites

Students should be experienced Java developers who have attended *HDP Developer: Java* **OR** *HDP Developer: Pig and Hive* **OR** are experienced with Hadoop and MapReduce development.

### Format

50% Lecture/Discussion

50% Hands-on Labs

### Certification

Hortonworks offers a comprehensive certification program that identifies you as an expert in Apache Hadoop. Visit [hortonworks.com/training/certification](http://hortonworks.com/training/certification) for more information.

### Hortonworks University

Hortonworks University is your expert source for Apache Hadoop training and certification. Public and private on-site courses are available for developers, administrators, data analysts and other IT professionals involved in implementing big data solutions. Classes combine presentation material with industry-leading hands-on labs that fully prepare students for real-world Hadoop scenarios.

#### About Hortonworks

Hortonworks develops, distributes and supports the only 100 percent open source distribution of Apache Hadoop explicitly architected, built and tested for enterprise-grade deployments.

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