# CLOUDERA TRAINING FOR APACHE HBASE

## Introduction to Hadoop and HBase

- What Is Big Data?
- Introducing Hadoop
- Hadoop Components
- What Is HBase?
- Why Use HBase?
- Strengths of HBase
- HBase in Production
- Weaknesses of HBase

## HBase Tables

- HBase Concepts
- HBase Table Fundamentals
- Thinking About Table Design

## The HBase Shell

- Creating Tables with the HBase Shell
- Working with Tables
- Working with Table Data

## HBase Architecture Fundamentals

- HBase Regions
- HBase Cluster Architecture
- HBase and HDFS Data Locality

## HBase Schema Design

- General Design Considerations
- Application-Centric Design
- Designing HBase Row Keys
- Other HBase Table Features

## Basic Data Access with the HBase API

- Options to Access HBase Data
- Creating and Deleting HBase Tables
- Retrieving Data with Get
- Retrieving Data with Scan
- Inserting and Updating Data
- Deleting Data

### *More Advanced HBase API Features*

- Filtering Scans
- Best Practices
- HBase Coprocessors
- Best Practices
- Client-Side Write Buffer

### *HBase on the Cluster*

- How HBase Uses HDFS
- Compactions and Splits

### *HBase Reads and Writes*

- How HBase Writes Data
- How HBase Reads Data
- Block Caches for Reading

### *HBase Performance Tuning*

- Column Family Considerations
- Schema Design Considerations
- Configuring for Caching
- Dealing with Time Series and Sequential Data
- Pre-Splitting Regions

### *HBase Administration and Cluster Management*

- HBase Daemons
- ZooKeeper Considerations
- HBase High Availability
- Using the HBase Balancer
- Fixing Tables with hbck
- HBase Security

### *HBase Replication and Backup*

- HBase Replication
- HBase Backup
- MapReduce and HBase Clusters

### *Using Hive and Impala with HBase*

- Using Hive and Impala with HBase

### *Appendix A: Accessing Data with Python and Thrift*

- Thrift Usage

- Working with Tables
- Getting and Putting Data
- Scanning Data
- Deleting Data
- Counters
- Filters

*Appendix B: OpenTSDB*
*Appendix C: hbase-spark API*

- Introduction
- Architecture and Integration Patterns
- Typing and API Usage
- Future Work