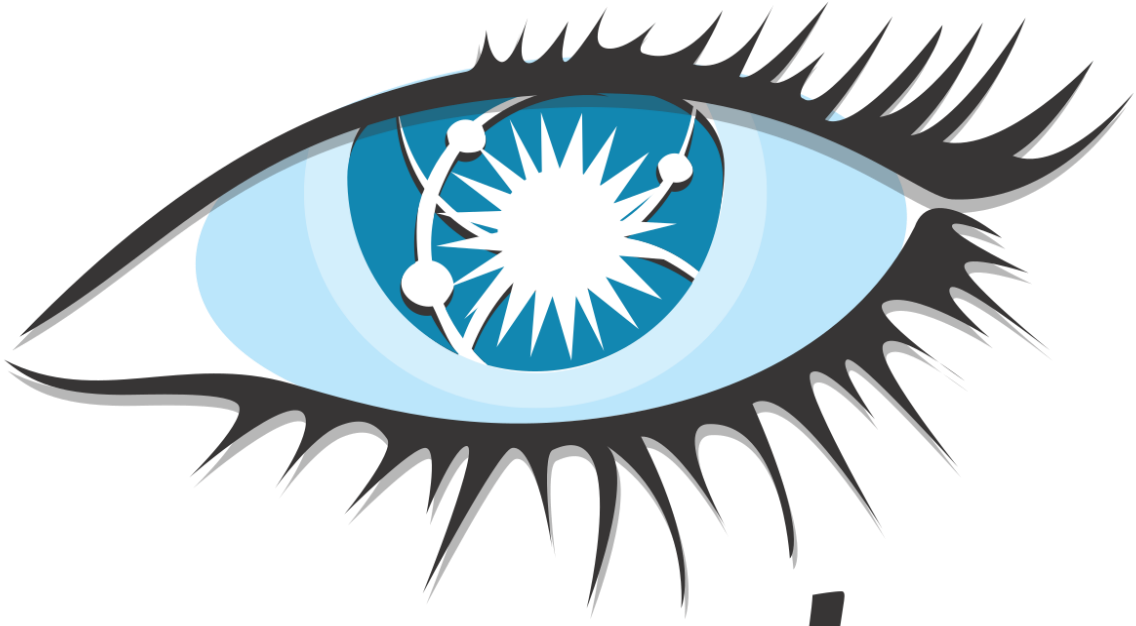
TechyEdz Solutions

A Blended Learning Approach



cassandra

Apache Cassandra

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Apache Cassandra

Course Overview:

Apache Cassandra is a free, open-source project and a second-generation distributed No SQL database and is considered to be the best choice for high availability and scalability databases, particularly when dealing with large amounts of data. Cassandra supports replication across multiple data centres, while also making the write and read processes highly scalable by offering tenable consistency. This Apache Cassandra training course will provide you with an overview of the fundamentals of Big Data and No SQL databases, an understanding of Cassandra and its features, architecture and data model.

Course Outline:

1. Getting Started with the Architecture

- Understanding that Cassandra is a Distributed Database
- View Cassandra documentation
- Learning What Snitch is For
- Learning What Gossip is For
- Check your understanding
- Learning How Data Gets Distributed and Replicated
- Access related documentation
- View the course projects

2. Installing Cassandra

- Downloading Cassandra
- Locate the tarball
- Ensuring Oracle Java is Installed
- Check that Oracle Java is installed
- Installing Cassandra
- Viewing the Main Configuration File
- Providing Cassandra with Permission to Directories
- Starting Cassandra
- Checking Status
- Accessing the Cassandra system.log File

3. Communicating with Cassandra

- Understanding Ways to Communicate with Cassandra
- View CQL commands

- Using cqlsh
- Access cqlsh
- Use cqlsh

4. Creating a Database

- Understanding a Cassandra Database
- View the existing keyspaces
- Defining a Keyspace
- Define a keyspace
- Create a second database

5. Creating a Table

- Creating a Table
- Enter a keyspace
- Defining Columns and Data Types
- Defining a Primary Key
- Recognizing a Partition Key
- Specifying a Descending Clustering Order
- Create a second table

6. Inserting Data

- Understanding Ways to Write Data
- Using the INSERT INTO command
- Using the COPY command
- Seeing How Data is Stored in Cassandra
- Seeing How Data is Stored on Disk
- See how data is stored on disk
- Insert data

7. Modeling Data

- Understanding Data Modeling in Cassandra
- Understanding Secondary Indexes
- Use a WHERE clause
- Creating a Secondary Index
- Defining a Composite Partition Key

8. Creating an Application

- Understanding Cassandra Drivers

- View the Cassandra drivers
- Setting Up a Development Environment
- Access a development environment
- Creating an Application Page
- Executing a Query
- Displaying Query Results
- Lab: Create A Second Application - Part 1
- Lab: Create A Second Application - Part 2
- Lab: Create A Second Application - Part 3

9. Updating and Deleting Data

- Updating Data
- Understanding How Updating Works
- Get an inside view into how updating works
- Deleting Data
- Update and delete data

10. Selecting Hardware

- Understanding Hardware Choices
- Understanding RAM and CPU
- Recommendations
- Selecting Storage
- Deploying In the Cloud

11. Adding Nodes to a Cluster

- Understanding Cassandra Nodes
- Having a Network Connection - Part 1
- Having a Network Connection - Part 2
- Having a Network Connection - Part 3
- Specifying the IP Address Of A Node In
- Cassandra
- Specifying Seed Nodes
- Bootstrapping a Node
- Cleaning Up a Node
- Using Cassandra-stress
- Lab: Add a Third Node

12. Monitoring A Cluster

- Understanding Cassandra Monitoring Tools
- Using Node tool
- Using J Console
- Learning About Ops Centre

13. Repairing Nodes

- Understanding Repair
- Repairing Nodes
- Understanding Consistency - Part 1
- Understanding Consistency - Part 2
- Understanding Hinted Handoff
- Understanding Read Repair
- Lab: Repair Nodes for a Key space

14. Removing a Node

- Understanding Removing a Node
- Decommissioning a Node
- Putting a Node Back Into Service
- Removing a Dead Node
- Lab: Put a Node Back Into Service

15. Redefining a Cluster for Multiple Data Centres

- Redefining For Multiple Data Centres - Part 1
- Redefining For Multiple Data Centres - Part 2
- Changing Snitch Type
- Modifying cassandra-rackdc.properties
- Changing Replication Strategy - Part 1
- Changing Replication Strategy - Part 2

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Prerequisites:

- Fundamental knowledge of any programming language
- Basic understanding of any database, SQL and query language for databases
- Working knowledge of Linux or Unix based systems

Who Should Attend:

The following roles are best suited for this course to enhance their skills and expertise:

- Professionals aspiring for a career in NoSQL databases and Cassandra

- Analytics professionals
- Research professionals
- IT developers
- Testers
- Project managers

Number of Hours: 40hrs

Key Features:

- One to One Training
- Online Training
- Fastrack & Normal Track
- Resume Modification
- Mock Interviews
- Video Tutorials
- Materials
- Real Time Projects
- Virtual Live Experience
- Preparing for Certification

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