XCELERATE TRAINING INSTITUTE

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INFORMATION TECHNOLOGY

BigData Hadoop Using Oracle NoSQL Database

DURATION	LANGUAGE	FORMAT
10 days	**English**	**Classroom / Online**

Upcoming dates

Dates	Venue	Format	Fee
14 – 25 Jun 2027	Live online	Online (live)	**€1,800**
19 – 30 Jul 2027	France	Classroom	**€7,200**
20 – 31 Dec 2027	Live online	Online (live)	**€1,800**

Register or ask a question

Online: staging.x8ti.com/course/bigdata-hadoop-using-oracle-nosql-database/

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BigData Hadoop Using Oracle NoSQL Database

Introduction

This course by Xcelerate Training Institutes introduces Oracle NSQL Database, explaining its capabilities, benefits, and suitability for storing large datasets. Participants will learn about NoSQL technology and understand when to use Oracle NoSQL instead of traditional relational databases.

Learning Objectives

Participants will learn to monitor and optimize Oracle NoSQL Database performance, perform backup and recovery, create applications with APIs, understand Big Data and NoSQL use cases, describe key components and benefits of NoSQL Database, install and configure the database.

Training Methodology

This training program will teach you how to use Hadoop, a powerful framework for processing large datasets, in conjunction with Oracle NoSQL Database, a flexible and scalable database designed for handling unstructured data. Through hands-on exercises and real-world examples, you'll learn how to effectively store, manage, and analyze massive amounts of data using these technologies. The curriculum will cover topics such as Hadoop architecture, HDFS, MapReduce, Hive, Pig, and the integration of Oracle NoSQL Database into the Hadoop ecosystem. By the end of the training, you'll have the skills and knowledge to successfully implement Big Data solutions using Hadoop and Oracle NoSQL Database.

Benefits for Your Organisation

Oracle NoSQL Database, a scalable and high-performance database, offers advantages for organizations leveraging significant BigData Hadoop. Its key benefits include:

- Scalability: It seamlessly handles massive datasets and can be easily scaled horizontally to accommodate growing data volumes.
- Performance: It delivers exceptional performance, enabling real-time analytics and rapid data processing.
- Flexibility: It supports a wide range of data models, including key-value, document, and graph, providing flexibility for various use cases.
- Integration: It integrates seamlessly with Hadoop ecosystems, allowing organizations to leverage existing investments and expertise.
- Reliability: It ensures high availability and data durability, minimizing downtime and safeguarding critical information. By adopting Oracle NoSQL Database, organizations can unlock the full potential of BigData Hadoop, gain valuable insights from their data, and drive innovation and business success.

Benefits for You

Oracle NoSQL Database offers several advantages for BigData Hadoop environments. Its scalability and performance, coupled with its ability to handle unstructured and semi-structured data, make it an ideal choice for large-scale data processing and analytics. Additionally, Oracle NoSQL Database's integration with Hadoop ecosystems simplifies data ingestion, processing, and analysis, while its high availability and

disaster recovery features ensure data reliability and business continuity.

Who Should Attend

This course is designed for Application Developers, Database Administrators, and Java Developers.

Course Outline

Big Data and NoSQL Database Overview

This section provides a foundation in Big Data concepts:

- Evolution of data management
- Introduces NoSQL databases
- Compares NoSQL and relational databases
- Discusses factors to consider when choosing NoSQL
- Overviews Oracle's Big Data solutions
- Including HDFS

Oracle NoSQL Database

This section delves into:

- Oracle NoSQL Database
- Explaining its key features
- Benefits
- Supported data types
- Operational mechanics
- Covers database components
- Data storage (partitions and key-value pairs), and introduces KVLite.

Designing a Schema

This section focuses on schema design:

- Explaining key components
- Their identification
- Storage and design considerations
- Covers value components and their types

Consistency

This section explores consistency in the context of:

- Write and read operations
- Covers default consistency
- Application of consistency
- Predefined
- Time-based
- Version-based consistency

Durability

- Focuses on durability in write operations
- Covering default durability
- Application of durability
- Synchronization-based
- Acknowledgment-based durability

Credit Card Application and APIs Overview

- Provides an overview of a credit card approval application
- Data analysis
- Schema design
- Key structure
- APIs

Administration Overview

- Covers administrator tasks
- KV Store components
- Replication
- Sharking
- Partitioning
- Balancing
- Security
- Key performance metrics (latency, throughput, cache) and deployment steps

Planning the Installation

- Focuses on installation planning
- Including workload analysis
- Hardware resource identification
- Storage node installation
- Configuration analysis
- Record size estimation
- Workload estimation
- Throughput requirements
- Store configuration
- Cache size determination

Setting up Oracle NoSQL Database Nodes

- Covers prerequisites
- Directory creation
- Software extraction
- Installation verification
- Configuration using the make boot configure utility

Configuring and Deploying the KV Store

- Introduces configuration tools
- Plans, plan lifecycle
- Plan review and tracking
- The Admin Console
- Data center creation
- Storage pool creation

Store Parameters

- Covers KV Store parameters
- Viewing and modifying parameters using CLI and Admin Console
- Setting admin
- Storage node
- Replication node parameters

Optimizing KV Store Performance

- Discusses factors affecting performance
- JE Cache size
- Java Heap size
- Key size optimization
- Garbage collection logging

Backup and Recovery

- Covers backup processes
- Snapshots
- Recovery methods
- Troubleshooting
- Verification
- Monitoring
- Storage node replacement
- HA port range correction

Accessing the KV Store

- Explains KV Store handles
- Creation using KV Store Factory and KV Store Configure classes
- Provides an example

Creating Key and Value Components

- Covers record structure
- Creating major and minor key components
- Creating keys and value components with examples

Loading Data into a KV Store

- Covers the load process

- Creating load programs
- Writing records using the put method
- Reviewing a sample load program
- Identifying record structure
- Running the load program

Retrieving Data from a KV Store

- Covers retrieval methods (get, multiGet)
- Key range
- Key depth

Manipulating Data in a KV Store

- Covers methods for updating and deleting records

Handling Exceptions

- Explains Oracle NoSQL Database exceptions
- Including Request Timeout
- Request limit exceptions
- how to handle them

Configuring Consistency

- Covers viewing
- Setting default consistency
- Using predefined consistencies
- Overriding default consistency
- Creating time-based
- version-based consistency

Configuring Consistency and Durability

- Covers viewing default durability
- Setting synchronization-based durability
- Creating new durability policies
- Transactional operations
- Exception handling

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BigData Hadoop Using Oracle NoSQL Database

Preferred dates: ..... Venue or online: .....

Duration: 10 days Language: .....

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