**COUCHBASE Table of Contents**

**Prerequisites:**

* Basic knowledge of javascript
* Basic concepts of database

**Objectives**

**Introduction to NoSQL**

* Discuss the modern application challenges
* Describe Big Data
* Describe the common strategies for handling Big Data
* Explain CAP Theorem
* Explain different types of NoSQL
* Couchbase data modelling and comparison with RDBMS

**Introduction to Couchbase**

* Describe the history of Couchbase server
* Architecture of couchbase
* Couchbase different versions and compatibility with SDK
* Couchbase Capella, couchbase in cloud and couchbase as part of mobile app
* Describe Couchbase Data Platform
* Different services available in Couchbase
* Explain how data is stored in Couchbase server
* Describe Couchbase server architecture [Single Data Node, Multiple Data Nodes]
* Describe the anatomy of a Couchbase application
* Explain Multi Dimensional Scaling
* Adding nodes to a cluster
* Removal of a node
* Failover of a node(Graceful, Hard and Automatic)
* Describe Tools to Integrate with Couchbase
* Explain Couchbase SDKs
* Couchbase web console

**Essentials**

* Select documents and limiting results
* Explain Aliasing, concatenating, and selecting by keys
* Create indexes and filter queries
* Describe Querying ranges, ordering results, and explaining queries
* Describe Aggregating, distinct values, and filtering with wildcards
* Select for missing attributes, and group results
* Index and select based on values in JSON arrays
* Use functions in queries
* Join documents
* N1QL queries
* Full text search in couchbase

**Indexes in Couchbase**

* Describe the various types of Indexes
* Explain Global Secondary indexes
* Explain plan and index advises
* Monitoring of indexes
* Explain scans and pushdowns
* Explain Alter Indexes
* Explain index service capacity management
* Explain Memory Optimized Indexes

**Integration of java with Couchbase**

* Java program to perform CRUD operations with couchbase server

**Inportant features of Couchbase**

* Concurrent reads/writes
* Transaction support in coucbase
* Authentication in couchbase(Username and password)
* Authorisation in couchbase server(RBAC)
* Eventing in couchbase(reactive)
* Logging and management of logs in couchbase