DATABASE

1. INTRODUCTION TO RELATIONAL DB & SQL

2. NOSQL

INTRODUCTION TO RELATIONAL DATABSE & SQL

Learning Outcome Statements

- Learn the basics of the SQL language and the relational databases
- Learn about relational model and relational model concepts and constraints
- Learn and use basic SQL statements, some advanced SQL syntax, and join statements

Key Contents

- RDBMS concepts
- Data types
- Acid test
- DDL/DML
- Simple DDL statements
- Simple Query and aggregate functions
- Inner Join
- Outer Join
- Class room exercises
- Other DML statements (Insert, Update, Delete)
- Sub query and cursors
- QoS Requirements

- High Volume
- Scalability
- Overall conceptual architecture of server
- Physical implementations
- Various Indexes
- Partitions
- High Availability
- Transactional integrity
- Security
- Access control
- Audit logs
- Classroom exercises

NOSQL

Learning Outcome Statements

- Learn to define views
- Reduce data via reduce function
- Deploy applications
- Secure NoSQL Database
- Store data in NoSQL Database
- Retrieve data in NoSQL Database
- Query NoSQL database without using SQL
- Build a web application

Key Contents

Introducing and Defining NoSQL databases
- Introduction
- What is NoSQL
- What NoSQL Databases can do
- Categories of NoSQL Databases
- Downloading and Installing CouchDB

How to Query Data with no Schema without SQL
- Creating a Database and Storing Data
- Nesting Data
- Retrieving Data
- Querying Data
- Defining Views
- Using Reduce Function to Reduce Data

Building Applications
- Create the menu items
- Attaching and Retrieving Images
- How to query attachments
- Creating HTML to Display Database Data
- Deploying Application
- Applying Security to CouchDB

Introduction to other NoSQL Databases
- MongoDB
- Cassandra
- HBase
- Riak
- Redis