

Introduction to BigData, Hadoop:-

- ⇒ Big Data Introduction
- ⇒ Hadoop Introduction
- ⇒ What is Hadoop? Why Hadoop?
- ⇒ Hadoop History?
- ⇒ Different types of Components in Hadoop?
- ⇒ HDFS, MapReduce, PIG, Hive, SQOOP, HBASE, OOZIE, Flume, Zookeeper and so on...
- ⇒ What is the scope of Hadoop?

Deep Drive in HDFS (for Storing the Data):-

- ⇒ Introduction of HDFS
- ⇒ HDFS Design
- ⇒ HDFS role in Hadoop
- ⇒ Features of HDFS
- ⇒ Daemons of Hadoop and its functionality
 - Name Node
 - Secondary Name Node
 - Job Tracker
 - Data Node
 - Task Tracker
- ⇒ Anatomy of File Write
- ⇒ Anatomy of File Read
- ⇒ Network Topology
 - Nodes
 - Racks
 - Data Center
- ⇒ Parallel Copying using DistCp
- ⇒ Basic Configuration for HDFS
- ⇒ Data Organization
 - Blocks and
 - Replication
- ⇒ Rack Awareness
- ⇒ Heartbeat Signal
- ⇒ How to Store the Data into HDFS
- ⇒ How to Read the Data from HDFS
- ⇒ Accessing HDFS (Introduction of Basic UNIX commands)
- ⇒ CLI commands

MapReduce using Java (Processing the Data):-

- ⇒ Introduction of MapReduce.
- ⇒ MapReduce Architecture
- ⇒ Data flow in MapReduce
 - Splits
 - Mapper
 - Portioning

- Sort and shuffle
- Combiner
- Reducer
- ⇒ Understand Difference Between Block and InputSplit
- ⇒ Role of RecordReader
- ⇒ Basic Configuration of MapReduce
- ⇒ MapReduce life cycle
 - Driver Code
 - Mapper
 - and Reducer
- ⇒ How MapReduce Works
- ⇒ Writing and Executing the Basic MapReduce Program using Java
- ⇒ Submission & Initialization of MapReduce Job.
- ⇒ File Input/output Formats in MapReduce Jobs
 - Text Input Format
 - Key Value Input Format
 - Sequence File Input Format
 - NLine Input Format
- ⇒ Joins
 - Map-side Joins
 - Reducer-side Joins
- ⇒ Word Count Example
- ⇒ Partition MapReduce Program
- ⇒ Side Data Distribution
 - Distributed Cache (with Program)
- ⇒ Counters (with Program)
 - Types of Counters
 - Task Counters
 - Job Counters
 - User Defined Counters
 - Propagation of Counters
- ⇒ Job Scheduling

PIG:-

- ⇒ Introduction to Apache PIG
- ⇒ Introduction to PIG Data Flow Engine
- ⇒ MapReduce vs PIG in detail
- ⇒ When should PIG used?
- ⇒ Data Types in PIG
- ⇒ Basic PIG programming
- ⇒ Modes of Execution in PIG
 - Local Mode and
 - MapReduce Mode
- ⇒ Execution Mechanisms
 - Grunt Shell
 - Script
 - Embedded
- ⇒ Operators/Transformations in PIG
- ⇒ PIG UDF's with Program

- ⇒ Word Count Example in PIG
- ⇒ The difference between the MapReduce and PIG

SQOOP:-

- ⇒ Introduction to SQOOP
- ⇒ Use of SQOOP
- ⇒ Connect to mySql database
- ⇒ SQOOP commands
 - Import
 - Export
 - Eval
 - Codegen and etc...
- ⇒ Joins in SQOOP
- ⇒ Export to MySQL
- ⇒ Export to HBase

HIVE:-

- ⇒ Introduction to HIVE
- ⇒ HIVE Meta Store
- ⇒ HIVE Architecture
- ⇒ Tables in HIVE
 - Managed Tables
 - External Tables
- ⇒ Hive Data Types
 - Primitive Types
 - Complex Types
- ⇒ Partition
- ⇒ Joins in HIVE
- ⇒ HIVE UDF's and UADF's with Programs
- ⇒ Word Count Example

HBASE:-

- ⇒ Introduction to HBASE
- ⇒ Basic Configurations of HBASE
- ⇒ Fundamentals of HBase
- ⇒ What is NoSQL?
- ⇒ HBase Data Model
 - Table and Row
 - Column Family and Column Qualifier
 - Cell and its Versioning
- ⇒ Categories of NoSQL Data Bases
 - Key-Value Database
 - Document Database
 - Column Family Database
- ⇒ HBASE Architecture
 - HMaster
 - Region Servers
 - Regions
 - MemStore

- Store
- ⇒ SQL vs NOSQL
- ⇒ How HBASE is differ from RDBMS
- ⇒ HDFS vs HBase
- ⇒ Client side buffering or bulk uploads
- ⇒ HBase Designing Tables
- ⇒ HBase Operations
 - Get
 - Scan
 - Put
 - Delete

MongoDB:--

- ⇒ What is MongoDB?
- ⇒ Where to Use?
- ⇒ Configuration On Windows
- ⇒ Inserting the data into MongoDB?
- ⇒ Reading the MongoDB data.

Cluster Setup:--

- ⇒ Downloading and installing the Ubuntu12.x
- ⇒ Installing Java
- ⇒ Installing Hadoop
- ⇒ Creating Cluster
- ⇒ Increasing Decreasing the Cluster size
- ⇒ Monitoring the Cluster Health
- ⇒ Starting and Stopping the Nodes

Zookeeper

- ⇒ Introduction Zookeeper
- ⇒ Data Modal
- ⇒ Operations

OOZIE

- ⇒ Introduction to OOZIE
- ⇒ Use of OOZIE
- ⇒ Where to use?

Flume

- ⇒ Introduction to Flume
- ⇒ Uses of Flume

- ⇒ Flume Architecture
 - Flume Master
 - Flume Collectors
 - Flume Agents