

Hadoop for Big Data

Audience Course Hadoop for Big Data

The course <u>Hadoop for Big Data</u> is intended for developers, data analysts and others who want to learn how to process data with Hadoop.

Prerequisites training Hadoop for Big Data

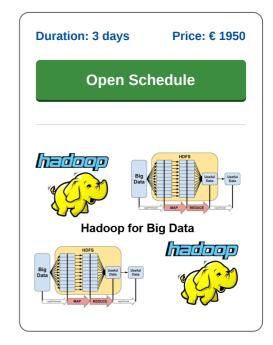
To participate in this course prior knowledge of <u>programming in Java</u> and databases is beneficial for the understanding. Prior knowledge of Java or Hadoop is not necessary.

Realization Course Hadoop for Big Data

The theory is treated on the basis of presentations. Illustrative demos are used to clarify the covered concepts. There is ample opportunity to practice and theory and practice are interchanged. The course times are from 9.30 to 16.30.

Official Certificate Course Hadoop for Big Data

Participants receive an official certificate Hadoop for Big Data after successful completion of the course.



Content Course Hadoop for Big Data

In the course Hadoop for Big Data participants learn how to use Apache Hadoop for the storage and processing of large amounts of data.

Hadoop Architecture

In the course Hadoop for Big Data the architecture of Hadoop is explained in depth. Hadoop uses a simple programming model in a distributed environment over a cluster of computers.

HDFS

The Hadoop Distributed File System (HDFS) is used as file system within a Hadoop cluster. In the course Hadoop for Big Data HDFS in explained in detail. HDFS is a horizontal scalable file system that is stored on a cluster of servers. The data is stored in a distributed manner and the file system automatically ensures replication of data over the cluster.

MapReduce

An important algorithm for the processing of data is the MapReduce algorithm and this is given extensive attention.

Utilities

Finally attention is paid to tools and utilities that are often used in combination with Hadoop such as Zookeeper, Scoop, Ozie and Pig.



Modules Course Hadoop for Big Data

Module 1 : Hadoop Intro	Module 2 : Java API	Module 3 : HDFS
Big Data Handling	Create via Put method	Hadoop Environment
No SQL	Read via Get method	Hadoop Stack
Comparison to Relational DB	Update via Put method	Hadoop Yarn
Hadoop Eco-System	Delete via Delete method	Distributed File System
Hadoop Distributions	Create Table	HDFS Architecture
Pseudo-Distributed Installation	Drop Table	Parallel Operations
Namenode Safemode	Scan API	Working with Partitions
Namenode High Availability	Scan Caching	RDD Partitions
Secondary Namenode	Scan Batching	HDFS Data Locality
Hadoop Filesystem Shell	Filters	DAG (Direct Acyclic Graph)
Module 4 : Hbase Key Design	Module 5 : MapReduce	Module 6 : Submitting Jobs
Storage Model	MapReduce Model	MapReduce Job
Querying Granularity	MapReduce Theory	Using JobControl class
Table Design	YARN and MapReduce 2.0 Daemons	Joining data-sets
Tall-Narrow Tables	MapReduce on YARN single node	User Defined Functions
Flat-Wide Tables	MapReduce framework	Logs and Web UI
Column Family	Tool and ToolRunner	Input and Output Formats
Column Qualifier	GenericOptionsParser	Anatomy of Mappers
Storage Unit	Running MapReduce Locally	Reducers and Combiners
Querying Data by Timestamp	Running MapReduce on Cluster	Partitioners and Counters
Querying Data by Row-ID	Packaging MapReduce Jobs	Speculative Execution
Types of Keys and Values	MapReduce CLASSPATH	Distributed Cache
SQL Access	Decomposing into MapReduce	YARN Components
Module 7 : Hadoop Streaming	Module 8 : Utilities	Module 9 : Hive
Implement a Streaming Job	ZooKeeper	Hive Concepts
Contrast with Java Code	Scoop	Hive Clients
Create counts in Streaming App	Introduce Oozie	Table Creation and Deletion
Text Processing Use Case	Deploy and Run Oozie Workflow	Loading Data into Hive
Key Value Pairs	Pig Overview	Partitioning
\$yarn command	Execution Modes	Bucketing
Using Pipes	Developing Pig Script	Joins