

The MapReduce Design Patterns Certification course provides a complete overview of MapReduce, its relevance, origins and implementations. The delegates will learn how to implement various frameworks of MapReduce, how to write mature code using MapReduce and how to avoid common mistakes during modeling of big data architecture. The course familiarises delegates to the concepts of analogies to Pig & SLQ, summarization patterns, description, applicability, Performance Analysis, use cases and structure (how mappers, combiners & reducers are used in this pattern). The course is intended for delegates who want to flourish their career in the Data Analytics and gain a solid understanding of MapReduce paradigm. By the completion of the course, the delegates will gain an understanding of well-established design patterns used in MapReduce.

The MapReduce Design Patterns Certification course equips the delegates with the knowledge and skills required to write MapReduce Code using well established design patterns. During the MapReduce Design Pattern course, the delegates will learn about the Filtering Patterns, Data Organization Patterns, Meta Patterns, Graph Patterns, Input Output Pattern and Summarization Patterns. The course explains each pattern in detail like how Join Patterns discover interesting relationships by analysing different data sets together and how to make MapReduce analysis easier using Data Organisation Patterns.

## Prerequisites

The prerequisites of the MapReduce Design Patterns Certification course include:

- A basic understanding of MapReduce
- Experience working with Hadoop Framework

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## Course Objectives

- Understand the commonly used Design Patterns in MapReduce
- Use MapReduce to write mature code
- Use design patterns to write MapReduce code
- Learn how to apply the Patterns in real life case studies
- Understand the best practices for using MapReduce

## Getting Started

- What is Big Data?
- Huge Data Sets Scalable Systems
- Complexity and its Solution

## HDLC and MapReduce

- HDLC: Behind the Concept

- MapReduce Data Flow
- MapReduce Design Patterns

### **MapReduce Phases**

- Map Phase
- Sort Phase
- Reduce Phase

### **MapReduce Design Patterns**

- Input-Map-Reduce-Output
- Input-Map-Output
- Input-Multiple Maps-Reduce-Output
- Input-Map-Combiner-Reduce-Output

### **Advanced Topics**

- Clustering Ensemble
- Clustering in MapReduce
- Semi-Supervised Clustering

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