

# **Algorithms and Data Structures**

**Modality: On Demand**

**Duration: 20 Hours**

## **About this Course:**

This intermediate-level course is specifically designed for Programmers and Web Developers striving to learn the core concepts of Algorithms & functionalities of Data Structures. Professional developers directly need to learn the ability to store information and work with databases while designing applications and programming codes. This course helps professionals nurture the skills of applying data structures to store programming and code information such as values list & other variables.

The primary objective of this course is to help programmers develop the advanced skills required to build and develop high-quality professional programs. Professionals can use these fundamental programming concepts to mitigate loopholes in their programming techniques and make the best use of programming resources and functionalities. Professionals equipped with substantial knowledge of data structures and functional algorithms can easily find a way through complex programming scenarios.

This course presents professionals with an incredible opportunity to understand the dynamics of Data Structures and Algorithms. This course encompasses practical examples and demos to help programmers solidify the understanding of the core programming concepts and functionalities.

## **Course Objectives:**

The core objective of this course is to help professionals develop a better understanding and sound knowledge of the following key concepts:

- Basic Algorithm Overview such as Linear Search & Bubble Search
- Algorithms Analysis Fundamentals and Essentials
- Searching and Sorting of Algorithms
- Data Structures such as Stacks, Linked Lists, and Queues
- Basics of Linked Lists and Linked Lists Commands

## **Audience:**

This course is tailored for the following group of professionals and interested candidates:

- Web Designers and App Developers
- Professional C# Programmers
- IT Professionals & Web Developers

## **Prerequisites:**

Professionals planning to enroll in the Algorithms and Data Structures course must comply with the

following prerequisites:

- Fundamental Knowledge of Object-Oriented Programming in JavaScript
- Familiarity with the Core Concepts of Web Development & Programming

## **Course Outline:**

### **Module 1 | Basic Algorithms**

- Human example
- Selection Sort
- Linear Search
- Bubble Search

### **Module 2 | Algorithmic Analysis**

- Merge Sort
- Binary Search
- Big O

### **Module 3 | Basic Data Structures**

- Linked Lists
- Linked Lists Commands
- Stack
- Queue

### **Module 4 | Final Assessment**

- Assessment