Learnbay

Software Development

Program with

Specialization in Cloud & DevOps

In collaboration with

IBM & Microsoft

300+ Hiring Partners

175% Average Salary Hike

www.learnbay.co

+91 77956 87988

Learnvista Pvt. Ltd.

Context

About The Program

Our Software Development Program with specialization in Cloud and Devops offers a comprehensive education experience for professionals seeking career advancement in the fast-paced fields of software development. Individuals will learn essential skills for developing and deploying software in cloud environments. With a focus on DevOps practices, graduates will be equipped to streamline development workflows, increase efficiency, and improve overall software quality.

2cr
worth scholarships awarded

600+
professionals secured jobs after a career break

30k+
Trusted Learners

We exist to provide accessible, reasonable, and industry-relevant education that empowers India's workforce to grow and develop.

4.79/5

4.66/5

4.8/5

Great Place To Work. Certified

Program Highlights

Industry-Relevant & Updated Syllabus

Learn the industry's latest tools, techniques & trends. Gain hands-on experience developing various apps.

360 Degree Knowledge Building

Develop practical skills through real-world projects and assignments

1:1 Dedicated Mentorship

Personalized learning experience from experienced industry professionals.

Multiple Career Opportunities

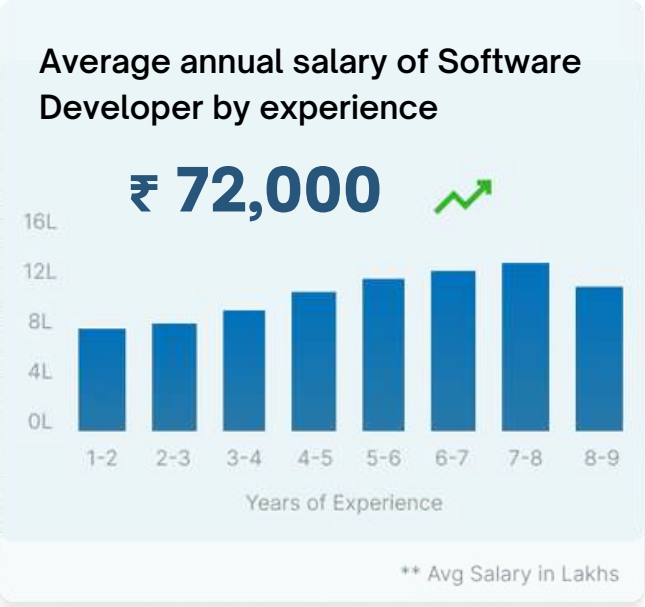
Advance your career in software development by targeting roles like software developers, devops engineers, project managers etc.

Why Learn Software Development with Specialization in Cloud & DevOps?

60% rise in software dev jobs

250% highest salary hike

300+ partner companies



Placement Report

30K+
Trusted Learners

9K+
Successfully Placed

50K+
Job Interviews Cracked

Book a free consultation with expert

Contacts Us

Program Details

ELIGIBILITY

- **Technical professionals** with 1 year work experience.
- **Students pursuing B.Tech and B.Sc. in computer science.**

Qualification:

BE/B.Tech (from any branch), BBA/MBA, MCA/M.Tech, B.Com, B.Sc (in any branch)

Course duration : 250+ hours

Weekday Batch : 8 months

Monday - Friday : 2 hrs/day

Weekend Batch : 10 months

Saturday - Sunday: 3.5 hrs/day

About instructors:

Experienced software development instructors share valuable practical knowledge and effective solutions, preparing students for success in the industry.

Total Fees:

₹ 95,000/- + 18% GST

₹ 1,12,100/-

EASY EMI

₹ 9,342/month

Financing partners

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What Our Alumni's Say

Shishir Kamal

I'm currently enrolled in the Full Stack course and have completed the DSA and System Design modules. The trainers' teaching method has been enlightening for me as a beginner. Highly recommend Learnbay for upskilling.

Arpit Agarwal

This online software development course was the best I've taken. Great instructor, easy-to-understand explanations, well-structured and effective hands-on exercises. Highly recommended!

Ritam Mukherjee

Great course for software development, with real-world examples and practical exercises. I learned a lot and could apply it in my career. Highly recommend for learners.

Amrita Panjwani

Highly recommend course for software development. Well-organized material, practical exercises to apply and build skills. Suitable for anyone interested in the field.

What Our Alumni's Say

Jatin Kumar Khilrani

The software development course was a game-changer. Extensive content, highly skilled trainer, exceptional job support laid the foundation for my career in software development.

Tushar Singhal

Learnbay's software course surpassed my expectations, with clear instruction and helpful instructors. Grateful for the gained knowledge and accessible support.

Gowthaman Jeganathan

I'm currently enrolled in the Full Stack course and have completed the DSA and System Design modules. The trainers' teaching method has been enlightening for me as a beginner. Highly recommend Learnbay for upskilling.

Abhishek Pakhide

I recently finished Learnbay's Basic DSA Course online. The course is well-structured, taught by knowledgeable trainers with a focus on interview preparation and data structure concepts. It benefits both novices and experts.

What Our Alumni's Say

Qudsia Tahniyath

Learnbay has helped me a lot to learn data science applications in the e-commerce industry. The live class concept was really helpful in receiving proper DS training. Thanks to all my mentors and the placement team.

Binit Kumar Swalsingh

I've been with this org since Jan 4, 2023, studying Full Stack Software Development. If you have ambition and need a mentor to show you the right path to success with the right knowledge, I highly recommend this org.

Swarup Halder

I have enrolled in Software Development course. I had basic knowledge of DSA and since then it has been a wonderful learning experience. The teacher does an excellent job of explaining the concepts in a way that is easy to understand.

Karanveer Bansal

I enrolled in Learnbay's full stack program. I already completed basic DSA and the live sessions were clear, with good teaching pace. They offer an easy and simple EMI option for course fees.

Certificates

World's leading certifcations

IBM

IBM Course Certificate

Complete your training with the globally recognized certificate.

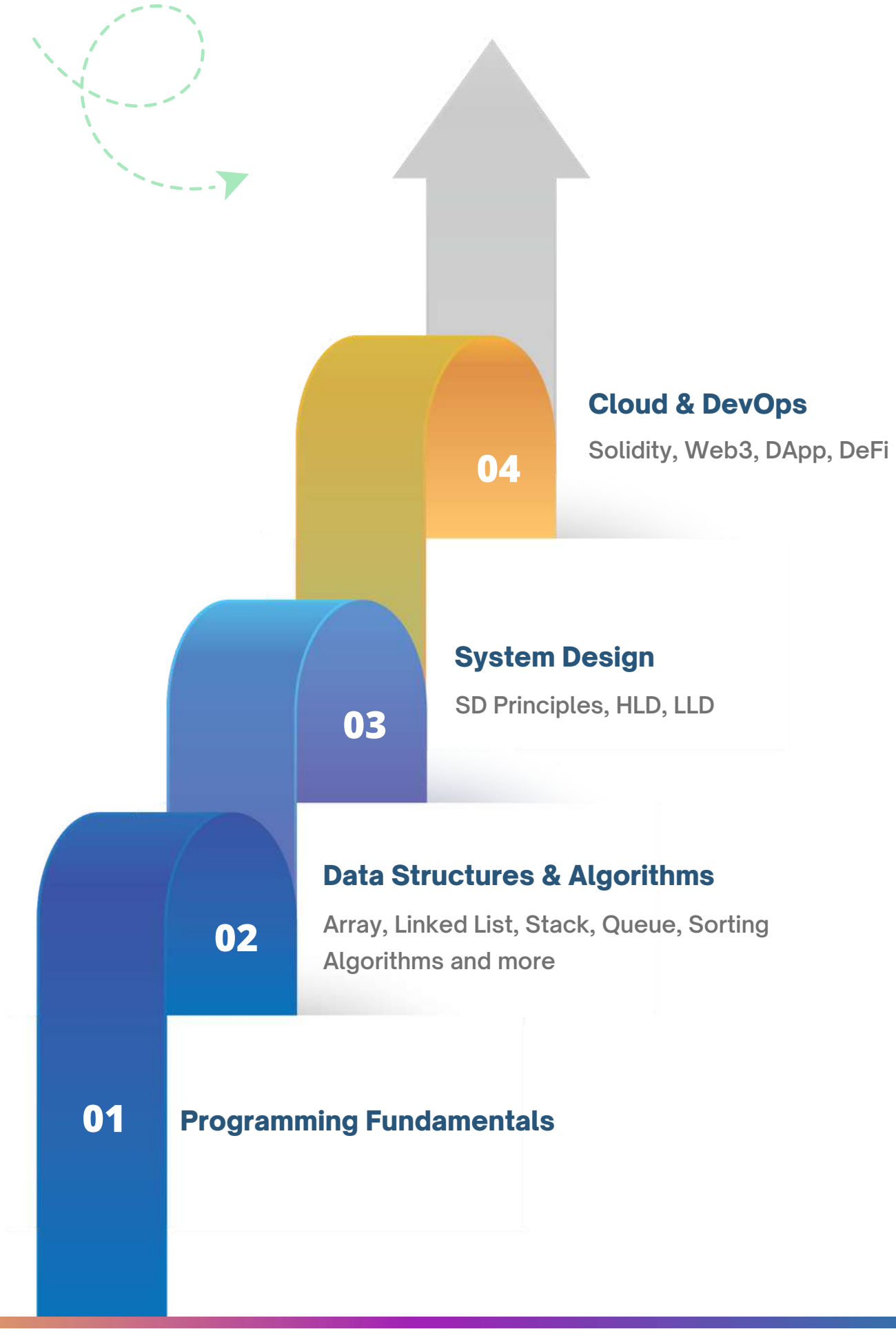
Microsoft

Microsoft Course Certificate

Achieve professional growth & increase earning potential with Microsoft certification

- Obtain an internationally recognized certificate through training
- Enhance your IT profile with IBM's certification
- Boost job opportunities and earnings with Microsoft's certification

Learning Path



Career Service

Get 1 year of Job and Placement support

Unleash your career potential with unlimited job access, interview support, and profile review.

Get 3 mock interviews with industry leaders

Master the art of software development and stay ahead of the curve with mockups and industry insights

Resume build up session

Craft a powerful resume showcasing your expertise in software development to stand out from the competition

Get 5-8 interview calls

Receive 5-8 interview calls from a diverse pool of interested employers/recruiters.

Others Vs Learnbay

Benefits	Learnbay	Others
Guaranteed Interview Calls**		
Industry capstone project certificate from IBM		
Domain specialized programs for professionals		
100% live interactive sessions with industry experts		
On demand video call with industry experts		
Personalized Resume Review Session		

Note : To get interview calls, you need to score above 60% and class attendance min 60%

Program Syllabus

TERM 1

Programming Fundamentals (20-25 hours)

Programming Basics, Data Types and Code Flow

- Why Programming
- Simple use case where programming is required
- How to Write simple psuedo code
- Difference in different programming languages
- Intro to Java and Development setup

- **Focal length of Spherical Mirror**
- **Cuboid Perimeter**
- **Simple Sum**
- **Nobita and Profit**
- **Shinchan and Kazama**

If statement, Loops and Code flow

- Java Basics
- Writing code in Java
- If statements Loops
- Flow of basic code and best coding practices

- **Pattern printing**
- **Single Digit**
- **Armstrong Number**

Input, Output and Exceptions

- Taking Input and printing
- Types of exception and handling them.
- More on Java language fundamentals
- JDK
- JRE

- **If- Leap year**
- **Max Integer**
- **Triangle (right angle)**
- **Basic Calculator**

Functions

- How functions work and how to make custom functions and work with them
- Significance
- Defining
- Function return type
- Passing arguments

- **Pokemon Master**
- **Help Sherlock**
- **Penny and Charity**
- **Rotation Policy**

Program Syllabus

TERM 1

Programming Fundamentals (20-25 hours)

Objected Oriented Programming

- Abstraction
- Encapsulation
- Inheritance
- Polymorphism
- Interfaces, Modifiers, Classes and Objects

- **Classes in Java**
- **Classes and Object Manipulation**

2-D Matrix

- **Max sum column**
- **Diagonal Sum**
- **Good Cells**
- **Row with maximum 1's**
- **A Boolean Matrix Problem**

1-D Array

- 1-D Array (Defining & initializing, iterations, looping on Arrays)

- **Average Me**
- **Max Numbers**
- **Simple Arrangement**
- **Buildings**
- **Sum and Mean**
- **Increasing Array**
- **Replace Element**
- **Alternate Sum Product**
- **Is this repeated?**

Program Syllabus

TERM 2

Basic DSA

Module 1 (30 hours)

Functions & Recursion

- Significance
- Defining
- Function return type
- Passing arguments

- **Power Function**
- **Factorial - Recursion**
- **Fibonacci Numbers**
- **Sum of Digits**
- **Sum of Product of Digits of a given number**

Time and space Complexity

- Best, worst & average case

Bit Manipulation

Sorting using Divide and Conquer and implementation

- Sortings
- Divide and Conquer
- Merge Sort
- Quick Sort
- Comparator Sort

Recursion

- Recursion
- Divide and Conquer

- **Tower of Hanoi**
- **Number of ways**
- **Candy Crush**

Linear Search and Binary Search

- Linear Search
- Binary Search
- Ternary Search

- **Searching an element in a sorted array**
- **Square root of an Integer**
- **Minimum Element in Sorted and Rotated Array**

Two Pointers

- **Merge Sort**
- **Shopping**
- **Even odd Separate Sorting**
- **Implementing Quick Sort**
- **Sort 0's, 1's and 2's2. Maximum Force**

Program Syllabus

TERM 2

Basic DSA

Module 1 (30 hours)

Simple Array Sorting and its implementation

- Sortings
- Bubble sort
- Insertion Sort

- **Selection Sort**
- **Bubble Sort**
- **Insertion Sort**
- **Bubble Sort(Descending Order)**

ArrayList and Linked List - 1

- Single Linked List (Insertion at positions in Linked List, iteration in Linked List, Deletion at position in Linked List, Linked List loops)

- **Insert node at the given position**
- **Print the Linked List**
- **Delete the Kth node from the end**
- **Intersection of two linked list**

Linked List - 2

- Double Linked List (Double Linked list creation (prev pointer), iteration in Double Linked List, insertion at positions in Linked List, Deletion in Double Linked List)

- **Reversing the Linked List**
- **Palindrome List**
- **Merge two sorted linked list**

Linked List - 3

- Circular Linked list (Circular Linked list creation,iteration in Circular Linked List, insertion at positions in Circular Linked List, Deletion in Circular Linked List

- **Insertion node at kth postition in doubly linked list**
- **Insertion in circular linked list**
- **Deletion in Doubly Linked List**
- **Reversing a double linked list**

Program Syllabus

TERM 2

Basic DSA

Module 1 (30 hours)

Stack

- Intro
- Application and Implementation using Array

- **Array implementation of stack**
- **Stack implemetation using linked list**
- **Stack operations**

Applications of Stack

- Implementation using Linked list
- Stack as library

- **Infix to Postfix**
- **Height Problem**
- **Nearest Smaller Element**
- **Stock span problem**
- **Greater is better**

Queue

- Implementation using Array
- Implementation using Linked list
- Queue as a library

- **Array implementation of Queue**
- **Linked List implemenation of Queue**
- **Operation on Queue**

Applications of Queue

- Implementation using Array
- Implementation using Linked list
- Queue as a library

- **Operations on Deque**
- **Maximum of all subarrays of size K**
- **Generate Binary Numbers**
- **Reverse First K elements of Queue**

Program Syllabus

TERM 2

Advance DSA

Module 2 (45 hours)

Maths

- Modular Arithmetic, Modular Exponentiation, GCD, Modular Multiplicative Inverse
- GCD, Primality Testing, Seive of Eratosthenes

- **GCD**
- **Modular Multiplicative Inverse**
- **Check if prime**
- **Number of primes**
- **Identical Groups**
- **Count Occurence of X**
- **Favourable Multiple**
- **Sum of divisors**
- **Good Team Leader**
- **Sum of Prime**
- **Kth prime factor of N**

Advance Data Structure

- Tree -1 (Traversals)

- **Level order traversal of a tree**
- **Inorder Traversal**
- **Post Order Traversal**
- **Count Leaves in Binary Tree**

Analysis of Algorithm - Advance

- Greedy

- **Minimum Absolute Difference in Array**
- **Permutation Game**
- **Best Score**
- **Maximize diff**
- **Cost of Stock**
- **Maximum Contiguous Subarray Sum**
- **Minimum Number of Coins**
- **Largest Number with given sum**
- **Pairs sum divisble by K**
- **Toy Company Greedy**

Advance Data Structure

- Tree -1 (Traversals)

- **Two Trees are Identical or Not**

Program Syllabus

TERM 2

Advance DSA

Module 2 (45 hours)

Advance Data Structure

- Tree - 2 (Construction of tree from traversals, height of tree, mirror of tree)
  - **Tree from Inorder and Preorder**
  - **Height of Binary**
  - **Tree Mirror of binary tree**
  - **Sum of Deepest Leaves**
- Tree - 3 (LCA, Diameter)
  - **Lowest Common Ancestor**
  - **Diameter of Binary Tree**
  - **Right View of Binary Tree**
  - **Maximize Sum**
  - **Maximum Width of Binary Tree**
- BST
  - **Insertion in BST**
  - **Deletion in BST**
  - **Minimum in BST**
  - **Lowest Common**
  - **Ancestor in a BST**
  - **Is BST?**

Advance Data Structure

- Heaps
  - **Kth smallest element**
  - **Kth largest element in a stream**
  - **Max in Queue**
  - **Find medium in a stream**
  - **Minimum Cost of Ropes**

Program Syllabus

TERM 2

Advance DSA

Module 2 (45 hours)

Analysis of Algorithm - Advance

- Dynamic Programming

- **Staircase Problem**
- **Increasing Subsequences**
- **Longest Chain Subsequence**
- **Adjacent numbers in subsequence differs by 1**
- **Sum of all substrings**
- **Stickler Theif**
- **0-1 Knapsack Problem**
- **DP Grid 2**
- **Max Sum Path**
- **Subset Sum**
- **Subset with equal Sum**
- **Matrix Chain Multiplication**
- **Minimum Moves**
- **Longest Common Substring**
- **Shortest Common Supersequence**
- **Coin Change - Minimum Number of Coins**

Advance Data Structure

- Graph - 2 (Cycles in Graph)

- **Cycles in Undirected Graph**
- **Detect Cycle in a directed graph**
- **Count Bad Vertices**
- **Shortest Cycle(easy version)**

Advance Data Structure

- Graph - 1 (BFS, DFS)

- **BFS**
- **DFS Basic**
- **is connected? Has Path Hamiltonian Path**

Advance Data Structure

- Graph - 3 (DFS, BFS on matrix)

- **Find the number of islands**
- **Number of Components**
- **Find whether path exists**
- **Rotten Oranges**

Advance Data Structure

- Graph - 4 ([Dijkstra Algorithm, Flood Fill Algorithm])

- **Dijsktra Algorithm**
- **Flood Fill Algorithm**
- **Replace O's with X's**
- **Minimum Cost Path**
- **Snake and Ladder Problem**

Program Syllabus

TERM 2

Advance DSA

Module 2 (45 hours)

Analysis of Algorithm - Advance

- Graph - 5 [Minimum Spanning Tree, Floyd Warshall, Topological Sorting]

- **Minimum Spanning tree**
- **Floyd Warshall Algorithm**
- **Topo-sort**
- **Bipartite Graph**
- **Lexicographically Smallest Topo Order**

Program Syllabus

TERM 3

System Design (55 hours)

Introduction to System Design

- What is System Design?
- Goals of System Design
- Components of a System Design
- System Design Process
- Importance of System Design
- Types of Systems
- Architecture of a System

- **Have students brainstorm examples of different types of systems they interact with on a daily basis.**
- **Research and present on the system architecture of a well-known software or platform.**

Design Principles

- SOLID Principles
- KISS Principle
- DRY Principle
- YAGNI Principle
- Separation of Concerns
- Law of Demeter

- **Implement a simple project using one of the design patterns.**
- **Apply the design principles to a real-world problem and present the solution to the class.**

Design Patterns

- Creational Patterns
- Structural Patterns
- Behavioral Patterns
- Singleton Pattern
- Factory Pattern
- Adapter Pattern
- Observer Pattern
- Command Pattern

- **Design a simple system using one or more of the design patterns.**

Design Patterns

- **Analyze a popular software product and identify the design patterns used in its architecture.**
- **Research and present on the system architecture of a well-known software or platform.**

Program Syllabus

TERM 3

System Design (55 hours)

High-Level Design (HLD)

- Understanding the Purpose and Scope of HLD
- HLD Design Process
- Types of HLD
- Creating a High-Level Design Document

- **Design a high-level architecture for a real-world system.**
- **Research and present on a well-known system outage and discuss the measures that could have been taken to prevent it.**

Low-Level Design (LLD)

- Understanding the Purpose and Scope of LLD
- LLD Design Process
- Types of LLD
- Creating a Low-Level Design Document

- **Design a low-level architecture for a real-world system.**
- **Research and present on a well-known company's deployment process and identify areas for improvement.**

Scalability and Performance

- Scalability
- Performance
- Load Balancing
- Caching
- Database Scaling

- **Design a high-traffic website and identify potential bottlenecks in scalability and performance.**

Scalability and Performance

- **Research and present on a well-known company's performance issues and how they addressed them.**

Program Syllabus

TERM 3

System Design (55 hours)

Security and Reliability

- Security
- Reliability
- Fault Tolerance
- Disaster Recovery
- Backup and Restore

- **Design a system with security and reliability in mind.**
- **Research and present on a well-known security breach and discuss the measures that could have been taken to prevent it.**

Integration and Deployment

- Continuous Integration
- Continuous Deployment
- DevOps
- Microservices
- Containers

- **Design and deploy a small-scale application using a cloud-based platform.**
- **Research and present on a well-known company's integration and deployment process and identify areas for improvement.**

Program Syllabus

TERM 4

Cloud Computing (45 hours)

Cloud computing

- Definition, benefits, and challenges
- Cloud service models: IaaS, PaaS, SaaS
- Cloud deployment models: public, private, hybrid
- Popular providers: AWS, Azure, Google Cloud
- Real-world examples and case studies

Cloud Services and Technologies

- Storage: S3, EBS, Blob storage
- Databases: RDS, DynamoDB, CosmosDB
- Networking: VPC, Load Balancers, CDN
- Serverless computing: Lambda, Azure Functions, Google Cloud Functions
- DevOps tools: Jenkins, Ansible, Terraform, Kubernetes, Docker

Advanced Cloud Computing

- Big data and analytics
- Cloud-native architecture and design patterns

Multi-cloud and hybrid cloud strategies

Cloud Infrastructure

- Virtualization, containers, and microservices
- DevOps principles for cloud architecture
- Cloud security and compliance

Real-World Applications

- Deploying applications to the cloud
- Setting up CI/CD pipelines
- Building and deploying microservices
- Security and compliance in the cloud
- Handling failure and scaling in the cloud

Program Syllabus

TERM 2

Devops (45 hours)

Agile Principles and Methodologies

- Agile Manifesto and Principles
- Scrum, Kanban, and Lean methodologies
- Agile project planning and estimation

Project Management and Development Process

- Agile development process: sprints, user stories, backlogs
- Tools and Infrastructure Setup:
- Version control systems (e.g., Git)
- Containerization (e.g., Docker)
- Cloud infrastructure (e.g., AWS)

Infrastructure as Code (IaC)

- Introduction to IaC
- Infrastructure automation with Terraform

Advanced DevOps Concepts

- Microservices architecture
- Serverless computing

DevOps Culture and Practices

- Overview of DevOps culture and practices
- Collaborative culture and communication practices
- Continuous feedback and improvement

Continuous Integration (CI) and Continuous Deployment (CD)

- CI/CD principles and practices
- Automated testing and quality assurance

Security and Compliance

- Security principles and best practices
- Identity and access management (IAM)

Industry Use Cases and Best Practices

- Case studies and real-world examples of DevOps implementation
- Best practices for successful DevOps adoption
- Scaling DevOps in enterprise organizations
- Future trends and innovations in DevOps

Case Studies

1

Automated CI/CD Pipeline using Jenkins and Kubernetes

Procter & Gamble used SAS to analyze customer data and identify patterns in customer behavior, enabling them to make data-driven decisions about their marketing strategy

2

Infrastructure Automation using Terraform

In this project, infrastructure is automated using Terraform to create, manage and update infrastructure resources.

3

Configuration Management with Ansible

The aim of this project is to manage infrastructure configurations using Ansible, enabling efficient and effective configuration management.

4

Containerization with Docker

This project involves containerizing applications using Docker, enabling efficient and consistent application deployment.

Case Studies

5 Uber

Monitoring and Logging with ELK Stack

The objective of this project is to build an ELK stack for efficient and effective monitoring and logging of applications.

6 PayPal

Infrastructure Monitoring with Nagios

In this project, infrastructure monitoring is set up using Nagios to provide visibility and alerts on critical system resources.

7

Cloud Migration using AWS

The aim of this project is to migrate on-premise applications to the cloud using AWS, enabling scalability, reliability, and cost optimization.

8 TARGET

Security Automation with Chef

This project involves using Chef to automate security configurations, including vulnerability scanning and patch management.

Contact Us

#1090
1st floor, 18th Cross Rd, above Sangam Sweets, Sector 3, HSR Layout, Bengaluru, Karnataka 560102

Book a counselling session with expert

Book Now

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