



## Training Program

# Cloud Computing Certification Training



1.2 Million  
Learners



1-1 Personalized  
Mentorship



60% Average  
Salary Hike

# About Program



## Learning Format

Online / Offline



## Trainer

Industry Professionals



## Career Services

By Croma Campus

Our course content has been specifically designed to turn you into a skilled professional in this industry. As a part of your certification training, you will receive enough study material and recorded video sessions that will help you cover all the latest trends and features in this course. The training session will comprise important sections, features, advantages, and scope of the technology in the coming years. Moreover, our qualified trainers will help you imbibe all the required skills, and information in a much better manner to help you in you becoming an expert in this technology. Post the completion of your course, you will receive a training certificate recognized world-wide.

## What Make Us **Tick**



### Career-oriented Sessions

Attend 25+ career-oriented sessions by industry mentors and prepare your career trajectory



### Mock Interview Preparation

Prepare with mock interviews including most asked questions by top employers



### Dedicated Job Portal Access

Get exclusive access to 100s of job postings per month on Croma Campus Intellipaat's job portal



### Profile Building

Craft a resume and LinkedIn profile and make an impression on top employers



### 1:1 Mentoring Sessions

Get 1:1 guidance at every step in your career transition to respective Technology



### Guaranteed interviews

Get job interviews with 400+ hiring partners including promising startups and top MNCs

# Cloud Computing **Training Curriculum**

## ✔ **Module 1 : Basics of Cloud Computing**

- A Short history
- Client Server Computing Concepts
- Challenges with Distributed Computing
- Introduction to Cloud Computing
- Why Cloud Computing?
- Benefits of Cloud Computing

## ✔ **Module 2 : AWS**

### ✔ **Amazon EC2 and Amazon EBS**

In this module, you will learn about the introduction to compute offering from AWS called EC2. We will cover different instance types and Amazon AMIs. A demo on launching an AWS EC2 instance, connect with an instance and host ing a website on AWS EC2 instance. We will also cover EBS storage Architecture (AWS persistent storage) and the concepts of AMI and snapshots.

- Amazon EC2
- EC2 Pricing
- EC2 Type
- Installation of Web server and manage like (Apache/ Nginx)
- Amazon EBS
- Demo of AMI Creation
- Backup, Restore
- Exercise
- Mock
- Hands on both Linux and Windows

### ✔ **Amazon Storage Services S3 (Simple Storage Services)**

In this module, you will learn how AWS provides various kinds of scalable storage services. In this module, we will cover different storage services like S3, Glacier, Versioning, and learn how to host a static website on AWS.

- Versioning
- Static website
- Policy
- Permission
- Cross region Replication
- AWS-CLI
- Mount Point with S3
- Life cycle

- Classes of Storage
- AWS CloudFront
- Real scenario Practical
- Hands-on all above

## ✓ Cloud Watch & SNS

In this module, you will learn how to monitoring AWS resources and setting up alerts and notifications for AWS resources and AWS usage billing with AWS CloudWatch and SNS.

- Amazon Cloud Watch
- SNS – Simple Notification Services
- SQS
- Cloud Watch with Agent
- Cloud Watch with System Manager

## ✓ Scaling and Load Distribution in AWS

In this module, you will learn about 'Scaling' and 'Load distribution techniques' in AWS. This module also includes a demo of Load distribution & Scaling your resources horizontally based on time or activity.

- Amazon Auto Scaling
- Auto scaling policy with real scenario based
- Type of Load Balancer
- Path Based load balancer
- Hands on with scenario based
- Routing policy on Load balancer

## ✓ AWS VPC

In this module, you will learn introduction to Amazon Virtual Private Cloud. We will cover how you can make public and private subnet with AWS VPC. A demo on creating VPC. We will also cover overview of AWS Route 53.

- Amazon VPC with subnets
- Gateways
- Route Tables
- Subnet
- Cross region Peering
- Endpoint Creation with VPC

## ✔ Identity and Access Management Techniques (IAM)

In this module, you will learn how to achieve distribution of access control with AWS using IAM.

- Amazon IAM
  - add users to groups,
  - manage passwords,
  - log in with IAM-created users.
- User
- Group
- Role
- Policy

## ✔ Amazon Relational Database Service (RDS)

In this module, you will learn how to manage relational database service of AWS called RDS.

- Amazon RDS
- Type of RDS
- RDS Failover
- RDS Subnet
- RDS Migration
- Dynamo DB (No SQL DB)
- Redshift Cluster
- SQL workbench
- JDBC / ODBC

## ✔ Multiple AWS Services and Managing the Resources' Lifecycle

In this module, you will get an overview of multiple AWS services. We will talk about how do you manage life cycle of AWS resources and follow the DevOps model in AWS. We will also talk about notification and email service of AWS along with Content Distribution Service in this module.

- Cloud Trail,
- SQS

## ✔ AWS Architecture and Design

In this module, you will cover various architecture and design aspects of AWS. We will also cover the cost planning and optimization techniques along with AWS security best practices, High Availability (HA) and Disaster Recovery (DR) in AWS.

- AWS Backup and DR Setup
- AWS High Availability Design
- AWS Best Practices (Cost +Security)
- AWS Calculator & Consolidated Billing

## ✓ Migrating to Cloud & AWS

In this module, you will learn how to migrate to cloud.

- Migration to Cloud
- Migration to AWS
- Step by step process

## ✓ Router S3 DNS

- Public DNS
- Private DNS
- Routing policy
- Records
- Register DNS
- Work with third party DNS as well

## ✓ Cloud Formation

- Stack
- Templet
- Json / Ymal

## ✓ Elastic Beanstalk

## ✓ EFS / NFS (hands-on practice)

## ✓ Hands-on practice on various Topics

- ECS, EKS (Kubernetes), Docker
  - Comprehensive hands-on with Dockers & Kubernetes Components
  - Docker & Kubernetes Architecture & Components and installation
  - Get introduced to deploy stateful and stateless apps on the cluster
  - Learn how to expose the app outside the cluster and to auto scale apps
  - Expertise learning with use cases of Containers and Docker
- Linux
  - Installation of Linux
  - Configuration
  - Manage

- Installation of app on Linux (apache / Nginx etc)
- AWS cli configuration on Linux
- Complete hands-on on Linux.
- Python
- Boto
- DMS
- System Manager
- Mock
- Interview preparation
- Scenario based lab and practical
- Each topic and services will be cover with lab and theory.
- Security: KMS / SSM/ WAF
- Storage: EFS, NFS, FSX, Storage Gateway

These topics will be covered with this AWS course with real scenario based.

## ✓ AZ 900 Microsoft Azure Fundamentals

### ✓ Module 3 : Describe Cloud Concepts

- Identify the benefits and considerations of using cloud services Cloud Computing Basics.
  - Identify the benefits of cloud computing, such as High Availability, Scalability, Elasticity,
  - Agility, and Disaster Recovery
  - Identify the differences between Capital Expenditure (Cap Ex) and Operational.
  - Expenditure (Op Ex)
  - Describe the consumption-based model
- Describe the differences between categories of cloud services
  - Describe the shared responsibility model
  - Describe Infrastructure-as-a-Service (IaaS),
  - Describe Platform-as-a-Service (PaaS)
  - Describe server less computing
  - Describe Software-as-a-Service (SaaS)
  - Identify a service type based on a use case
- Describe the differences between types of cloud computing
  - Define cloud computing
  - Describe Public cloud
  - Describe Private cloud
  - Describe Hybrid cloud
  - Compare and contrast the three types of cloud computing

### ✓ Describe Core Azure Services

- Describe the core Azure architectural components
  - Describe the benefits and usage of Regions and Region Pairs
  - Describe the benefits and usage of Availability Zones
  - Describe the benefits and usage of Resource Groups
  - Describe the benefits and usage of Subscriptions
  - Describe the benefits and usage of Management Groups
  - Describe the benefits and usage of Azure Resource Manager
  - Explain Azure resources

- Describe core resources available in Azure
  - Describe the benefits and usage of Virtual Machines, Azure App Services, Azure Container Instances (ACI), Azure Kubernetes Service (AKS), and Azure Virtual Desktop.
  - Describe the benefits and usage of Virtual Networks, VPN Gateway, Virtual Network peering, and ExpressRoute
  - Describe the benefits and usage of Container (Blob) Storage, Disk Storage, File Storage, and storage tiers
  - Describe the benefits and usage of Cosmos DB, Azure SQL Database, Azure Database for MySQL, Azure Database for PostgreSQL, and SQL Managed Instance.
  - Describe the benefits and usage of Azure Marketplace

## **Describe core solutions and management tools on Azure**

- Describe core solutions available in Azure
  - Describe the benefits and usage of Internet of Things (IoT) Hub, IoT Central, and Azure Sphere
  - Describe the benefits and usage of Azure Synapse Analytics, HDInsight, and Azure Data bricks
  - Describe the benefits and usage of Azure Machine Learning, Cognitive Services and Azure Bot Service
  - Describe the benefits and usage of server less computing solutions that include Azure Functions and Logic Apps
  - Describe the benefits and usage of Azure DevOps, GitHub, GitHub Actions, and Azure Dev Test Labs
- Describe Azure management tools
  - Describe the functionality and usage of the Azure Portal, Azure PowerShell, Azure CLI, Cloud Shell, and Azure Mobile App
  - Describe the functionality and usage of Azure Advisor
  - Describe the functionality and usage of Azure Resource Manager (ARM) templates.
  - Describe the functionality and usage of Azure Monitor
  - Describe the functionality and usage of Azure Service Health

## **Describe general security and network security features**

- Describe Azure security features
  - Describe basic features of Azure Security Center, including policy compliance, security alerts, secure score, and resource hygiene.
  - Describe the functionality and usage of Key Vault

- Describe the functionality and usage of Azure Sentinel
- Describe the functionality and usage of Azure Dedicated Hosts
- Describe Azure network security
  - Describe the concept of defence in depth
  - Describe the functionality and usage of Network Security Groups (NSG)
  - Describe the functionality and usage of Azure Firewall
  - Describe the functionality and usage of Azure DDoS protection

## **Describe identity, governance, privacy, and compliance features**

- Describe core Azure identity services
  - Explain the difference between authentication and authorization
  - Define Azure Active Directory
  - Describe the functionality and usage of Azure Active Directory
  - Describe the functionality and usage of Conditional Access, Multi-Factor Authentication (MFA), and Single Sign-On (SSO)
- Describe Azure governance features
  - Describe the functionality and usage of Role-Based Access Control (RBAC)
  - Describe the functionality and usage of resource locks
  - Describe the functionality and usage of tags
  - Describe the functionality and usage of Azure Policy
  - Describe the functionality and usage of Azure Blueprints
  - Describe the Cloud Adoption Framework for Azure
- Describe privacy and compliance resources
  - Describe the Microsoft core tenets of Security, Privacy, and Compliance
  - Describe the purpose of the Microsoft Privacy Statement, Online Services Terms (OST) and Data Protection Amendment (DPA)
  - Describe the purpose of the Trust Centre
  - Describe the purpose of the Azure compliance documentation
  - Describe the purpose of Azure Sovereign Regions (Azure Government cloud services and Azure China cloud services)

## ✔ Describe Azure cost management and Service Level Agreements

- Describe methods for planning and managing costs
  - Identify factors that can affect costs (resource types, services, locations, ingress and egress traffic)
  - Identify factors that can reduce costs (reserved instances, reserved capacity, hybrid use benefit, spot pricing)
  - Describe the functionality and usage of the Pricing calculator and the Total Cost of Ownership (TCO) calculator
  - Describe the functionality and usage of Azure Cost Management
- Describe Azure Service Level Agreements (SLAs) and service lifecycles
  - Describe the purpose of an Azure Service Level Agreement (SLA)
  - Identify actions that can impact an SLA (i.e. Availability Zones)
  - Describe the service lifecycle in Azure (Public Preview and General Availability)

## ✓ **Module 4: DevOps**

### ✓ **Ansible**

#### ✓ **Configuration Management with Ansible:**

In In this module, you will learn to Install Ansible and Configure Ansible Roles. You will also learn to write Playbooks and finally Execute Ad-Commands using Ansible.

- Introduction to Ansible
- Ansible Installation
- Configuring Ansible Roles
- Write Playbooks
- Executing Adhoc Command & Installing Ansible
- Configuring Ansible Role & Write Playbooks
- Execute Adhoc Commands

### ✓ **Kubernetes**

#### ✓ **Containerization using Kubernetes:**

In this module, you will learn the basics of Kubernetes and its Integration with Docker.

- Revisiting Kubernetes Cluster Architecture
- Spinning up a Kubernetes Cluster on Ubuntu VMs
- Exploring your Cluster
- Understanding YAML
- Creating a Deployment in Kubernetes using YAML
- Creating a Service in Kubernetes
- Installing Kubernetes Dashboard
- Deploying an App using Dashboard
- Using Rolling Updates in Kubernetes
- Containers and Container Orchestration
- Introduction to Kubernetes
- Setting up the Kubernetes Cluster
- Accessing your application through service
- Deploying an app through Kubernetes Dashboard
- Rolling updates in Kubernetes

## ✓ Jenkins

### (Continuous Integration)

## ✓ Continuous Integration using Jenkins

In this module, you will know how to perform Continuous Integration using Jenkins by Building and Automating Test Cases using Maven

- Jenkins Management
- Adding a Slave Node to Jenkins
- Building Delivery Pipeline
- Pipeline as a Code
- Implementation of Jenkins
- Build the Pipeline of Jobs using Jenkins
- Create a Pipeline Script to Deploy an Application over the Tomcat Server

## ✓ Docker

## ✓ Continuous Deployment: Containerization with Docker:

This module introduces Docker to Readers, the Core Concepts and Technology behind Docker. Learn in detail about Container and various Operations Performed on it.

- Shipping Transportation Challenges
- Introducing Docker
- Understanding Images and Containers
- Running Hello World in Docker
- Introduction to Container
- Container Life Cycle
- Sharing and Copying
- Base Image & Docker File
- Working with Containers
- Publishing Image on Docker Hub
- Create and Implement Docker Images and Containers

## ✓ Module 5: Python Training Curriculum

- **Introduction To Python:**
  - Installation and Working with Python
  - Understanding Python variables
  - Python basic Operators
  - Understanding the Python blocks.
- **Python Keyword and Identifiers**
  - Python Keyword and Identifiers
  - Python Comments, Multiline Comments.
  - Python Indentation
  - Understating the concepts of Operators
    - Arithmetic
    - Relational
    - Logical
    - Assignment
    - Membership
    - Identity
- **Introduction To Variables:**
  - Variables, expression condition and function
  - Global and Local Variables in Python
  - Packing and Unpacking Arguments
  - Type Casting in Python
  - Byte objects vs. string in Python
  - Variable Scope
- **Python Data Type:**
  - Declaring and using Numeric data types
  - Using string data type and string operations
  - Understanding Non-numeric data types
  - Understanding the concept of Casting and Boolean.
  - Strings
  - List
  - Tuples
  - Dictionary
  - Sets

- **Control Structure & Flow**

- Statements – if, else, elif
- How to use nested IF and Else in Python
- Loops
- Loops and Control Statements.
- Jumping Statements – Break, Continue, pass
- Looping techniques in Python
- How to use Range function in Loop?
- Programs for printing Patterns in Python
- How to use if and else with Loop
- Use of Switch Function in Loop
- Elegant way of Python Iteration
- Generator in Python
- How to use nested Loop in Python
- Use If and Else in for and While Loop
- Examples of Looping with Break and Continue Statement
- How to use IN or NOT IN keyword in Python Loop.

- **Python Function, Modules and Packages**

- Python Syntax
- Function Call
- Return Statement
- Arguments in a function – Required, Default, Positional, Variable-length
- Write an Empty Function in Python –pass statement.
- Lamda/ Anonymous Function
- \*args and \*\*kwargs
- Help function in Python
- Scope and Life Time of Variable in Python Function
- Nested Loop in Python Function
- Recursive Function and Its Advantage and Disadvantage
- Organizing python codes using functions
- Organizing python projects into modules
- Importing own module as well as external modules
- Understanding Packages
- Random functions in python
- Programming using functions, modules & external packages
- Map, Filter and Reduce function with Lambda Function
- More example of Python Function

- **Python Date Time and Calendar:**

- Day, Month, Year, Today, Weekday
- IsoWeek day
- Date Time
- Time, Hour, Minute, Sec, Microsec
- Time Delta and UTC
- Strftime, Now
- Time stamp and Date Format
- Month Calendar
- Itermonthdates
- Lots of Example on Python Calendar
- Create 12-month Calendar
- Strftime
- Strptime
- Format Code list of Data, Time and Cal
- Locale's appropriate date and time

- **List**

- What is List.
- List Creation
- List Length
- List Append
- List Insert
- List Remove
- List Append & Extend using "+" and Keyword
- List Delete
- List related Keyword in Python
- List Revers
- List Sorting
- List having Multiple Reference
- String Split to create a List
- List Indexing
- List Slicing
- List count and Looping
- List Comprehension and Nested Comprehension

- **Tuple**

- What is Tuple
- Tuple Creation

- Accessing Elements in Tuple
- Changing a Tuple
- Tuple Deletion
- Tuple Count
- Tuple Index
- Tuple Membership
- TupleBuilt in Function (Length, Sort)
- **Dictionary**
  - Dict Creation
  - Dict Access (Accessing Dict Values)
  - Dict Get Method
  - Dict Add or Modify Elements
  - Dict Copy
  - Dict From Keys.
  - Dict Items
  - Dict Keys (Updating, Removing and Iterating)
  - Dict Values
  - Dict Comprehension
  - Default Dictionaries
  - Ordered Dictionaries
  - Looping Dictionaries
  - Dict useful methods (Pop, Pop Item, Str , Update etc.)
- **Sets**
  - What is Set
  - Set Creation
  - Add element to a Set
  - Remove elements from a Set
  - PythonSet Operations
  - Frozen Sets
- **Strings**
  - What is Set
  - Set Creation
  - Add element to a Set
  - Remove elements from a Set
  - PythonSet Operations

- **Python Exception Handling**
  - Python Errors and Built-in-Exceptions
  - Exception handling Try, Except and Finally
  - Catching Exceptions in Python
  - Catching Specific Exception in Python
  - Raising Exception
  - Try and Finally
- **Python File Handling**
  - Opening a File
  - Python File Modes
  - Closing File
  - Writing to a File
  - Reading from a File
  - Renaming and Deleting Files in Python
  - Python Directory and File Management
  - List Directories and Files
  - Making New Directory
  - Changing Directory
- **Python Database Interaction**
  - SQL Database connection using
  - Creating and searching tables
  - Reading and Storing config information on database
  - Programming using database connections
- **Contacting user Through Emails Using Python**
  - Installing SMTP Python Module
  - Sending Email
  - Reading from file and sending emails to all users
- **Reading an excel**
  - Working With Excel
  - Reading an excel file using Python
  - Writing to an excel sheet using Python
  - Python| Reading an excel file
  - Python | Writing an excel file
  - Adjusting Rows and Column using Python
  - ArithmeticOperation in Excel file.
  - Play with Workbook, Sheets and Cells in Excel using Python

- Creating and Removing Sheets
- Formatting the Excel File Data
- More example of Python Function
- **Complete Understanding of OS Module of Python**
  - Check Dirs. (exist or not)
  - How to split path and extension?
  - How to get user profile detail?
  - Get the path of Desktop, Documents, Downloads etc.
  - Handle the File System Organization using OS
  - How to get any files and folder's details using OS?

## ✓ **Data Analysis and Visualization using NumPy, Pandas, and Matplotlib, Seaborn**

- **NumPy**
  - Introduction to NumPy: Numerical Python
  - Importing NumPy and Its Properties
  - NumPy Arrays
  - Creating an Array from a CSV
  - Operations an Array from aCSV
  - Operations with NumPy Arrays
  - Two-Dimensional Array
  - Selecting Elements from 1-D Array
  - Selecting Elements from 2-D Array
  - Logical Operation with Array
- **Pandas**
  - Working With Excel using Pandas
  - Reading an excel & CSV file using Pandas
  - Writing to an excel sheet using Pandas
  - Adjusting Rows and Column using Pandas
  - Arithmetic Operation in Excel file using Pandas.
  - Play with Workbook, Sheets and Cells in Excel using Pandas
  - Creating and Removing Sheets using Pandas
  - Formatting the Excel File Data using Pandas
- **Matplotlib**
  - Bar Chart using Python Matplotlib
  - Column Chart using Python Matplotlib

- Pie Chart using Python Matplotlib
  - Area Chart using Python Matplotlib
  - Scatter Plot Chart using Python Matplotlib
  - Export the Chart as Image
  - Create Charts as Image
  - Other Useful Properties of Charts.
  - Plotting Different Charts, Labels, and Labels Alignment etc.
- **Introduction to Seaborn**
    - Introduction to Seaborn
    - Making a scatter plot with lists
    - Making a count plot with a list
    - Using Pandas with seaborn
  - **Python Object Oriented Programming—Oops Concepts**
    - Concept of Class, Object and Instances
    - Constructor, Class attributes and Destructors
    - Real time use of class in live projects
    - Inheritance, Overlapping and Overloading operators
    - Adding and retrieving dynamic attributes of classes
    - Programming using Oops support

## ✓ Module 6: Google Cloud

### ✓ Setting up a Cloud Solution Environment

- Setting up cloud projects and accounts. Activities include
  - Creating projects
  - Assigning users to predefined IAM roles within a project
  - Managing users in Cloud Identity (manually and automated)
  - Enabling APIs within projects
  - Provisioning one or more Stackdriver workspaces
- Managing billing configuration. Activities include:
  - Creating one or more billing accounts
  - Linking projects to a billing account
  - Establishing billing budgets and alerts
  - Setting up billing exports to estimate daily/monthly charges
- Installing and configuring the command line interface (CLI), specifically the Cloud SDK (e.g., setting the default project)
  - Concept of Class, Object and Instances
  - Constructor, Class attributes and Destructors
  - Real time use of class in live projects
  - Inheritance, Overlapping and Overloading operators
  - Adding and retrieving dynamic attributes of classes
  - Programming using OOPS support

### ✓ Planning and Configuring a Cloud Solution

- Planning and estimating GCP product use using the Pricing Calculator
- Planning and configuring compute resources. Considerations include:
  - Selecting appropriate compute choices for a given workload (e.g., Compute Engine, Google Kubernetes Engine, App Engine, Cloud Run, Cloud Functions)
  - Using preemptible VMs and custom machine types as appropriate
- Planning and configuring data storage options. Considerations include:
  - Product choice (e.g., Cloud SQL, BigQuery, Cloud Spanner, Cloud Bigtable)
  - Choosing storage options (e.g., Standard, Nearline, Coldline, Archive)
- Planning and configuring network resources. Tasks include:
  - Differentiating load balancing options
  - Identifying resource locations in a network for availability
  - Configuring Cloud DNS

## ✔ Deploying and Implementing a Cloud Solution

- Deploying and implementing Compute Engine resources. Tasks include:
  - Launching a compute instance using Cloud Console and Cloud SDK (gcloud) (e.g., assign disks, availability policy, SSH keys)
  - Creating an autoscaled managed instance group using an instance template
  - Generating/uploading a custom SSH key for instances
  - Configuring a VM for Stackdriver monitoring and logging
  - Assessing compute quotas and requesting increases
  - Installing the Stackdriver Agent for monitoring and logging
- Deploying and implementing Google Kubernetes Engine resources. Tasks include
  - Deploying a Google Kubernetes Engine cluster
  - Deploying a container application to Google Kubernetes Engine using pods
  - Configuring Google Kubernetes Engine application monitoring and logging
- Deploying and implementing App Engine, Cloud Run, and Cloud Functions resources. Tasks include, where applicable:
  - Deploying an application, updating scaling configuration, versions, and traffic splitting
  - Deploying an application that receives Google Cloud events (e.g., Cloud Pub/Sub events, Cloud Storage object change notification events)
- Deploying and implementing data solutions. Tasks include
  - Initializing data systems with products (e.g., Cloud SQL, Cloud Datastore, BigQuery, Cloud Spanner, Cloud Pub/Sub, Cloud Bigtable, Cloud Dataproc, Cloud Dataflow, Cloud Storage)
  - Loading data (e.g., command line upload, API transfer, import/export, load data from Cloud Storage, streaming data to Cloud Pub/Sub)
- Deploying and implementing networking resources. Tasks include:
  - Creating a VPC with subnets (e.g., custom-mode VPC, shared VPC)
  - Launching a Compute Engine instance with custom network configuration (e.g., internal-only IP address, Google private access, static external and private IP address, network tags)
  - Creating ingress and egress firewall rules for a VPC (e.g., IP subnets, tags, service accounts)

- Creating a VPN between a Google VPC and an external network using Cloud VPN
- Creating a load balancer to distribute application network traffic to an application (e.g., Global HTTP(S) load balancer, Global SSL Proxy load balancer, Global TCP Proxy load balancer, regional network load balancer, regional internal load balancer)
- Deploying a solution using Cloud Marketplace. Tasks include:
  - Browsing Cloud Marketplace catalog and viewing solution details
  - Deploying a Cloud Marketplace solution
  - Installing the Stackdriver Agent for monitoring and logging
- Deploying application infrastructure using Cloud Deployment Manager. Tasks include:
  - Developing Deployment Manager templates
  - Launching a Deployment Manager template

## Ensuring Successful Operation of a Cloud Solution

- Managing Compute Engine resources. Tasks include:
  - Managing a single VM instance (e.g., start, stop, edit configuration, or delete an instance)
  - SSH/RDP to the instance
  - Attaching a GPU to a new instance and installing CUDA libraries
  - Viewing current running VM inventory (instance IDs, details)
  - Working with snapshots (e.g., create a snapshot from a VM, view snapshots, delete a snapshot)
  - Working with images (e.g., create an image from a VM or a snapshot, view images, delete an image)
  - Working with instance groups (e.g., set autoscaling parameters, assign instance template, create an instance template, remove instance group)
  - Working with management interfaces (e.g., Cloud Console, Cloud Shell, GCloud SDK)
- Managing Google Kubernetes Engine resources. Tasks include:
  - Viewing current running cluster inventory (nodes, pods, services)
  - Working with node pools (e.g., add, edit, or remove a node pool)
  - Working with pods (e.g., add, edit, or remove pods)
  - Working with services (e.g., add, edit, or remove a service)
  - Working with stateful applications (e.g. persistent volumes, statefulsets)

- Working with management interfaces (e.g., Cloud Console, Cloud Shell, Cloud SDK)
- Managing App Engine and Cloud Run resources. Tasks include:
  - Adjusting application traffic splitting parameters
  - Setting scaling parameters for autoscaling instances
  - Working with management interfaces (e.g., Cloud Console, Cloud Shell, Cloud SDK)
- Managing storage and database solutions. Tasks include:
  - Moving objects between Cloud Storage buckets
  - Converting Cloud Storage buckets between storage classes
  - Setting object life cycle management policies for Cloud Storage buckets
  - Executing queries to retrieve data from data instances (e.g., Cloud SQL, BigQuery, Cloud Spanner, Cloud Datastore, Cloud Bigtable)
  - Estimating costs of a BigQuery query
  - Backing up and restoring data instances (e.g., Cloud SQL, Cloud Datastore)
  - Reviewing job status in Cloud Dataproc, Cloud Dataflow, or BigQuery
  - Working with management interfaces (e.g., Cloud Console, Cloud Shell, Cloud SDK)
- Managing networking resources. Tasks include:
  - Adding a subnet to an existing VPC
  - Expanding a subnet to have more IP addresses
  - Reserving static external or internal IP addresses
  - Working with management interfaces (e.g., Cloud Console, Cloud Shell, Cloud SDK)
- Monitoring and logging. Tasks include:
  - Creating Stackdriver alerts based on resource metrics
  - Configuring log sinks to export logs to external systems (e.g., on-premises or BigQuery)
  - Viewing specific log message details in Stackdriver
  - Using cloud diagnostics to research an application issue (e.g., viewing Cloud Trace data, using Cloud Debug to view an application point-in-time)
  - Viewing Google Cloud Platform status
  - Working with management interfaces (e.g., Cloud Console, Cloud Shell, Cloud SDK)

## ✔ **Configuring Access and Security**

- Managing identity and access management (IAM). Tasks include:
  - Viewing IAM role assignments
  - Assigning IAM roles to accounts or Google Groups
  - Defining custom IAM roles
- Managing service accounts. Tasks include:
  - Managing service accounts with limited privileges
  - Assigning a service account to VM instances
  - Granting access to a service account in another project
- Viewing audit logs for project and managed services

## ✓ Module 7: Power BI

### ✓ Introduction to Power BI

- Overview of BI concepts
- Why we need BI?
- Introduction to SSBI
- SSBI Tools
- Why Power BI?
- What is Power BI?
- Building Blocks of Power BI
- Getting started with Power BI Desktop
- Get Power BI Tools
- Introduction to Tools and Terminology
- Dashboard in Minutes
- Refreshing Power BI Service Data
- Interacting with your Dashboards
- Sharing Dashboards and Reports

### ✓ Power BI Desktop

- Power BI Desktop
- Extracting data from various sources
- Workspaces in Power BI
- Data Transformation
- Measures and Calculated Columns
- Query Editor

### ✓ Modelling with Power BI

- Introduction to Modelling
- Modelling Data
- Manage Data Relationship
- Optimize Data Models
- Cardinality and Cross Filtering
- Default Summarization & Sort by
- Creating Calculated Columns
- Creating Measures & Quick Measures

### ✓ Data Analysis Expressions (DAX)

- What is DAX?
- Data Types in DAX
- Calculation Types
- Syntax, Functions, Context Options

- DAX Functions
- Date and Time
- Time Intelligence
- Information
- Logical
- Mathematical
- Statistical
- Text and Aggregate
- Measures in DAX
- ROW Context and Filter Context in DAX
- Operators in DAX – Real-time Usage
- Quick Measures in DAX – Auto validations
- PowerPivot xVelocity & Vertipaq Store
- In-Memory Processing: DAX Performance

## ✓ **Modelling with Power BI**

- Introduction to Modelling
- Optimize Data Models
- Setup and Manage Relationships
- Cardinality and Cross Filtering
- Default Summarization & Sort by
- Creating Calculated Columns
- Creating Measures & Quick Measures

## ✓ **Power BI Desktop Visualisations**

- How to use Visual in Power BI?
- What Are Custom Visuals?
- Creating Visualisations and Colour Formatting
- Setting Sort Order
- Scatter & Bubble Charts & Play Axis
- Tooltips and Slicers, Timeline Slicers & Sync Slicers
- Cross Filtering and Highlighting
- Visual, Page and Report Level Filters
- Drill Down/Up
- Hierarchies and Reference/Constant Lines
- Tables, Matrices & Conditional Formatting
- KPI's, Cards & Gauges
- Map Visualizations
- Custom Visuals

- Managing and Arranging
- Drill through and Custom Report Themes
- Grouping and Binning and Selection Pane, Bookmarks & Buttons
- Data Binding and Power BI Report Server

## ✓ Introduction to Power BI Q&A and Data Insights

- Why Dashboard? and Dashboard vs Reports
- Creating Dashboards
- Configuring a Dashboard: Dashboard Tiles, Pinning Tiles
- Power BI Q&A
- Quick Insights in Power BI
- Power BI embedded and REST API

## ✓ Direct Connectivity

- Custom Data Gateways
- Exploring live connections to data with Power BI
- Connecting directly to SQL Azure, HD Spark, and SQL Server Analysis Services/MySQL
- Introduction to Power BI Development API
- Excel with Power BI: Connect Excel to Power BI, Power BI Publisher for Excel
- Content packs
- Update content packs

## ✓ BI and Azure ML Integrating Power

- Extracting data out of Azure SQL using R
- Using R, call the Azure ML web service and send it the unscored data
- Writing the output of the Azure ML model back into SQL
- read scored data into Power BI using R
- Publishing the Power BI file to the Power BI service
- Scheduling a refresh of the data using the Personal Gateway

## ✓ Publishing and Sharing

- Introduction and Sharing Options Overview
- Publish from Power BI Desktop and Publish to Web
- Share Dashboard with Power BI Service
- Workspaces and Apps (Power BI Pro) and Content Packs (Power BI Pro)
- Print or Save as PDF and Row Level Security (Power BI Pro)
- Export Data from a Visualization and Publishing for Mobile Apps
- Export to PowerPoint and Sharing Options Summary

## ✓ Refreshing Datasets

- Understanding Data Refresh
- Personal Gateway (Power BI Pro and 64-bit Windows)
- Replacing a Dataset and Troubleshooting Refreshing

## ✓ Placement Guide

- What is an Interview?
- Tips to clear an Interview
- Common Interview questions and answers
- Power BI Interview Questions and Answers
- Resume Building Guide
- Attempt for PowerBI Global Certification Exam
- Start applying for Jobs

## ✓ Module 8: Linux

### ✓ Red Hat System Administration

- Get started with Red Hat Enterprise Linux
  - Describe and define open source, Linux distributions, and Red Hat Enterprise Linux.
- Access the command line
  - Log into a Linux system and run simple commands using the shell.
- Manage files from the command line
  - Copy, move, create, delete, and organize files while working from the bash shell.
- Get help in Red Hat Enterprise Linux
  - Resolve problems by using local help systems.
- Create, view, and edit text files
  - Manage text files from command output or in a text editor.
- Manage local users and groups
  - Create, manage, and delete local users and groups, as well as administer local password policies.
- Control access to files
  - Set Linux file system permissions on files and interpret the security effects of different permission settings.
- Monitor and manage Linux processes
  - Evaluate and control processes running on a Red Hat Enterprise Linux system.
- Control services and daemons
  - Control and monitor network services and system daemons using systemd.
- Configure and secure SSH
  - Configure secure command line service on remote systems, using OpenSSH.
- Analyze and store logs
  - Locate and accurately interpret logs of system events for troubleshooting purposes.
- Manage networking
  - Configure network interfaces and settings on Red Hat Enterprise Linux servers.
- Archive and transfer files

- Archive and copy files from one system to another.
- Install and update software
  - Download, install, update, and manage software packages from Red Hat and yum package repositories.
- Access Linux files systems
  - Access, inspect, and use existing file systems on storage attached to a Linux server.
- Analyze servers and get support
  - Investigate and resolve issues in the web-based management interface, getting support from Red Hat to help solve problems.
- Comprehensive review
- Review the content covered in this course by completing hands-on exercises

# e-Learning through LMS

## Learning Management System

Our LMS (LearnPitch) is for the administration, documentation, tracking, reporting, automation, and delivery of educational courses, training programs, or learning and development programs.

Our LMS has been designed to identify training and learning gaps, using analytical data and reporting to keep you up with the class activities.

## Key Features Learning Management System



Live Sessions with Class recordings



Get study material with Assignments.



Track your curriculum covered.



Track your class wise attendance



Share your feedback for Trainer & Training



Get your Training Certificate from LMS



# Training **Certification**

## Earn Your **Certificate**

Your certificate and skills are vital to the extent of jump-starting your career and giving you a chance to compete in a global space.



# Croma Campus! Reviews



"The most rewarding part of my experience has been achieving a prestigious certification in the subject that I love. Moreover, the training offered out by the specialists are of world-class and prepares out the students for corporate world. For me Croma Campus means a lot."

*"By The  
Students  
For The  
Students,,*

## Your Success Is **Our Story**



**Bharat**

“ I am fully satisfied with the excellent training services received by the expert staff at Croma Campus. I want to thank Croma Campus for providing me with the most innovative and affordable training services for learning all the software testing procedures and guidelines. ”



**Ankit**

“ It was a lifetime experience for me to get trained by IT Experts of Croma Campus. What I liked most about the training was the consistent high-quality education, which was friendly and co-active. The placement department was also proactive, they keep me updated regarding new job opportunities and provide the grooming session to crack the interview. At last, I would like to thank all faculty members of Croma Campus for their immense help and support. ”



**Nitesh**

“ Without any second thought, I will give Croma Campus 10/10. Their placement department is highly proactive. I remember they started scheduling interviews for me from the very next day when I told them my course has been completed. These people are doing a phenomenal job and I highly recommend Croma Campus to everyone. ”



**Shams Khan**

“ Croma Campus is doing a phenomenal job in the IT training industry. The reason why I decided to join their training program was that they provide quality training at very a nominal price. Plus, the online training mode was also a factor due to which I decided to join the training program of Croma Campus as I didn't want to attend physical classes. ”



# Meet Our Team



## Sales Team

Our Sales team is highly passionate, emphatic, positive attitude, great listening skills, ability to deliver quick solutions, and they are multitasker too. Our team always remains up-to-date about all the latest technologies and market trends. With effective communication skills, they always work to deliver the right information to customers when it is needed.



## Product Team

Our product team is highly functional and collaborative working together to achieve the common outcome of designing exceptional digital experiences. Each of our members is a contributor to help us achieve success in long-run. Sitting at the high-end of technology and innovation, team helps to deliver high-end customer experiences and always comes out with a big idea as a game-changing plan.



## Marketing Team

Our Marketing team works as gladiators and helps us to achieve business success in all possible ways. They are included in almost everything either it is building a brand, creating brand awareness, promoting products or services, delivering trailblazing customer experiences or increasing engagement at public forums. They are the true backbone of the Company.



## Content Team

Our content team is responsible for ideation, creation, optimization, and distribution of content throughout the company. The team always starts its work with a strategy, how to create high-quality contents, and how to promote or share the content. Our in-house content team help us to produce all types of contents either they are educational content pieces, marketing content, SEO content, or any other forms too.



## Customer Access Team

This is the team that has actually been taken up us from reactive state to a pro-active state. The team utilizes high-valued solutions to satisfy customers in all possible ways. It is truly said that no company can succeed if your customers are not satisfied. And our customer success team is dedicatedly working to keep all the customers satisfied and we always consider our customer feedback on priority.



## HR Team

Our HR team is committed to provide high-end solutions to employees as they require. Our HR team has the right skills and knowledge to make sure that the HR department can always be legally and strategically successful. They know how to keep employees motivated all the time with the best HR policies and fun activities too from time to time.

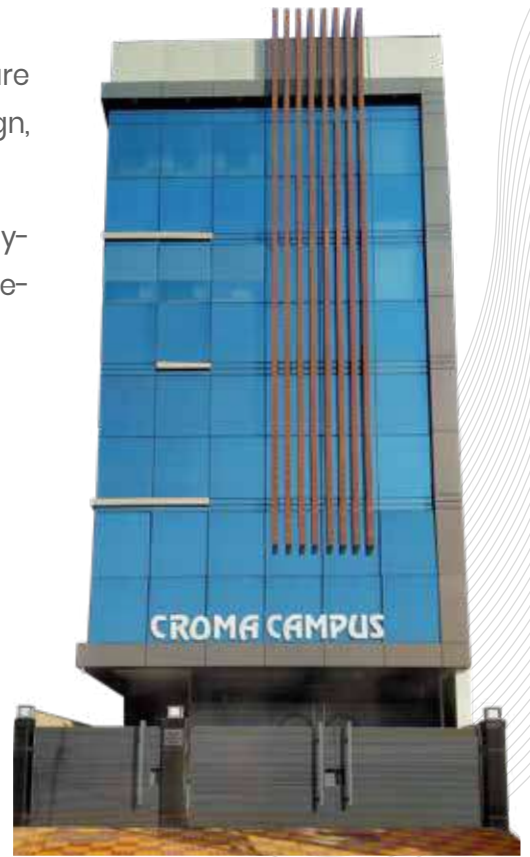


# Glimpse Of Our Office

## Look **Who We are**

Our office's infrastructure comprises all the necessary software and network resources that are required to deliver IT & Design, Human Resources, Digital Marketing, and training services.

We are well-equipped with bright designed work bays for employees and managers having separate cabins with spacious cafeteria and training classrooms.



# About Croma Campus

“ Our Mission is to Build Nation through Education & Beyond Limitation. ”

Croma Campus Training & Development Private Limited is an education platform providing rigorous industry-relevant programs designed and delivered in collaboration with world-class faculty, industry & Infrastructure. In the past 12 years we have trained 18000+ candidates and out of which we are able to place 12000+ professionals in various industries successfully.

We Are  
Affiliated  
With Different  
Partners



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cromacampus/youtube

**REACH US:**

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