

Advanced Certification in Cloud Computing & DevOps

[Offline Program]

In Association with



Electronics & ICT Academy
Indian Institute of Technology Guwahati

An Initiative of Ministry of Electronics & Information Technology(Meity)



About Ethan's Tech

Ethans Tech is a leading IT training institute in Pune, India, dedicated to providing high-quality, industry-relevant education to individuals and Corporate aiming to excel in the IT sector. Since its inception, Ethans Tech has been committed to bridging the gap between theoretical knowledge and practical application, making it a top choice for aspiring IT professionals and Engineering college graduates. Whether you are a fresh graduate or an experienced professional looking to UpSkill, Ethans Tech offers the resources and support necessary to achieve your career goals in the dynamic IT landscape.

Certification



Credential Platform Partner



Ethan's Integrity

1

Awards and Recognition

Ethan's Tech: Proud Winner of the Excellence Award Winner in Python Training in 2016 & Excellence Award Winner in AWS Training in 2017 recognized by Urban Pro. Ethan's is acknowledged by Silicon India, Business Standard, Mid Day, and Outlook etc.

2

Vast Training Experience

Ethan's has been teaching advanced technology like cloud computing, analytics, and automation. Our experienced instructors, who work in the industry, have trained over 24,000 professionals and college graduates, helping them gain the skills they need for today's tech world.

3

Industry Experts Faculties

With over 56+ faculty members, each with an average of more than 10+ years of industry experience, our experts are seasoned professionals in their respective fields. 70% of our trainers hail from leading MNCs.

About E&ICT Academy



E&ICT Academy is a joint initiative by the Ministry of Electronics & Information Technology (MeitY), Government of India and IIT Guwahati with the aim of training the forthcoming technical workforce to enhance employability in the country.

MeitY - Ministry of Electronics and Information Technology has sponsored a scheme entitled "Scheme of Financial Assistance for setting up of Electronics and ICT Academies". Electronics and ICT Academy would aim to provide specialised training to the faculties of Engineering, Arts, Commerce & Science colleges, Polytechnics etc, by developing state-of-the-art facilities. Academy has planned short term training programmes on fundamental and advanced topics in IT, Electronics & Communication, Product Design, Manufacturing with hands-on training and project work using latest software tools and systems.

In addition, the Academy will conduct specialised/customised training programmes and research promotion workshops for corporate sector & educational institutions. It is envisaged that the Electronics and ICT Academy will become a central hub of activities on training, consultancy work and entrepreneurship programmes.



Prof. Gaurav Trivedi
Principal Investigator
E&ICT Academy
IIT Guwahati

Executive Notes



A message from Founding Member Ethan's Tech - Pune

Dear Learner,

Congratulations on taking the first step toward achieving your dreams! Each of us has unique aspirations, and Ethan's Tech is here to help you reach them.

I founded Ethan's Tech to bridge the gap between academic learning and practical industry skills. As a passionate trainer, Python programmer, and Data Scientist, I realized many professionals are stuck in careers they don't enjoy due to a lack of practical skills.

"Excellence is never an accident; it's always the result of high intention, sincere efforts, intelligent direction, and skillful execution." I am proud of our institute and committed to offering the highest standards of education. Pursue your dreams with passion, and success will follow!

Warm Regards,
Jatin Miglani



A message from Principal Investigator, E&ICT Academy, IIT Guwahati

Dear Students,

As the Principal Investigator of E&ICT Academy, IIT Guwahati, I am pleased to endorse and collaborate with Ethan's Tech our offline training center in Pune on their Advanced Certification in Cloud Computing & DevOps.

At E&ICT Academy, IIT Guwahati, we are committed to promoting excellence in education and research in the field of Python Full Stack Development, Data Analytics, Data Science, Artificial Intelligence and Cloud Computing.

I wish you all the best in your educational journey with Ethan's Tech and look forward to witnessing your growth and achievements in the exciting fields of Python Full Stack Development, Data Analytics, Data Science, Artificial Intelligence and Cloud Computing.

Warm Regards,
Prof. Gaurav Trivedi

About the Program

Ethan's Tech Certification in Cloud Computing & DevOps is designed to prepare you for a high-growth career in the field of Linux Administrator, AWS, Python and DevOps etc.

📅 Duration:

- The total duration of this program is 6 months.

⭐️ Eligibility:

- College students, College Graduates and ReLaunchers.
- Individuals with a knack for learning and a never-give-up attitude.
- **No prior Python Scripting, Cloud or Linux experience required.**

👉 Who is it Ideal for?

- Individuals looking to transition into a Cloud & DevOps Career
- Individuals interested in upskilling with an Advanced IIT certification

Plans & Pricing

Inaugural Offer

Classic

Credential Platform Partner



₹53,000/-*

*Pay in Easy EMIs

- Intensive Cloud Computing and DevOps curriculum.
- 200+ Hours of live offline classes.
- Lifetime access of all class recordings.
- Complete LMS access including books.
- 12+ Mini Projects & 1000+ self practice quizzes, problems and assessments
- 50+ mock interviews questions with Dedicated Placement Support.
- Wipro-DICE ID Certification

Ethan's Career Services Fee

₹9,999/-

To be Paid After Placement

Exclusive



E&ICT Academy
IIT Guwahati

₹82,999/- ₹70,800/-*

*Pay in Easy EMIs

All Benefits of Classic Plan

+

- Advanced Certification from E&ICT Academy, IIT Guwahati.
- Guest Lectures from IIT Guwahati faculty.
- 2-day campus immersion at IIT Guwahati(Optional)
- **Dual Certification.**

Ethan's Career Services Fee

INCLUDED

Program Overview

Student Workload 800+ Hours

POCs & Project 12+ Projects

Teaching Hours 200+ Hours

Total Duration 06 Months

SNo	Module	Session	Weeks	Workload
1	Python Essentials: Learn, Code, Create	Live	4 Weeks	150 Hours
2	Operating System - Linux	Live	4 Weeks	150 Hours
3	Cloud Infrastructure - AWS	Live	6 Weeks	200 Hours
4	DevOps Tools	Live	10 Weeks	300 Hours
5	Interview Preparation or English Communication	Live	-	-

Please note: The durations of courses for individual technologies are provided as approximations and may vary from one batch to another.

Tech Covered

aws Amazon Web Services
 Cloud Computing Platform

Terraform
 infrastructure-as-code soft. tool

DevOps Tools
 Methodology in software Develop

Dockers
 Facilitates containerization

Linux
 Open-source Unix operating syst.

Ansible
 Suite of software tools

Kubernetes
 Open-source orchestration tool

Jenkins
 Open source automation server

GitHub
A developer platform

Python
 Generic scripting language

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01

PYTHON ESSENTIALS: LEARN, CODE, CREATE

Python Essentials is a key module in the Advanced Certification in Cloud Computing & DevOps program. This module focuses on building a strong foundation in Python programming, covering core concepts like syntax, data structures, and libraries. It equips students with essential coding skills to solve data-driven problems and prepares them for advanced analytics and machine learning techniques in the program.

► Python Basics: Learn to Code

► Introduction to Python Programming

- Introduction to Python and IDE, Basic Data Types in Python, Variables and Naming Conventions

► Data Types in Python

- Data Structure, Python String Object, Python List and Tuple Objects, Python Dictionary Object, Python Set Object.

► Indexing & Slicing

- Importance of indexing in Python, Introduction to Slicing, Indexing and Slicing in Strings, Indexing and Slicing in Lists and Tuples

► Operators in Python

- Arithmetic Operators, Comparison Operators, Logical Operators, Assignment Operators, Membership Operators

► In-Built Functions & Methods

- Exploring Built-in Functions, Use Built-in Functions with data types, Introducing Built-in Methods for specific data types

▶ Python Control Flow Simplified

- ▶ **Statements, Indentation and Conditionals**
 - Statements and Indentation, Introduction to Conditional Statements, Combining Multiple Conditions
- ▶ **Loops & Iterations**
 - Conditional Loops (While Loop), Conditional Loops (For Loop), Master 'for' loops, Learn 'while' loops, Comprehend loop control statements, Explore nested loops

▶ Building Smarter Programs

- ▶ **Custom Functions in Python**
 - Introduction to Custom Functions, Defining and Calling Custom Functions in Python, Working with Arguments and Return Values
- ▶ **Advanced Looping Concepts**
 - List Comprehension, Set Comprehension, Dictionary Comprehension, Lambda Functions
- ▶ **OOPs in Python**
 - Introduction to Object-Oriented Programming (OOPs), Creating and Working with Classes, Understanding Objects and Instances, Working with Attributes, Utilizing Methods in Classes, Embracing Polymorphism, Leveraging Inheritance
- ▶ **Exception Handling & Logging**
 - Introduction to Exception Handling, Try-Except Block: Catching Exceptions, Handling Specific Exceptions, Finally Block: Cleaning Up After Exceptions, Raising Exceptions: Taking Control, Handling Multiple Exceptions: The Exceptional Mastery

OPERATING SYSTEM - LINUX

02

Linux Essentials is a key module in the Advanced Certification in Cloud Computing & DevOps program. This module focuses on building a strong foundation in Linux operating systems, covering core concepts like file systems, shell scripting, permissions, and system administration. It equips students with essential skills to manage Linux-based environments and prepares them for advanced cloud computing and DevOps practices in the program.



Introduction to Linux & Essential Commands

► The Story of Linux

- History and Evolution of Linux, Linux Distributions Overview

► Getting Started with AWS Linux Instance

- Linux Instance on AWS Server

► Linux Files and Folders and CLI

- Command line syntax, Understanding File System Hierarchy, Directory Navigation, Managing Files and Directories

► Mastering Text Handling in Linux

► Introduction to Vi Editor

- Introduction to "vi" Editor

► Introduction to Nano Editor

- Introduction to "nano" Editor

► Introduction to common utilities

- Text Manipulation with "sed", Text Processing with "awk", Introduction to grep utility

► File Permissions and Ownership

► Linux Users & Groups

- Create Users and Groups

► Manage Permissions Like a Pro

- Understanding File Permissions, Managing Special Permissions, Advance Permission with FACL

► Linux Bash Scripting

► Introduction to Shell Scripting

- Basics of Shell Scripting: Syntax, Variables

- ▶ **Conditional Statements & Loops**
 - Decision Making in Shell, Loops
- ▶ **Functions in Shell**
 - Functions in Shell Scripts
- ▶ **Data Handling**
 - Handling Command Line Arguments, Input and Output Redirection, Error Handling and Debugging
- ▶ **Scheduling execution of Shell Scripts**
 - Cron Jobs

► Advance Shell Scripting & System Administration

- ▶ **Shell Scripting Beyond Basics**
 - Advanced Shell Scripting
- ▶ **Process Management Essentials**
 - Process Management
- ▶ **Linux Daemon Control**
 - System Initialization and Services
- ▶ **Comprehensive Log Management**
 - Log Management and Analysis

► Networking Basics and Security

- ▶ **Mastering IPv4 Addressing**
 - Fundamentals of IP Addressing, Introduction to IPv4 Subnetting
- ▶ **IPv6 Essentials**
 - IPv6 Basics
- ▶ **Linux Networking Essentials**
 - Networking commands in Linux
- ▶ **Securing Linux with Firewalls**
 - Configuring linux firewall

03

AMAZON WEB SERVICES

AWS Essentials is a key module in the Advanced Certification in Cloud Computing & DevOps program. This module focuses on building a strong foundation in AWS services, covering core concepts like cloud computing, IAM, EC2, and S3. It equips students with essential cloud skills to design, deploy, and manage scalable applications and prepares them for advanced DevOps practices and cloud-native solutions in the program.

▶ Setting Up and Using the Cloud

➤ An Introduction to AWS

- Basics of Cloud Computing, Intro to AWS , AWS Global Infra

➤ Setting Up Your AWS Account and Exploring the Console

- Creating AWS Account, Intro to AWS Management Console, Account Security for Root User with MFA, Budgets, Billing Dashboards and Cost Explorer.

➤ Building Your First AWS EC2 Instance with Windows

- SSH Keypairs or EC2 Keypairs, Generating Keypairs with third party apps, Launching Windows Instance & RDP connection.

➤ Deploying and Accessing Linux Instances in AWS

- Launching a Linux Instance & Connect with ssh, Hosting a website, Creating port Exceptions in Security Group.

▶ Mastering VPC: Networking in AWS

➤ Creating and Configuring a Fully Functional VPC in AWS

- VPC's, Subnets, Internet Gateways, Route Tables, InterVPC Peering Connection

➤ Advanced Networking with AWS VPC

- NAT Gateway, Access Control Lists & Security Groups

➤ Building a Secure VPC Architecture

- Understanding NameResolution and DNS

- ▶ **Mastering DNS and Name Resolution**
 - Architecture, Concepts of Route53 and , Zone Hosting on Traditional DNS Servers vs Route53 Zones , Domain registration in Route53

▶ **Mastering EC2: Detailed Insights**

- ▶ **Understanding EC2: Core Concepts and Features**
 - Understanding Block Storage and EBS Volumes
- ▶ **Advanced EBS Volumes**
 - EBS Architecture and Security, Deploying EBS volumes, Attaching Volume to EC2 Instance and Management
- ▶ **Shared Storage for EC2 : EFS Share**
 - EFS Share Design and Architecture, Mounting and Accessing EFS Shares in multiple Instances, EBS Snapshots and Backup
- ▶ **Disaster Recovery for EC2: EBS Backup and AMI Creation**
 - EBS Snapshots creation and Lifecycle Manager Policy, Copy EBS Snapshot to different regions, Creating Reference Image with EC2 AMI, Using AMI for Rapid Deployment of EC2 Instances
- ▶ **High Availability with Elastic Load Balancer**
 - Understanding concepts of High Availability and the need for Load Balancer, Architecture of Elastic Load Balancer in AWS and its design, Components of Elastic Load Balancer and implementation, Health Checks for Elastic Load Balancer and Target Groups
- ▶ **EC2 Auto Scaling Infrastructure**
 - Need for Dynamic Scaling of Infrastructure, Design and Architecture of Auto Scaling Groups, Launch Template in EC2 , Configuring Launch Template and ASG, Demonstrating auto scaled Infrastructure and auto healing

▶ **Real-Time Alerts and Monitoring in AWS**

- ▶ **Optimizing AWS Operations with CloudWatch Monitoring**
 - Concepts of Monitoring, CloudWatch Metrics observation
- ▶ **Seamless Monitoring and Notifications**
 - Email Notifications with SNS, Event Triggers with Event Bridge



The Ultimate Guide to AWS IAM

► Roles, Policies, and MFA for AWS Users

- Basics of Authentication and Authorization, Creating and Managing Users and Groups, Configuring MFA for IAM Users, Managing Security with Policies and Roles



Mastering Amazon RDS for Relational Databases

► Working with SQL Databases in AWS

- Concepts of Relational Database and SQL, Intro to RDS and Implementation, RDS Snapshots and Backup in AWS, Understanding Multi-AZ DB Instance in RDS, Configuring secure access to database, Connecting Applications to Database



AWS Elastic Beanstalk - Application Deployment

► Platform Managed Application Hosting

- Intro to Elastic Beanstalk and hosting a Website, Alias record setup in the DNS Zone, Managing Environment and creating Clone, Domain Name Swapping on the environment, Application Management in the environment



Amazon S3: Scalable and Reliable Cloud Storage

► Understanding the Basics of Amazon S3

- Intro to S3 Buckets, Object Storage Class

► Unlocking the Power of AWS S3 Advanced Features

- Versioning of S3, Replication Rule for S3, Lifecycle Rules for data retention policy, S3 baseline performance



Important Services for Developers & Enterprises

► Mastering AWS CloudFormation

- Intro to AWS Cloud Formation and its stack, Creating Template with Infrastructure Composer, Launching VPC's and EC2 Instances with Cloudformation

► AWS SQS Essentials

- Intro to SQS and its architecture

► Effortless Cloud Hosting with AWS LightSail

- Intro to LightSail, Architectural walkthrough and important components, Deployment of App on LightSail

► Mastering Serverless Architecture in AWS

► AWS DynamoDB Simplified

- Intro to NoSQL Database , Differentiate between SQL and NoSQL DB, Components of DynamoDB, Creating Tables and writing records in tables , Integration of DynamoDB with Application

► API Gateway

- Intro to API Gateway , Deploying and Configuring API Gateway, Integration with Lambda Functions

► Lambda Functions

- Intro to Lambda Functions, Creating a Simple Lambda Function, Triggers for Lambda Function

► From Bucket to Browser: S3 WebSites

- S3 Static Websites, S3 CORS Configuration

DEVOPS TOOLS

04

DevOps Tools Essentials is a key module in the Advanced Certification in Cloud Computing & DevOps program. This module focuses on building a strong foundation in popular DevOps tools, covering core concepts like version control with Git, containerization with Docker, orchestration with Kubernetes, and CI/CD pipelines with Jenkins. It equips students with the skills needed to automate workflows, streamline software development, and manage scalable deployments, preparing them for advanced DevOps practices in the program.

► The Evolution of DevOps

► Traditional Software Development Models

- Introduction to the Waterfall Model, Key Phases of the Waterfall Model (Requirements, Design, Implementation, Testing, Deployment, Maintenance), Case Studies: When and Where Waterfall Model Worked.

► **Limitations and Challenges of Traditional Models**

- Rigidity in Process, Late Testing and Bug Discovery, Limited Feedback Loops, Impact on Delivery Timelines.

► **Introduction to Agile Methodology**

- Core Principles of Agile (Iterative Development, Customer Collaboration, Responding to Change), Comparison: Agile vs. Waterfall.

► **Advantages of Agile Development**

- Enhanced Flexibility and Adaptability, Continuous Delivery and Shorter Development Cycles, Improved Team Collaboration and Communication.

► **Challenges for Operations Teams in Agile Environments**

- Frequent Deployments and Build Issues, Resource Provisioning Delays, Managing Configuration Drift, Lack of Unified Tools Across Dev and Ops.

► **Introduction to DevOps**

- Key Principles of DevOps: Collaboration, Automation, CI/CD, Monitoring, IaaC, Benefits of DevOps, DevOps tools Intro: Git, Jenkins, Ansible, Terraform, Docker and Kubernetes, Case Studies: Capital One, Netflix, Target, and Etsy.

► **Version Control Mastery: A Deep Dive into Git**

► **Basics of Git**

- A brief history of Version Control Systems, Introduction to Git

► **Deploying Git**

- Installation of Git on Windows and Linux systems, Git initial setup

► **Git Basic Commands**

- Fundamentals of Git

► **Centralized Git Repository**

- Setting up Github Account, Pull and Push to Github repository

► **The Art of Git Branching**

- Git Branches, Rebase, Merge, Cherry-Pick, Conflict Resolution with Git

► **Git Stashing Techniques**

- Understanding and using stash

► Git Rollback Techniques

- Reset, Revert & Restore

Docker Unleashed

► Understanding App Architectures and the Shift to Containers

- Understanding Modern Applications: Monolithic vs Microlithic, Virtualization vs. Containerization: Understanding the Core Difference, Docker & CRI Demystified

► Docker Introduction and Command Basics

- Deploying Docker, Docker Commands 101

► Docker Introduction and Command Basics

- Deploying Docker, Docker Commands 101

► Crafting Perfect Docker Container Images

- Containers vs. Images: Demystifying Docker Essentials

► Docker Hub & Registries

- Understanding Central Container Repository, Docker Image Creation and Publishing to Central Repositories

► Running Multi-Container Apps with Docker Compose

- Creating Images using Docker Compose, Running Containers using Docker Compose

► Orchestrating Containers with Docker Swarm

- Creating Cluster using Docker Swarm, Scaling Containers in Docker Swarm , Rolling Update and Rollback of Containers in Docker Swarm

► Docker Networking and Storage Essentials

- Networking Docker Containers, Docker Storage for Containers.

Kubernetes Deep Dive

► Introduction to Kubernetes

- Overview of Kubernetes as a container orchestration platform., Key features and advantages of Kubernetes., Brief history and evolution of Kubernetes., Common use cases and industries using Kubernetes.

► Kubernetes Architecture

- High-level architecture overview: Control Plane and Node components., Interaction between Kubernetes components, Overview of key Kubernetes objects: Pods, Services, Deployments, ConfigMaps, and Secrets.

► Control Plane Components

- Introduction to kubectl and its role in interacting with the Kubernetes cluster., Kube API Server: Central management entity of the cluster., Kube Controller Manager : Role in maintaining the desired state of the cluster., Kube Scheduler : Process of scheduling Pods to Nodes., Kube Proxy : Role in networking and ensuring communication within the cluster.

► Node Components

- Kubelet : Node agent for managing Pod lifecycle, Container Runtime Interface (CRI).

► Installing Kubernetes Tools

- Installing and configuring Kubeadm, Getting started with Minikube for local Kubernetes clusters,Setting up CRI-O as a container runtime.

► Creating Your First Pod

- Writing a simple Pod manifest file, Deploying the Pod and troubleshooting common issues, Understanding the Pod lifecycle and status.

► Working with Services in Kubernetes

- Introduction to Services and their types (ClusterIP, NodePort, LoadBalancer), Creating and exposing a Service to access Pods, Concepts of Endpoints and Service Discovery.

► Deployments in Kubernetes

- Writing Deployment manifests for scalable applications., Managing rollouts and rollbacks using Deployments., Understanding the relationship between Deployments and Replica Sets.

► AWS Container Orchestration

- Overview of ECS Cluster and its components, Differences between ECS and Kubernetes, Setting up an EKS Cluster using the AWS Management Console and CLI.

► Working with ECR Repository

- Introduction to Amazon Elastic Container Registry (ECR), Building and pushing Docker images to ECR.

► Using ECR Images in EKS

- Configuring Kubernetes to pull images from ECR, Creating and running Pods using ECR images in an EKS cluster.

► Replica Sets and StatefulSets

- Differences between Replica Sets, Deployments, and StatefulSets, Use cases for StatefulSets in managing stateful applications.

► Ingress Controllers

- Understanding Ingress for HTTP and HTTPS routing.

► CoreDNS

- Role of CoreDNS in Service Discovery and DNS management within Kubernetes.

► Configuration Management with Ansible

► Fundamentals of Ansible

- Introduction to Configuration Management, Concepts of Configuration-as-Code, Intro to Ansible, Installing Ansible and Lab Setup.

► Basic Ansible Configurations

- Understanding the Configuration File, Inventory File Basics

► Getting started with Ansible Automation

- Introduction to ad-hoc tasks, Common commands for quick automation.

► Advance Configuration Automation with Ansible

- Creating Your First Playbook in YAML, Playbook for Cloud Provisioning

► Advance Concepts of Ansible

- Understanding Roles, Using Variables in Ansible

► Building Cloud Infrastructure with Terraform

► Introduction to Infrastructure as Code (IaC)

- Understanding IaC and its benefits. Comparison of Terraform with other IaC tools.

► Introduction to Terraform

- What is Terraform? Key features, architecture, and use cases.

► **Installing Terraform and Lab Setup**

- Step-by-step installation on Windows/Linux/Mac, Setting up a lab environment with cloud providers.

► **Terraform Basics**

- Terraform workflow: init, plan, apply, destroy, Writing your first Terraform configuration file.

► **Understanding Providers**

- What are providers? Configuring and using cloud providers (AWS, Azure, GCP).

► **Variables and Outputs**

- Defining variables for dynamic configurations, Using outputs for exporting information.

► **State Management**

- Terraform state and its importance, Remote state storage and locking mechanisms.

► **Terraform Best Practices**

- Writing clean and modular code, Version control and collaboration tips.

Prometheus and Grafana

► **Introduction to Monitoring**

- Importance of monitoring in modern infrastructure, Types of monitoring: system, application, and business metrics

► **Overview of Prometheus and Grafana**

- Prometheus: an open-source monitoring and alerting toolkit designed for reliability, Grafana: an open-source visualization tool used to display metrics stored by Prometheus

► **Installing Prometheus**

- Steps to install Prometheus on different environments (Linux, Docker), Prometheus configuration (prometheus.yml)

- **Configuring Prometheus to scrape metrics**
 - Setting up Prometheus to scrape metrics from a sample application, Explanation of targets in Prometheus configuration, Introduction to Prometheus metrics types: Counter, Gauge, Histogram, Summary, Overview of Prometheus Web UI (Prometheus Query Language - PromQL)
- **Introduction to Grafana and Integrating with Prometheus**
 - Steps to install Grafana on different environments (Linux, Docker), Adding Prometheus as a data source in Grafana, Overview of Grafana dashboards and panels
- **Creating Basic Grafana Dashboards**
 - How to create a dashboard and add panels, Using PromQL queries in Grafana panels, Introduction to common Grafana visualizations (Graph, Gauge, Table)

► Simplifying Java Builds with Maven

- **Introduction to Maven**
 - Overview of Maven and its purpose (build automation tool), Maven vs. other build tools (e.g., Gradle, Ant), The importance of dependency management and project automation
- **Maven Architecture and Concepts**
 - Understanding Maven's architecture: Project Object Model (POM), Repositories, Plugins, Explanation of a typical Maven project structure (src, target, pom.xml), Introduction to Maven lifecycle (clean, default, site phases)
- **Setting Up Maven**
 - Steps to install Maven on different environments (Windows, Linux, macOS), Verifying the installation with mvn -version
- **Hands-On Lab**
 - Step-by-step guide to create a simple Java project using Maven, Setting up a pom.xml file with dependencies, Running Maven commands to compile, test, and package the project

▶ Optimizing Code Quality with SonarQube

► Introduction to SonarQube

- Overview of SonarQube as a code quality and security management tool, Key benefits of using SonarQube in a CI/CD pipeline, SonarQube vs. other static analysis tools (e.g., ESLint, Checkstyle)

► Core Features of SonarQube

- Code Quality: Finding bugs, vulnerabilities, and code smells, Continuous Inspection: Real-time feedback on code quality, Languages and frameworks supported by SonarQube, Integrations with popular CI tools (Jenkins, GitLab, GitHub Actions)

► Installing SonarQube

- Prerequisites for SonarQube installation (Java, database, etc.), Step-by-step guide to installing SonarQube locally or on a server (Docker and non-Docker setups), Running SonarQube and accessing the Web UI

► Configuring SonarQube

- Creating a project in SonarQube and configuring basic settings, Overview of SonarQube's dashboard: project overview, issues, measures, and more, Setting up the SonarQube scanner to analyze your codebase.

► Viewing Reports and Analyzing Results

- Understanding SonarQube's analysis reports, Navigating through issues: bugs, vulnerabilities, code smells, Reviewing code coverage and test reports.

▶ Jenkins for CI/CD

► Introduction to Jenkins

- What is Jenkins? Features and advantages of Jenkins in CI/CD pipelines., Overview of continuous integration and continuous delivery concepts.

► Installing Jenkins and Lab Setup

- Jenkins installation on Windows/Linux/Mac, Setting up the lab environment for practical sessions.

► Jenkins Dashboard Overview

- Navigating the Jenkins UI, Understanding jobs, builds, and pipelines.

► **Creating Your First Jenkins Job**

- Setting up a freestyle project, Running builds and analyzing results.

► **Understanding Plugins in Jenkins**

- Role of plugins in extending Jenkins functionality, Installing and managing plugins.

► **Source Code Integration**

- Connecting Jenkins with Git/GitHub repositories, Automating builds with webhooks.

► **Build Triggers**

- Setting up build triggers: manual, scheduled, and SCM polling, Automating pipelines with event-driven triggers.

► **Working with Credentials**

- Managing credentials in Jenkins securely, Using credentials in pipelines and jobs.

► **Jenkins Pipeline Basics**

- Introduction to pipelines: declarative vs. scripted, Writing your first Jenkinsfile.

► **Project: Building a CI/CD Pipeline**

- Hands-on project to automate a complete CI/CD workflow.

Learning Resources

Dedicated LMS



We offer a Dedicated Learning Management System for your upskilling needs, providing access to numerous complementary courses.

Mobile App



We offer a dedicated mobile application for facilitating easy communication with your trainer and fellow batch mates, along with effective management features

Study Material

Get Books worth ₹8,000/- with every enrollment.



E&ICT Academy, IIT Guwahati Certification

A Certification of course completion is given by E&ICT Academy, IIT Guwahati. This certification is supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India.

Sample Certificate

Certificate ID: EICT/xxxx/xxx/xx/xxx



Electronics & ICT Academy

Supported by Ministry of Electronics and Information Technology (MeitY), Govt. of India

Indian Institute of Technology, Guwahati

CERTIFICATE OF COMPLETION

Presented to

[Student Name]

on successful completion of [Duration] months

“[Program Name]”

organized by Electronics & ICT Academy Indian Institute of Technology, Guwahati
completed on [Completion Date]



Dr. Gaurav Trivedi
Principal Investigator
Electronics & ICT Academy
Indian Institute of Technology, Guwahati



Jatin Miglani
Partner
Ethan's Tech Solutions LLP

In Association with



Electronics & ICT Academy
Indian Institute of Technology Guwahati

An Initiative of Ministry of Electronics & Information Technology(Meity)

WIPRO - DICE ID CERTIFICATION

A Certification of course completion is given by Ethan's Tech. This certification is industry recognised as per Wipro-DICE ID ecosystem with verifiable credentials.



Certification



Credential Platform Partner



Career Journey at Ethans

1	Enroll @ Ethans Start your journey with our Specialized Cloud and DevOps Certification Course.
2	Batch Starts Complete your batch, Acquire 100% knowledge, and be present in class atleast 80%.
3	Practical Sessions Our 80% Practical Sessions give you exposure to real world IT experience.
4	Skill Builder Suite Our Skill Builder Suite offers 1000+ Quizzes, 80+ Assignments and much more for free.
5	Industry Projects 15+ Industry projects(Proof of Concepts) to make you ready for your dream job.
6	Resume Preparation Build an effective resume with the assistance of placement officer & toolkit.
7	Profile Building We specialize in buliding your LinkedIn, Naukri.com, and other platform profiles to take you closer to your dream job.
8	Mock Interviews Succeed the 3 rounds of mock interviews led by our dedicated placement officer.
9	Job Readiness Test (JRT) Attempt the final test and score more than 75% to qualify for Ethan's career services.
10	Be Job Ready With your readiness and skills, you are set to pursue job opportunities in IT sector.

Our Success Stories



Our Trainees working at



Why to join Ethans?



Seasoned Professional Trainers

The instructors at Ethan's are not college professors or full-time trainers. Instead, they are all active professionals with an average of over 10 years of experience in the field of IT, actively working on the same technologies they teach.



MNC-Endorsed Curriculum

The curriculum of the course is developed through extensive research and incorporates perspectives from various companies to align with market standards and requirements. Additionally, we continuously update the content every six months for ongoing improvement.



Advanced Learning Environment

Currently, we have established ourselves in four Pune locations—Wakad, Kharadi, Hinjewadi, and Baner—along with one location in Noida. Career counseling services are available at all our offices from 10:00 AM to 7:00 PM, seven days a week.



Applied Learning Labs

Cloud Computing and DevOps sessions emphasize an 80% practical approach, complemented by 20% theory and hands-on lab sessions. Participation in the hands-on training requires mandatory use of laptops throughout the class.



Full-Fledged Assistance for Job Placement

We offer support for employment through mock interviews, resume preparation, group discussions, and a network of alumni referrals. Additionally, we offer a dedicated batch focusing on English speaking and personality development.



Learning Management System(LMS)

Ethans offers a learning management system encompassing various courses, including SQL, Django, Data Structure & Algorithm, Flask, HTML, CSS, and more. These 10+ courses are freely accessible to all Ethans students.



Ratings & Reviews

Appreciation from student reviews and ratings has led to over 6000 reviews on our Google business pages, with an impressive rating of 4.7 ★★★★★ out of 5.



Course Completion Certificate

We provide E&ICT Academy, IIT Guwahati, ISO and Wipro - DICE ID certified certificates at no additional cost, positioning itself as a trailblazer in Pune with the introduction of an innovative online course validation feature.



Dedicated Support

Ethans offers dedicated support through a phone helpline and Email (support@ethans.co.in), available from 8 AM to 7 PM every day of the week. The smart support number, equipped with 5 user lines, ensures prompt and effective assistance for our learners.