

CompTIA AutoOps+ (AT0-001)

This course prepares you for the CompTIA AutoOps+ (AT0-001) exam, a certification built for IT professionals who automate infrastructure, builds, and deployments. You'll work through all four exam domains: automation coding, system configuration, continuous integration, and continuous delivery, with virtual labs to help you get hands-on experience. You'll build real pipelines by writing Dockerfiles, managing Git branches, storing secrets in vaults, and running blue-green deployments. The course includes training on PowerShell, Python, Linux tooling, and cloud configuration, giving you a broad, practical skill set that applies directly to DevOps, Platform, and SRE roles. Earn your CompTIA AutoOps+ (AT0-001) certification today.

[CBT Nuggets course material](#) →

 STUDY PLAN

WEEK 1

Understand Linux CLI Fundamentals

Listing and Changing Directories

Exploring Other Commands

Filtering Text with Grep

Sed and Awk

Using the Pipe

Validation

Understand Python Basics

Setting Up The Python Environment

Variables and Data Types

Lists and Dictionaries

Loops and Conditions

Validation

Apply Python Fundamentals

Functions and Parameters

Local vs Global Scope

Reading and Writing Text Files

Exceptions

Validation

Understand Structured Data

Understanding JSON

Understanding YAML

Understanding INI

Loading JSON and YAML into Python

Querying Data with JQ

Validation

Understand PowerShell

PowerShell Basics

Exploring Cmdlets

Filtering Output

PowerShell Scripts

Validation

Understand Logs and Regex

Logging with Python

Named Loggers

Redirecting Logs

Regex

Regular Expressions in Python

Validation

Understand Version Control

Introduction to Version Control

Staging and Committing Files

The Git Configuration Files

Local vs Remote Repos

Ignoring Sensitive Files

Validation

Work with Git Branches

Understanding Branches

Using the Feature Branch Strategy

Using the Release Branch Strategy

Resolving Merge Conflicts

Branch Naming Conventions

Validation

Understand Git Workflows

Semantic Versioning

Understanding Git Tags

Pre-Commit Hooks

Managing Commit History

Validation

Troubleshoot the Code Lifecycle

Python Debugger

Python Syntax and Runtime Errors

Python Typing

GitHub Authentication

Working with Detached Heads in Git

Validation

Understand Local & Remote Automation

Running a Bash Script

Scheduling with Cron

Remote Management

Understanding WinRM

Validation

Understand CRUD Operations

Introducing the API

HTTP Components

Using cURL and Wget

Creating Collections with Postman

Testing APIs with Python

Validation

Understand & Manage Dependencies

Addressing the Problems

Understanding Pip

Managing Python Dependencies with UV

System Package Management

Validation

Manage and Run Containers

Virtual Machines vs Containers

Creating Containers

Port Mapping

Creating Custom Containers

Docker Compose

Validation

Understand IaC Concepts

What is IaC?

Declarative and Imperative Configuration Management

Idempotent Configuration Management

Creating Atomic Transactions

Immutable Infrastructure

Validation

Manage Infrastructure with Terraform

Setting Up AWS

Installing Terraform and Exploring AWS Options

Deploying Virtual Machines in AWS

Managing Containers with Terraform

Validation

Understand Terraform Concepts

Terraform Data Types

Creating Variable Rules

Overriding Default Values

Managing State

Validation

Understand IaC Tools

What is CloudFormation?

Deploying an EC2 Instance with CloudFormation

Bicep

Pulumi

Validation

Manage Devices with Ansible

Understanding Ansible

Understanding the Inventory

Creating Users

Deploying a Web Server

Validation

Understand Configuration Management

Configuration Drift & Ansible

Idempotent Ansible Modules

Invoking Ansible Handlers

Comparing Configuration Management Tools

Managing Configurations with Salt

Validation

Manage Resources & Network Infrastructure

Deploying Certificates

Testing the Connection

Deploying a VPC in AWS

Deploying an EC2 Instance within the VPC

Validation

Troubleshoot System Configurations

Troubleshoot Server Connectivity Issues

Troubleshoot Configuration Files & Environment Variables

Troubleshoot Certificate Issues

Validation

Manage Secret Data

How to Store Secrets

Working with Vault

Leasing Tokens and Revocation

Dynamic Secrets

Validation

Manage Artifacts

What are Artifacts?

Artifact Registries

Artifact Versions & Immutability

Software Bill Of Materials

Mirroring and Caching Registries

Validation

Understand CI/CD Basics

What is CI/CD?

Configuring the Server and The Runner

Building a Simple Pipeline

Multistage Pipelines and Artifacts

Validation

Build Pipelines with Jenkins

Install Jenkins Server

Creating a Simple Pipeline

Post Actions and Parallel Execution

Using the Docker Agent

Polling SCM

Validation

Understand Github Actions

What is Github Actions?

Triggering Actions

Working with Secrets

Self-Hosted Runners

ChatOps

Validation

Understand Deployment Strategies

In-Place Deployments

Rolling Deployments

Blue-Green Deployments

Canary Deployments

WEEK 2

Validation

Understand Quality Assurance

Unit and Integration Tests

Testing Connections to a Database

Regression and Load Testing

Smoke Testing

Hotfixes

Validation

Understand Application Service Levels

SLA, SLOs & SLIs

Understanding Uptime

MTBF, MTTR and RTO

Monitoring Systems

Validation

Create Secure Connections

Plaintext Credentials

Boto3

Exploring Identity & Access Management

Machine Identities and IAM Roles

IAM Identity Center

Validation

Create Secure Pipelines

Pipeline Security Strategies

Supply Chain Security & Digital Signatures

Container Security Strategies

Validation

Understand GitOps & Argo CD

GitOps

Kubernetes

Argo CD

AutoSync and Self-Healing

Validation