Training: CompTIA
CompTIA AutoOps+ Prep Course

TRAINING GOALS:

CompTIA AutoOps+ validates your skills to automate, secure, and optimize IT operations across cloud and hybrid environments. As part of CompTIA's new Expansion Series, AutoOps+ is designed to augment your core IT competencies with specialized expertise in automation, scripting, and infrastructure management. Gain hands-on experience to bridge traditional IT roles with modern DevOps practices.

Skills you'll learn

- Use scripting and automation to streamline IT workflows and manage enterprise systems efficiently.
- Automate configuration, provisioning, and maintenance using infrastructure-as-code and modern toolchains.
- Build and manage CI pipelines to automate testing, ensure quality, and improve collaboration between teams.
- Implement secure, compliant delivery pipelines that enable rapid, reliable deployment and operational efficiency.

Job roles that benefit from AutoOps+ skills

- Systems Administrator / Systems Engineer
- Cloud Administrator / Cloud Engineer
- Junior / Mid-level DevOps Engineer
- Network Operations Specialist / Network Engineer
- Site Reliability Engineer (SRE) / Platform Engineer
- Help Desk Tier 3 / Advanced Tech Support Specialist

Each participant in an authorized training CompTIA AutoOps+ Prep Course held in Compendium CE will receive a free AT0-001 CompTIA AutoOps+ Certification Exam vouchers.

Compendium Centrum Edukacyjne Spółka z o.o.
ul. Tatarska 5, 30-103 Kraków, tel.: (12) 298 47 77
ul. Postępu 18B, 02-676 Warszawa, tel.: (22) 417 41 70
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CONSPECT:

- Implementing System Configuration
  - Outline the Challenges of Manual Configuration
    - Manual versus Automated Operations
    - Configuration Requirements
    - Automation Scenarios
    - Manual Configuration Techniques
    - Manual vs Automated Configuration
    - Drift Issues
    - Service Level Expectations
  - Identify Deployment Types and Environments
    - Deployment Platforms
    - Virtual Machines and Virtual Servers
    - Containerization
    - Compare VM and Docker Deployments
    - Container Orchestration
    - Configure Network Components
    - Cloud Concepts
  - Utilize Remote Access and APIs
    - Remote Access Types
    - Configuring SSH Access
    - APIs and SDKs
    - Command-Line Tools
    - Machine Identities
    - Perform CRUD Operations via REST
    - How CRUD Works in REST APIs
    - HTTP Requests, Headers, and Tools
- Explaining Coding and Scripting Fundamentals
  - Use Code to Support Automation
    - The Benefits of Using Code to Support Automation
    - Script Components
    - Managing Data and Outcomes with Scripts
    - Exit Codes
    - Automating Repetition, Data Storage, and Decision-Making with Scripts
    - Controlling Standard Stream Redirection

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- Foregrounding and Backgrounding Scripts
- The Importance of Commenting Code
- Commenting in Scripting and Programming Languages

- Secure and Manage Code for Automated Environments
  - Setting Up a Coding Workspace
  - Setting up a Coding Workstation
  - Setting up a Virtual Machine for Testing
  - Trusted Code
  - Using Certificates and a PKI for Code Signing
  - Control Access to Resources
  - Dependencies
  - Dependency Files
- Script with Bash
  - What is Bash?
  - Working in the Bash Shell
  - Writing Bash Scripts
  - File Manipulation Utilities
  - Practical Examples of Bash
- Script with PowerShell
  - What is PowerShell?
  - Working with PowerShell
  - PowerShell Scripting Fundamentals
  - Practical Examples of PowerShell
- Script with Python
  - What is Python?
  - Working in the Python Environment
  - Run the pip Package Manager
  - Python Virtual Environments
  - Using Python for Automation and Development
  - Practical Examples of Python

- Managing and Maintaining Reliable Code
  - Implement Source and Version Control
    - Source Control
    - Branching and Pull Request Workflows
    - Branching Strategies in Practice
    - Git Commands

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- Essential Git Commands in Action
- Correcting Git Issues
- Semantic Versioning
- Semantic Versioning Explained Visually
- Implementing Hooks and Linting
- Merge Conflicts

- Apply Debugging, Validation, and Recovery Techniques
  - The Troubleshooting Mindset
  - Identifying and Fixing Syntax Errors
  - Finding and Fixing Syntax Errors
  - AI Code Generation
  - Debugging Strategies and Tools
  - AI-Assisted Debugging
  - Recovering from Mistakes in Git

- Explaining Modern Automation Practices and Technologies
  - Summarize Automation and Orchestration Concepts
    - Automation Concepts
    - Automation versus Orchestration
    - From Automation to Orchestration
    - DevOps Basics
    - Introduction to CI/CD
    - Continuous Integration/Continuous Deployment
    - Infrastructure as Code Concepts
    - Automate Configurations
    - Implement Automation with Scripting Tools
    - Automated Workflows and Pipeline Orchestration
  - Explain Syntax Rules for Automation Technologies
    - Syntax Formats
    - Automation Technologies
    - Core Automation Tools and Engines
    - Syntax Rules: JSON
    - Syntax Rules: YAML
    - Validate YAML Syntax
    - Similarities and Differences between JSON and YAML
    - Syntax Rules: Puppet/Chef DSL
    - Syntax Rules: HCL

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- Automate with Configuration Management Tools
  - Configuration Management Tools
  - Automate Configuration with Ansible (YAML)
  - Automate Configuration with Puppet and/or Chef (DSL)
  - Automate Configurations with Terraform (HCL)/OpenTofu
- Implementing Continuous Integration Workflows
  - Build Continuous Integration Toolchains
    - Environment Factors
    - Tooling
    - Inside a CI Toolchain
    - Workflow Orchestration
    - Pipeline Structure and Execution
    - Workflow Triggers
    - Workflow Management
    - Integrate Continuous Testing and Feedback Workflows
  - Design and Manage Continuous Integration Workflows
    - Design in CI Workflows
    - Anatomy of a CI Pipeline
    - Pipeline Triggers and Workflow Management
    - Run a Triggered Build
    - Secrets and Artifacts
    - Using a Secret Variable to Protect Your Pipeline
    - Task Runners
    - Pipeline Files
    - Decoding the Jenkinsfile
    - Hooks and ChatOps
    - Cloud Events
    - Event-Driven CI/CD
    - Create an Event Notification
- Implementing Continuous Delivery Workflows
  - Deploy Applications Using Continuous Delivery Workflows
    - From Continuous Integration to Continuous Delivery
    - Deployment Workflows
    - Patch and Redeploy
    - Delivery Methods
    - Zero-Downtime Deployment in Action

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- Validate, Test, and Troubleshoot Deployment Pipelines
  - Quality Assurance Testing
  - QA Testing in DevOps Pipelines
  - Validation and Remediation Strategies and Tools
  - Post-Deployment Validation
  - Troubleshooting CI/CD Pipelines
- Executing End-to-End CI/CD Workflows
  - Run CI/CD Pipelines for Production Deployment
    - CD Implementation
    - Full CI/CD Pipeline with Git
    - Deploy to Production Safely
  - Detect and Manage Configuration Drift
    - Configuration Drift
    - What Is Configuration Drift?
    - Detecting Drift with Terraform Plan
    - Post-Deploy Drift Checks
  - Establish Monitoring and Governance in Cloud Environments
    - Auditability and Governance
    - Reliability and Maintainability Metrics
    - Viewing SLIs, SLOs, and SLAs
    - Monitoring Tools
    - AWS CloudWatch Overview
    - Implement a Monitoring Loop
- Practicing Site Reliability Engineering
  - Explain SRE Concepts and Practices
    - SRE Concepts
    - Metrics
    - Service Level Agreements
    - Populate an SLA Template
    - Incident Response
    - Design for Resilience
    - Monitoring and Observability
  - Use SRE Tools and Techniques
    - Automation and Pipelines
    - Monitoring and Observability Tools
    - Observability Stack Overview

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- Incident Management Tools
- Security and Compliance Tools
- Cost Optimization Practices
- Integrating It All: The SRE Toolchain

- Operate SRE Workflows
  - SRE Workflow and Daily Operations
  - Case Study: Ensuring Web Application Reliability
  - Troubleshooting Live Systems

REQUIREMENTS:

Recommended experience: 2–3 years in a core IT operations role (e.g., network, cloud, or systems administrator); CompTIA Network+, Linux+, Cloud+, or Server+ recommended, or similar certifications.

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by CompTIA (course completion). This course will help prepare you for the CompTIA AutoOps+ certification exam, which is available through the Pearson VUE test centers.

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TRAINER:

Authorized CompTIA Trainer.

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