Cloud Engineering Bootcamp

Complete Outline

About

Program Length:

24 Weeks

Instruction Format:

Mentor-led cohorts (online)

Program Overview:

Cloud Engineer Bootcamp teaches critical cloud computing skills and implementation capabilities in small and medium, to large scale organizations. This program teaches the fundamentals of networking, public cloud computing concepts and approaches on Azure and AWS platforms. In contrast to the limited mobility of data on physical databases, the cloud allows users to store, access, and share data from anywhere in the world, with just one necessity needed, the internet. Organizations still struggle to find the best cloud computing professionals who are experts in designing effective and cost-friendly cloud solutions as per the needs of a business. The bootcamp also prepares for seven industry recognized cloud certifications.

Certifications Covered:

This bootcamp will cover the material needed for following certification:

- CompTIA ITF+
- CompTIA Network+
- CompTIA Cloud+
- Microsoft Azure fundamentals [AZ-900]
- AWS Certified Cloud Practitioner
- AWS Certified Solutions Architect
- Microsoft Certified Azure Administrator
- The Linux Foundation Certified System Administrator (LFCS)

Learning Outcomes:

- Learn about Cloud fundamentals, including core cloud concepts, cloud usage models, cloud security basics, and cloud services
- Learn about Microsoft Azure as an IaaS and PaaS solution
- Using Azure PowerShell and Azure Software Development Kit (SDK), managing Azure subscriptions using Azure Command Line Interface (CLI)
- Building, configuring and managing disks of Virtual Machines in Azure & AWS (amazon work service).

- Be able to make define and administer critical tools and functions within Azure and AWS portals Learn about the installation process and the various features and functions of Python, and then solve 'real life' programming problems.
- Learn about the essential topics and concepts of the Linux Operating System and how to work with the Linux command line interface.
- Get strong operating knowledge of Kubernetes, including how to deploy a containerized application and manipulating resources via the API.

Weekly Study Plan	Course Name
1 - 2	CompTIA ITF+
3 – 5	CompTIA Network+
6 – 7	CompTIA Cloud+
8	Project 1: Cloud Infrastructure Strategy
9	Microsoft Azure Fundamentals
10	Project 2: Azure Portal Setup
11	AWS Certified Cloud Practitioner
12	Project 3: AWS Portal Setup
13 - 15	Introduction to Python
16 - 17	Linux Essentials
18 - 19	Project 4: Linux Essentials
Bonus courses	Microsoft Azure Administrator & Azure Solutions Architect
Bonus courses	AWS SysOps Administrator & AWS Certified Solutions Architect
22 - 24	Final Capstone Project

Courses & Modules

1. **CompTIA ITF Fundamentals**

   - Module 1: Common Computing Devices
   - Using a Workstation
   - Using an OS
   - Managing an OS
   - Troubleshooting and Support
   - Module 2: Using Apps and Databases
   - Using Data Types and Units
   - Using Apps
   - Programming and App Development
   - Using Databases
   - Module 3: Using Computer Hardware
   - Using Device Interfaces
   - Using Peripheral Devices
   - Using Storage Devices
   - Using File Systems
   - Module 4: Using Networks
   - Networking Concepts
   - Connecting to a Network
   - Secure Web Browsing
   - Using Shared Storage
   - Using Mobile Devices
   - Module 5: Security Concepts
   - Security Concerns
   - Using Best Practices
   - Using Access Controls
   - Behavioral Security Concepts
   - Module 6: Infrastructure
   - Cloud Fundamentals
   - Waterfall vs. Agile
   - DevOps

2. **CompTIA Network +**

   - Course Introduction
   - Lesson 1: Comparing OSI Model Network Functions
   - Lesson 2: Deploying Ethernet Cabling

- Lesson 3: Deploying Ethernet Switching
- Lesson 4: Troubleshooting Ethernet Networks
- Lesson 5: Explaining IPv4 Addressing
- Lesson 6: Supporting IPv4 and IPv6 Networks
- Lesson 7: Configuring and Troubleshooting Routers
- Lesson 8: Explaining Network Topologies and Types
- Lesson 9: Explaining Transport Layer Protocols
- Lesson 10: Explaining Network Services
- Lesson 11: Explaining Network Applications
- Lesson 12: Ensuring Network Availability
- Lesson 13: Explaining Common Security Concepts
- Lesson 14: Supporting and Troubleshooting Secure Networks
- Lesson 15: Deploying and Troubleshooting Wireless Networks
- Lesson 16: Comparing WAN Links and Remote Access Methods
- Lesson 17: Explaining Organizational and Physical Security Concepts
- Lesson 18: Explaining Disaster Recovery and High Availability Concepts
- Lesson 19: Applying Network Hardening Techniques
- Lesson 20: Summarizing Cloud and Datacenter Architecture

3. **CompTIA Cloud+**

- Course Introduction
- Lesson 1: Understanding Cloud Concepts
- Lesson 2: Planning and Designing a Cloud Environment
- Lesson 3: Administering Cloud Resources
- Lesson 4: Managing Cloud Storage
- Lesson 5: Managing Networks in the Cloud
- Lesson 6: Securing and Troubleshooting Networks in the Cloud
- Lesson 7: Managing Cloud Migrations and Troubleshooting Cloud Deployments
- Lesson 8: Managing Cloud Automation and Orchestration
- Lesson 9: Understanding Cloud Security Concepts
- Lesson 10: Managing Cloud Security
- Lesson 11: Managing Cloud Performance
- Lesson 12: Managing Maintenance in the Cloud
- Lesson 13: Implementing High Availability and Disaster Recovery in the Cloud

4. **Project 1: CompTIA Cloud+ Bootcamp**

5. **Microsoft Azure Fundamentals (AZ-900)**

- Course Introduction
- Lesson 1: Understanding Cloud Concepts
- Lesson 2: Planning and Designing a Cloud Environment
- Lesson 3: Administering Cloud Resources
- Lesson 4: Managing Cloud Storage
- Lesson 5: Managing Networks in the Cloud
- Lesson 6: Securing and Troubleshooting Networks in the Cloud
- Lesson 7: Managing Cloud Migrations and Troubleshooting Cloud Deployments
- Lesson 8: Managing Cloud Automation and Orchestration
- Lesson 9: Understanding Cloud Security Concepts
- Lesson 10: Managing Cloud Security
- Lesson 11: Managing Cloud Performance
- Lesson 12: Managing Maintenance in the Cloud
- Lesson 13: Implementing High Availability and Disaster Recovery in the Cloud

6. **Project 2: Azure Fundamentals Cloud Bootcamp**

7. **AWS Cloud Practitioner essentials**

- Course Introduction
- Lesson 1: Understanding Cloud Concepts
- Lesson 2: Planning and Designing a Cloud Environment
- Lesson 3: Administering Cloud Resources
- Lesson 4: Managing Cloud Storage
- Lesson 5: Managing Networks in the Cloud
- Lesson 6: Securing and Troubleshooting Networks in the Cloud
- Lesson 7: Managing Cloud Migrations and Troubleshooting Cloud Deployments
- Lesson 8: Managing Cloud Automation and Orchestration
- Lesson 9: Understanding Cloud Security Concepts
- Lesson 10: Managing Cloud Security
- Lesson 11: Managing Cloud Performance
- Lesson 12: Managing Maintenance in the Cloud
- Lesson 13: Implementing High Availability and Disaster Recovery in the Cloud

8. **Project 3: AWS Course Cloud Bootcamp**

9. **Python programming fundamentals**

- Course Introduction
- Lesson 1: Understanding Cloud Concepts
- Lesson 2: Planning and Designing a Cloud Environment

- Lesson 3: Administering Cloud Resources
- Lesson 4: Managing Cloud Storage
- Lesson 5: Managing Networks in the Cloud
- Lesson 6: Securing and Troubleshooting Networks in the Cloud
- Lesson 7: Managing Cloud Migrations and Troubleshooting Cloud Deployments
- Lesson 8: Managing Cloud Automation and Orchestration
- Lesson 9: Understanding Cloud Security Concepts
- Lesson 10: Managing Cloud Security
- Lesson 11: Managing Cloud Performance
- Lesson 12: Managing Maintenance in the Cloud
- Lesson 13: Implementing High Availability and Disaster Recovery in the Cloud

10. **Linux Essentials**

- Lesson 1: Background, Introduction, and Preparation
- Lesson 2: Files and Directories
- Lesson 3: Advanced Command Line Techniques
- Lesson 4: Course Conclusion

11. **Project 04: Linux Essentials**

12. **BONUS COURSE: Microsoft Azure Administrator (AZ-104)**

- Course Introduction
- Module 1: Administer Identity
- Module 2: Administer Governance and Compliance
- Module 3: Administer Azure Resources
- Module 4: Administer Virtual Networking
- Module 5: Administer Intersite Connectivity
- Module 6: Administer Network Traffic
- Module 7: Administer Azure Storage
- Module 8: Administer Azure Virtual Machines
- Module 9: Administer PaaS Compute Options
- Module 10: Administer Data Protection
- Module 11: Administer Monitoring

13. **BONUS COURSE: Designing Microsoft Azure Infrastructure Solutions (AZ-305)**

- Course Introduction
- Module 1: Design Governance and Compute Solutions
- Module 2: Design Storage and Data Integration Solutions

- Module 3: Design App Architecture, Access, and Monitoring Solutions
- Module 4: Design Network, Continuity, and Migration Solutions

14. Project 05: Azure Capstone project

15. BONUS COURSE: AWS Certified SysOps Administrator Associate Course

- Course Introduction
- Module 1: Introduction to Systems Operations on AWS
- Module 2: Access Management
- Module 3: System Discovery
- Module 4: Deploy and Update Resources
- Module 5: Automate Resource Deployment
- Module 6: Manage Resources
- Module 7: Configure Highly Available Systems
- Module 8: Automate Scaling
- Module 9: Monitor and Maintain System Health
- Module 10: Operate Secure and Resilient Networks
- Module 11: Mountable Storage
- Module 12: Object Storage
- Module 13: Cost Reporting, Alerts, and Optimization
- Course Summary

16. BONUS COURSE: AWS Solutions Architect

- Course Introduction
- Module 1: Architecting Fundamentals
- Module 2: Account Security
- Module 3: Networking Part -1
- Module 4: Compute
- Module 5: Storage
- Module 6: Database Services
- Module 7: Monitoring and Scaling
- Module 8: Automation
- Module 9: Containers
- Module 10: Networking Part - 2
- Module 11: Serverless
- Module 12: Edge Services
- Module 13: Backup and Recovery

17. Project 05: AWS Capstone project