

HashiCorp Certified: Consul Associate

Duration: 3 days (8hrs/day)

Prerequisites: Understanding of Containerization and Linux Knowledge

Course Objective: This course is designed with two main objectives in mind, to teach the basics of HashiCorp Consul, as well as arm folks with the knowledge to pass the Consul Associate exam. Although the course was designed around the (9) Consul Associate exam objectives, the course goes over a wealth of Consul topics to get even the most novice person up to speed with Consul.

Lab Requirement: Koenig-DC + GitLab customer Account

Module 1 – Explain Consul Architecture

Introduction to HashiCorp Consul

Service Discovery

Service Mesh

Network Automation

Service Configuration

Basic Consul Architecture

Consensus Protocol (Raft)

Gossip Protocol (Serf)

Network Traffic and Ports

Consul High Availability

Scaling for Performance

Voting vs Non-Voting Servers

Redundancy Zones

Consul Autopilot

Module 2 – Deploy a Single Datacenter

Start with Consul Process

Lab: Starting the Consul Process – using Dev Mode

Manage the Consul Process

Consul Agent Configuration

Lab: Creating a Consul Agent Configuration

Configure Networking and Ports

Adding/Removing Consul Agents to the Cluster

Lab: Adding/Removing Consul Agents to the Cluster

Module 3 – Register Services and Use Service Discovery

Registering a Consul Service

Creating a Service Definition

Lab: Service Definition and Registration

Configuring Service Health Checks

Lab: Working with Health Checks

Check Service Status from the Catalog

Lab: Check Service Status from the Catalog

Introduction to Prepared Queries

Lab: Prepared Queries

Module 4 – Access the Consul Key/Value (KV)

Introduction to Consul K/V Store

Interacting with Consul K/V

Lab: Working with the Consul K/V

Using Consul Watch to Monitor Changes

Using envconsul

Lab: Using Envconsul to monitor Changes to Consul K/V

Using consul-template

Lab: Using Consul-Template to monitor Changes to Consul K/V

Module 5 – Back up and Restore

Introduction to Consul Snapshots

Using Consul Snapshots

Lab: Consul Snapshots

Module 6 – Register a Service Proxy

Introduction to Consul Service Mesh

Registering a Service Proxy

Intro to Consul Service Mesh Intentions

Managing Consul Service Mesh Intentions

Lab: Service Mesh

Module 7 – Secure Agent Communication

Consul Security/Threat Model

Certificates Required in Consul

TLS Encryption Settings

Module 8 – Secure Services with Basic ACLs

Introduction to the Consul ACL System

Lab: Enable and Configure the Consul ACL System

Creating ACL Policies

Lab: Creating ACL Policies

Creating and Managing ACL Tokens

Lab: Creating ACL Tokens

Perform a UI task using a Token

Lab: Using Tokens with the Consul UI

Perform a CLI request using a Token

Lab: Using Tokens with the Consul UI

Perform a API request using a Token

Lab: Using Tokens with the Consul API

Module 9 – Use Gossip Encryption

Intro to Gossip Encryption

Configure Gossip Encryption

Lab: Configure Gossip Encryption

Manage the Lifecycle of Encryption Keys

Lab: Managing the Lifecycle of Encryption Keys

Module 10 – HashiCorp Cloud Platform - Consul

HashiCorp Cloud Platform - Consul