ProTech Professional Technical Services, Inc.

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F5 Networks Automating BIG-IP with Ansible

Course Summary

Description

This course introduces network administrators, operators, and DevOps engineers to the foundational and F5-specific technologies required to automate BIG-IP. Participants will gain exposure to multiple technologies for a variety of use cases and will have hands-on experience that leave them better prepared to automate the onboarding and configuration of BIG-IP.

Objectives

At the end of this course, students will be able to:
- Review Automation and DevOps concepts.
- Describe the components of iControl REST calls and how they interact with BIG-IP.
- Stand up and configure BIG-IP applications using iControl REST.
- Describe the major components of Ansible and how they work together to configure BIG-IP.
- Use flow control elements such as conditionals and looping in Ansible Playbooks.
- Onboard and configure BIG-IP applications using Ansible.

Topics

- Review the Linux Command Line
- Review BIG-IP Application Creation
- Discuss Automation and DevOps Concepts
- Configuring BIG-IP with iControl REST
- Configuring BIG-IP programmatically with Ansible

Audience

This course is intended for network administrators and operators and DevOps engineers interested in automating tasks on BIG-IP systems in their public and private Clouds as well as in their datacenter infrastructure.

Prerequisites

Students should be familiar with and be able to configure basic BIG-IP elements such as:
- Virtual Servers
- Pools, Pool Members, and Nodes
- Pool Monitors
- Basic Virtual Server Profiles

Students should also be familiar with the basics of the Linux command line. In addition, the following general technical knowledge should be well understood:
- Layer 2 Ethernet and ARP networking concepts
- Layer 3 and 4 TCP/IP networking concepts, including IP addressing and subnetting
- Layer 7 HTTP networking concepts
- Linux command line and basic Linux commands
- HTML

Finally, "nice-to-have" knowledge includes familiarity with programming and/or scripting languages, such as:
- JavaScript or NodeJS
- Python
- Bash

Duration

Two days

Course Outline *(Course Outline — sidebar)*

Course Outline

I. *Linux Command Line Review*
   A. Navigating the Linux File System
   B. Creating and Deleting Files and Directories
   C. Copying and Moving Files
   D. Command Line Auto-Completion and Editing
   E. Tools for Analyzing Test Results and Inspecting Log Files

II. *BIG-IP Application Creation Review*
   A. Understanding Load Balancing Basics
   B. Configuring Virtual Servers, Pools, Pool Members, and Nodes
   C. Configuring Health Monitors and SSL Profiles
   D. Understanding the Full Proxy Architecture and Source Address Translation

III. *Automation and DevOps Concepts*
   A. Understanding Infrastructure as Code, NetOps, and DevOps
   B. Differentiating Automation and Orchestration Concepts
   C. Diving into DevOps Concepts such as Idempotency, Atomicity, and Imperative vs. Declarative

IV. *Programming BIG-IP with iControl REST*
   A. Introducing Basic JavaScript Types
   B. Introducing JavaScript Object Notation
   C. Discovering an existing BIG-IP Configuration using iControl REST
   D. Deploying Apps on BIG-IP using iControl REST
   E. Onboarding BIG-IP using iControl REST
   F. Working with JSON Programmatically

V. *Automating BIG-IP with Ansible*
   A. Introducing YAML
   B. Establishing an Ansible Trust Relationship
   C. Creating an Ansible Playbook
   D. Exploring the Playbook
   E. Working with the Inventory File
   F. Using the Command Module
   G. Gathering Facts for the Playbook
   H. Deploying Apps on BIG-IP using Ansible
   I. Deleting a BIG-IP Application
   J. Onboarding a BIG-IP system using Ansible
   K. Deploying BIG-IP HA
   L. Investigating Ansible Roles