

Prerequisites: Linux and Basic networking knowledge is required because in this course all the demos will be done in Linux.

Course Outline:

1: Introduction to DevOps

- Why DevOps
- Benefits
- Automation
- Overview of Puppet
- Puppet Installation and Configuration
- Overview of Puppet Console
- Puppet Enterprise vs Open Source

Lab: Puppet Installation and Configuration.

Lab: Overview of Puppet Console

Resources

- How Puppet uses resources for configuration management
- Developing Puppet resources
- Variables
- Conditional statements
- Built-in resource types
- Description of resources – resource types, titles, and body
- Core resource types
- Inspecting resources
- **Basic Linux administrator tasks** – Managing Packages, Managing Services, Managing Files & Folders and Managing Users.

Lab: Developing Puppet resources, applying resources to nodes

2: Learning Classes

- Understanding Puppet classes
- Manifests with Classes
- Class Inheritance

Lab: Manifests and Classes: Create class definitions, validate class syntax and apply to Puppet nodes

3: Understanding Architecture

- Sizing Puppet Master
- Differences between Monolithic and Split Puppet architectures
- Puppet Agent

Modules

- Understand how Puppet reports Facts and the Catalog
- Installing modules from the Forge
- Searching the Forge from CLI and web
- Using the Puppet Module command
- Types and Providers

Lab: Modules, module path structure, and testing

Lab: NTP configuring nodes and class parameters

4: Learning Variables

- Using variables in Puppet
- Writing Puppet code without repeating
- Writing Classes with parameters
- Using the facter tool with modules and classes

Lab: Variables and Parameters: learn how to assign variables in a manifest, create classes with parameters

5: Hiera

- Introduction to Hiera
- Use cases of Hiera
- Configuring Hiera
- Hiera best practices

Lab: Installing and Using Hiera

6: Conditional Statements

Understand and use these conditional statements:

- If
- Unless
- Case
- Selector

Lab: Conditional Statements: Using conditional statements in resources and modules.

7: Learning Advanced Topics

- Environments
- Creating custom modules

Lab: Resource ordering: Ensure the correct order of modules and classes

Lab: Defined resource types: Create new resource types