

## **Course Outline:**

### **1: Introduction to DevOps**

- Why DevOps
- Benefits
- Automation
- Overview of Puppet
- Puppet Enterprise vs Open Source

Lab: Using the Puppet Console, adding nodes and classes

#### 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

Lab: Developing Puppet resources, applying resources to nodes

### **2: Learning Classes**

- Understanding Puppet classes
- Manifests with Classes
- Class Inheritance

### **3: Understanding Architecture**

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

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

## 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

Lab: MySQL: Using Puppet to configure MySQL databases, users, and services

## 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

- Description and uses for Hiera
- Code reusability
- Access control with Git, LDAP, Jenkins

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
- Using R10K to manage modules
- Creating custom modules
- Next steps

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

Lab: Defined resource types: Create new resource types