Assignment: 10

Name: Divya Shah Branch: IT/V Roll No.: 115   Date:20/10/2023

Aim: To study Puppet tools.

LO mapped: LO1, LO6

Theory:

Puppet is a powerful automation and configuration management tool that helps system administrators and DevOps professionals manage infrastructure as code. In this assignment, you will explore various Puppet tools, understand their functions, and gain practical experience with Puppet's capabilities. This assignment will help you develop essential skills for automating and managing IT infrastructure efficiently.

Task 1: Puppet Master and Puppet Agent Setup

1. Install Puppet Master and Puppet Agent on two separate virtual machines or instances. You can use any Linux distribution for this task.

2. Configure the Puppet Master to manage the Puppet Agent.

Task 2: Puppet Manifests

1. Create a Puppet manifest file to install and configure the Apache web server on the Puppet Agent.

2. Apply the manifest on the Puppet Agent and ensure Apache is up and running.

3. Explain the components of a Puppet manifest, including resources, attributes, and relationships.

Task 3: Puppet Forge Modules

1. Use the Puppet Forge to find and install a Puppet module of your choice (e.g., MySQL, Nginx, or PostgreSQL).

2. Include the module in a Puppet manifest and apply it to the Puppet Agent.

3. Describe the benefits of using Puppet Forge modules for infrastructure management.

Task 4: Puppet Bolt

1. Install Puppet Bolt on your local machine.

2. Write a Puppet Bolt plan to gather information about system resources (e.g., disk usage, CPU, memory) on a remote host.

3. Execute the plan on the Puppet Agent and display the collected information.

4. Explain how Puppet Bolt can be useful in ad-hoc tasks and automation.

Task 5: Reporting and Monitoring

1. Set up Puppet's reporting and monitoring features to collect and view reports from the Puppet Agent.

2. Provide an overview of the data available in Puppet's reports and explain how it can help in infrastructure management.

Task 6: Troubleshooting

1. Create a scenario where a Puppet-managed resource is misconfigured.

2. Identify the issue using Puppet's troubleshooting tools (e.g., **puppet agent**, logs, error messages), and correct it.

3. Document the steps you took to diagnose and resolve the problem.

Conclusion: In this assignment, you've explored various Puppet tools, including Puppet Master and Agent, manifests, Puppet Forge modules, Puppet Bolt, reporting and monitoring, and troubleshooting. These skills are fundamental for efficient infrastructure management and automation. As you continue to work with Puppet, you'll find it to be a valuable tool in your IT and DevOps endeavours.

Submission Guidelines:

• Provide documentation for each task.

• Include code snippets, configurations, and explanations as necessary.

• Submit your assignment as a well-organized document or presentation.

Grading Rubric:

• Each task is graded based on completion, accuracy, and clarity.

• Proper documentation and explanations are essential for earning full points.

• Demonstration of practical understanding and application of Puppet tools is crucial.

Conclusion: By this assignment we study about puppet tools.