WILEY

Configure a Multi-node Jenkins Cluster on AWS

AWS - Assignment 2

Note(s):

1. *To complete this assignment, you need to have an account on AWS.*
2. *Make sure you clean up your AWS environment once the project is complete to avoid incurring any unnecessary charges.*

Task 1 (Create an EC2 instance for Jenkins Manager)

1. Create an EC2 instance with a Linux flavour (preferably Ubuntu or Amazon Linux 2)

Pre-requisite(s):

You need a security group which allows ingress for port 80, 22 and 8080.

Allow incoming traffic only from where you expect Jenkins Manager node to be accessed, for example, your laptop IP or Worker node IP.

Task 2 (Install Jenkins)

1. Connect to the instance via SSH
2. Update package Manager
3. Install Jenkins
4. Validate installation and start the service, if needed.
5. Access Jenkins on web browser (on port 8080) and finish post installation configuration.

Pre-requisite(s):

1. Java is a pre-requisite for Jenkins installation. We have covered it during our Jenkins discussion.
2. Jenkins installation instructions:
   - For Ubuntu Check: *https://pkg.jenkins.io/debian-stable/*
   - For Amazon Linux Check: *https://pkg.jenkins.io/redhat-stable/*

Task 3 (Setup Jenkins Worker Nodes and create an AMI for reusability)

1. Launch a new instance in same VPC as your Jenkins Manager using a Linux flavour ((preferably Ubuntu or Amazon Linux 2)
2. Configure your Worker node with necessary packages to run jobs (maven, git etc.)
3. Once configuration is complete, create an AMI from Worker node which we can use for subsequent worker node creations.

Pre-requisite(s):

You need a security group which allows ingress for port 22 only from Jenkins Manager.

Note(s): We create AMI of Worker node for reusability purposes. We will not be using it in our project.

Task 4 (Setup password-less authentication from Master node to Worker node)

1. Create a ssh key pair on Jenkins Manager
2. Copy public key to Worker node.
3. Validate that you can connect to the worker instance from Jenkins Manager via SSH.

```
Command: ssh ec2-user@11.22.33.44
```

Note(s): Last step should let SSH into Worker node without prompting for the password. If it is still asking for password, then you need to troubleshoot your configuration.

Task 5 (Configure the Worker node on Jenkins Manager via "Manage Nodes")

1. Login to Jenkins Manager
2. Go to Manage Jenkins --> Manage Nodes
3. Configure Worker node as a "Permanent Agent"

Task 6 (Validate your Cluster)

Create a sample Maven job and configure it to run on the newly created Worker node

Reference:

- For AWS specific configuration settings look at *https://d1.awsstatic.com/whitepapers/DevOps/Jenkins_on_AWS.pdf*
- For Jenkins specific configuration refer to Module_4 notes and video recordings.