I’m happy to share that I’ve obtained a new certification: KodeKloud Engineer - Jenkins (Level 1) from **KodeKloud**!

The Nautilus team wanted to set a custom welcome/system message for a new Jenkins server which will be a greeting basically to welcome new Jenkins users. They came up with a custom message as per details given below.

Add a system message Welcome to KKE Labs for the Jenkins server.

Ans:-

To set a custom system message in Jenkins, you can follow these steps:

1. **Open Jenkins**: Navigate to your Jenkins server in your web browser.
2. **Login**: Ensure you are logged in with administrative privileges.
3. **Navigate to Manage Jenkins**:
   * Click on "Manage Jenkins" from the left-hand menu.
4. **Configure System**:
   * Click on "Configure System" under the "System Configuration" section.
5. **Set System Message**:
   * Scroll down to the "System Message" section.
   * Enter your custom message, in this case: Welcome to KKE Labs.
6. **Save**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.

2) Since the Jenkins server was set up recently, there are still some configurations that need to be done. The team has just realised that they need to update the default executors in the Jenkins configuration.

Change the number of default executors to 5.

Ans:-

To change the number of default executors in Jenkins to 5, follow these steps:

1. **Open Jenkins**: Navigate to your Jenkins server in your web browser.
2. **Login**: Ensure you are logged in with administrative privileges.
3. **Navigate to Manage Jenkins**:
   * Click on "Manage Jenkins" from the left-hand menu.
4. **Configure System**:
   * Click on "Configure System" under the "System Configuration" section.
5. **Update Executors**:
   * Scroll down to the "# of executors" field.
   * Change the value to 5.
6. **Save**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.

This will update the number of default executors to 5.

3) After setting up a new Jenkins server, the Nautilus team aimed to create and test some jobs to ensure everything is configured correctly. They wanted to try some basic free style jobs and some pipelines. Currently, they have very basic requirements as outlined below.

We have already installed the pipeline plugin, create a pipeline job named app-pipeline-t3q2, add any sample pipeline under the same.

Ans:- To create a pipeline job named app-pipeline-t3q2 and add a sample pipeline in Jenkins, follow these steps:

1. **Open Jenkins**: Navigate to your Jenkins server in your web browser.
2. **Login**: Ensure you are logged in with administrative privileges.
3. **Create a New Job**:
   * Click on "New Item" from the left-hand menu.
   * Enter the name app-pipeline-t3q2 for the job.
   * Select "Pipeline" as the job type.
   * Click "OK" to create the job.
4. **Configure the Pipeline**:
   * In the job configuration page, scroll down to the "Pipeline" section.
   * Select "Pipeline script" from the "Definition" dropdown.
5. **Add a Sample Pipeline**:
   * In the "Script" text area, enter the following sample pipeline script:
   * pipeline {
   * agent any
   * stages {
   * stage('Build') {
   * steps {
   * echo 'Building...'
   * }
   * }
   * stage('Test') {
   * steps {
   * echo 'Testing...'
   * }
   * }
   * stage('Deploy') {
   * steps {
   * echo 'Deploying...'
   * }
   * }
   * }
   * }
6. **Save the Job**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.

This will create a pipeline job named app-pipeline-t3q2 with a basic sample pipeline.

4) After setting up a new Jenkins server, the Nautilus team aimed to create and test some jobs to ensure everything is configured correctly. They would like to create and run some jobs to verify few things. Currently, they have very basic requirements as outlined below.

1. Create a Jenkins job named test-job-t3q6.
2. Configure this job to run a simple bash command i.e echo "hello world!!".
3. Make sure the job builds successfully.

Ans:-

To create a Jenkins job named test-job-t3q6 and configure it to run a simple bash command, follow these steps:

1. **Open Jenkins**: Navigate to your Jenkins server in your web browser.
2. **Login**: Ensure you are logged in with administrative privileges.
3. **Create a New Job**:
   * Click on "New Item" from the left-hand menu.
   * Enter the name test-job-t3q6 for the job.
   * Select "Freestyle project" as the job type.
   * Click "OK" to create the job.
4. **Configure the Job**:
   * In the job configuration page, scroll down to the "Build" section.
   * Click on "Add build step" and select "Execute shell".
5. **Add the Bash Command**:
   * In the "Command" text area, enter the following command:
   * echo "hello world!!"
6. **Save the Job**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.
7. **Build the Job**:
   * On the job's main page, click "Build Now" from the left-hand menu.
   * Ensure the build completes successfully by checking the build history and console output.

This will create a Jenkins job named test-job-t3q6 that runs the echo "hello world!!" command and verifies that it builds successfully.

5) The Nautilus DevOps team want to install and setup some Jenkins plugins which are needed by some of the jobs they are going to create. Recently they have shared below requirements.

Click on the Jenkins button on the top bar to access the Jenkins UI. Login using username admin and Adm!n321 password.

Install the Jenkins plugin Mailer, please keep it disabled for now. You might need to restart Jenkins service to install these plugins, so we recommend clicking on Restart Jenkins when installation is complete and no jobs are running on plugin installation/update page i.e update centre.

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Ans:-

To install and set up the Mailer plugin in Jenkins, follow these steps:

1. **Access Jenkins UI**:
   * Click on the Jenkins button on the top bar to access the Jenkins UI.
   * Login using the username admin and password Adm!n321.
2. **Navigate to Manage Jenkins**:
   * From the Jenkins dashboard, click on "Manage Jenkins" from the left-hand menu.
3. **Manage Plugins**:
   * Click on "Manage Plugins" under the "System Configuration" section.
4. **Install Mailer Plugin**:
   * Go to the "Available" tab.
   * In the search box, type Mailer.
   * Check the box next to the "Mailer" plugin.
   * Click on "Download now and install after restart".
5. **Restart Jenkins**:
   * Once the installation is complete, you will see an option to restart Jenkins.
   * Click on "Restart Jenkins when installation is complete and no jobs are running".
6. **Disable the Plugin**:
   * After Jenkins restarts, go back to "Manage Jenkins" > "Manage Plugins".
   * Go to the "Installed" tab.
   * Find the "Mailer" plugin in the list.
   * Click on "Disable" next to the plugin.

This will install the Mailer plugin and keep it disabled as requested.

6) The Nautilus DevOps team want to use docker for setting up some containers based pipelines/jobs, since Jenkins provides a couple of docker related plugins so they are looking to install some of those.

Click on the Jenkins button on the top bar to access the Jenkins UI. Login using username admin and Adm!n321 password.

For now just install docker Jenkins plugin.

Ans:-

To install the Docker Jenkins plugin, follow these steps:

1. **Access Jenkins UI**:
   * Click on the Jenkins button on the top bar to access the Jenkins UI.
   * Login using the username admin and password Adm!n321.
2. **Navigate to Manage Jenkins**:
   * From the Jenkins dashboard, click on "Manage Jenkins" from the left-hand menu.
3. **Manage Plugins**:
   * Click on "Manage Plugins" under the "System Configuration" section.
4. **Install Docker Plugin**:
   * Go to the "Available" tab.
   * In the search box, type Docker.
   * Check the box next to the "Docker" plugin.
   * Click on "Download now and install after restart".
5. **Restart Jenkins**:
   * Once the installation is complete, you will see an option to restart Jenkins.
   * Click on "Restart Jenkins when installation is complete and no jobs are running".

7 ) There is a user which needs admin access to the Jenkins server so that he can configure Jenkins further to apply some settings. Below are the shared requirements:

Make user jimt4q6 administrator using Project based Matrix Authorization Strategy.

Ans:-

o make user jimt4q6 an administrator using the Project-based Matrix Authorization Strategy in Jenkins, follow these steps:

1. **Access Jenkins UI**:
   * Click on the Jenkins button on the top bar to access the Jenkins UI.
   * Login using the username admin and password Adm!n321.
2. **Navigate to Manage Jenkins**:
   * From the Jenkins dashboard, click on "Manage Jenkins" from the left-hand menu.
3. **Configure Global Security**:
   * Click on "Configure Global Security" under the "Security" section.
4. **Enable Project-based Matrix Authorization Strategy**:
   * Scroll down to the "Authorization" section.
   * Select "Project-based Matrix Authorization Strategy".
5. **Add User jimt4q6 as Administrator**:
   * In the "Project-based Matrix Authorization Strategy" section, click on "Add user or group".
   * Enter jimt4q6 and click "Add".
   * Grant jimt4q6 all permissions by checking all the boxes in the row corresponding to jimt4q6.
6. **Save**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.

This will grant jimt4q6 administrator access on the Jenkins server.

8) The Nautilus DevOps team is configuring user permissions to ensure they can perform necessary operations within the Jenkins server, such as job creation, updating, deletion, and Jenkins configuration updates. Below are the requirements they shared for global permissions:

Configure the permissions for Authenticated Users under Project based Matrix Authorization Strategy as below:

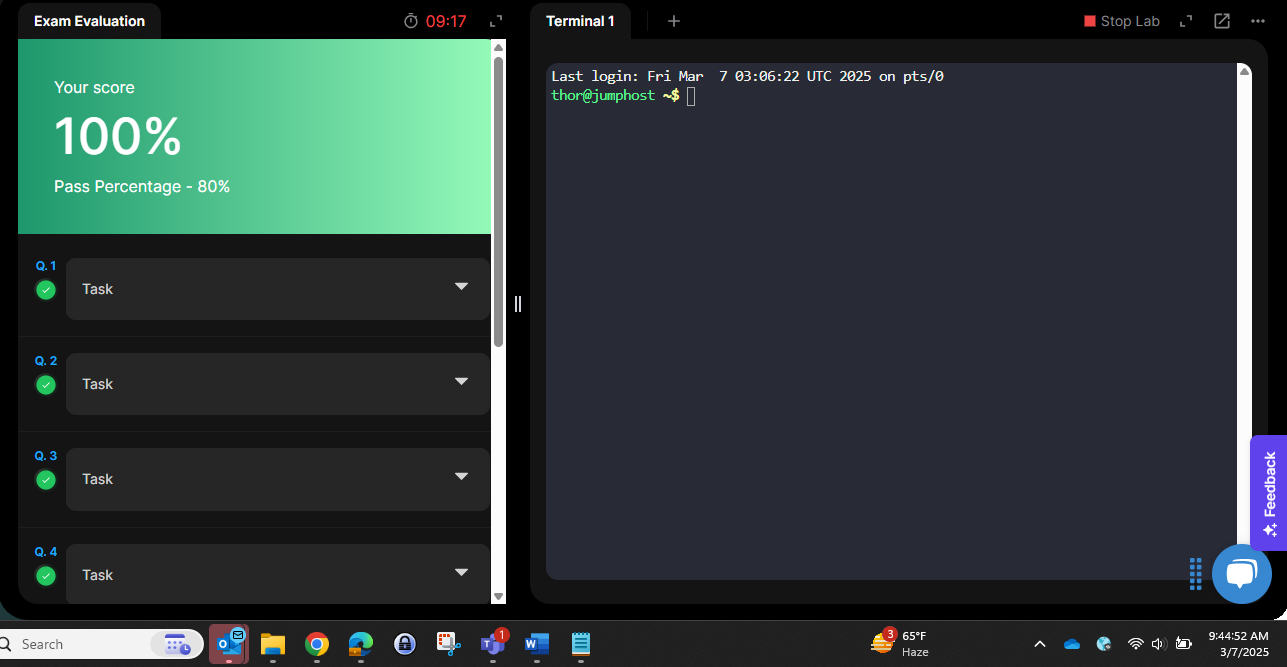
1. Agent: Configure
2. Job: Create
3. View: Read

Ans:-

o configure the permissions for Authenticated Users under the Project-based Matrix Authorization Strategy in Jenkins, follow these steps:

1. **Access Jenkins UI**:
   * Click on the Jenkins button on the top bar to access the Jenkins UI.
   * Login using the username admin and password Adm!n321.
2. **Navigate to Manage Jenkins**:
   * From the Jenkins dashboard, click on "Manage Jenkins" from the left-hand menu.
3. **Configure Global Security**:
   * Click on "Configure Global Security" under the "Security" section.
4. **Enable Project-based Matrix Authorization Strategy**:
   * Scroll down to the "Authorization" section.
   * Select "Project-based Matrix Authorization Strategy".
5. **Configure Permissions for Authenticated Users**:
   * In the "Project-based Matrix Authorization Strategy" section, click on "Add user or group".
   * Enter authenticated and click "Add".
   * Grant the following permissions to authenticated users:
     + **Agent**: Check the box for Configure.
     + **Job**: Check the box for Create.
     + **View**: Check the box for Read.
6. **Save**:
   * Scroll down to the bottom of the page and click "Save" to apply the changes.

This will configure the specified permissions for authenticated users.



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A screenshot of a computer

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