

Creating and Visualizing Pipelines in Blue Ocean

In the previous lesson, we introduced Blue Ocean and explored its benefits. Now, let's dive into the process of creating and visualizing pipelines using the Blue Ocean UI. Blue Ocean provides an intuitive and visual approach to pipeline creation, making it easier for both developers and non-technical team members to define and understand CI/CD workflows.

Creating a Pipeline in Blue Ocean

- 1. Accessing Blue Ocean:**
To start creating a pipeline in Blue Ocean, navigate to the Blue Ocean interface by clicking on the Blue Ocean icon in the Jenkins UI or accessing the Blue Ocean URL directly.
- 2. Creating a New Pipeline:**
In the Blue Ocean dashboard, click on the "New Pipeline" button to initiate the pipeline creation process.
- 3. Selecting the Pipeline Source:**
Blue Ocean supports various source control management (SCM) systems, such as Git, GitHub, and Bitbucket. Select the appropriate SCM provider and provide the necessary credentials to access your repository.
- 4. Configuring the Pipeline:**
Blue Ocean will automatically scan your repository and detect any existing Jenkinsfiles. If a Jenkinsfile is found, Blue Ocean will display the pipeline stages and steps defined in the file. If no Jenkinsfile is found, you can use the visual pipeline editor to create a new pipeline.
- 5. Visual Pipeline Editor:**
The visual pipeline editor in Blue Ocean allows you to define the stages and steps of your pipeline using a drag-and-drop interface. You can add stages, specify the agent, and configure the steps to be executed within each stage. The visual editor provides a user-friendly way to create pipelines without writing complex Jenkinsfiles from scratch.
- 6. Saving and Running the Pipeline:**
Once you have defined the pipeline stages and steps, click on the "Save" button to save the pipeline configuration. Blue Ocean will generate the corresponding Jenkinsfile and store it in your repository. You can then click on the "Run" button to trigger the pipeline execution.

Visualizing Pipelines in Blue Ocean

- 1. Pipeline Dashboard:**
After creating and running a pipeline, you can view its progress and status in the Blue Ocean pipeline dashboard. The dashboard provides a visual

representation of the pipeline, showing the different stages and their current state (e.g., running, passed, failed).

2. **Real-Time Pipeline Status:**

Blue Ocean updates the pipeline status in real-time, allowing you to monitor the progress of each stage and step. You can quickly identify which stages are currently running, which ones have passed, and if any have failed.

3. **Stage and Step Details:**

By clicking on a specific stage or step in the pipeline visualization, you can access detailed information about its execution. This includes logs, console output, and any associated artifacts or test results.

4. **Pipeline Run History:**

Blue Ocean maintains a history of pipeline runs, allowing you to view and compare previous executions. You can access the run history by clicking on the pipeline in the dashboard and selecting the desired run from the list.

5. **Troubleshooting and Debugging:**

In case of pipeline failures or issues, Blue Ocean provides intuitive troubleshooting and debugging capabilities. You can easily identify the stage or step where the failure occurred, view the associated logs, and take necessary actions to resolve the problem.

Best Practices for Pipeline Creation and Visualization

- Keep pipeline stages and steps concise and focused on specific tasks.
- Use meaningful names for stages and steps to enhance readability and understanding.
- Leverage the visual pipeline editor to create pipelines quickly and easily.
- Regularly review and update pipelines to ensure they align with your evolving CI/CD processes.
- Monitor pipeline status and address any failures or issues promptly.

Conclusion

Creating and visualizing pipelines in Blue Ocean is a straightforward and intuitive process. With the visual pipeline editor, you can define pipeline stages and steps using a drag-and-drop interface, making it accessible to all team members. The real-time pipeline visualization and detailed status information provided by Blue Ocean enable you to monitor and troubleshoot pipelines effectively.

By leveraging Blue Ocean for pipeline creation and visualization, you can streamline your CI/CD workflows, improve collaboration, and gain valuable insights into the health and progress of your pipelines.

In the next lesson, we'll explore how to set up a two-way integration between Jenkins and Git repositories to further enhance your CI/CD capabilities.