

Applied DEV OPS

TASK NO 3



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M SAim malik

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COMPARSION REPORT

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| **ASPECT** | **Jenkins** | **GitLab CI/CD** | **GitHub Action** |
| Hosting Environment | Can be self-hosted or cloud-based | Offers hosted services through GitLab | Fully hosted on GitHub's platform |
| Version Control Integration | Compatible with all Git repositories | Seamlessly integrated with GitLab repositories | Inherent Git integration |
| Configuration Approach | Manual configuration through Jenkins pipeline scripts | Configuration defined in .gitlab-ci files within the repository | Configuration as code using .GitHub/workflows/ |
| Docker Support | Requires additional setup and configuration | Native Docker support built-in | Integrated Docker support |
| Parallel Job Execution | Supports concurrent job execution | Facilitates parallel job execution | Enables simultaneous job execution |
| Scripting Language | Utilizes the Groovy language | Utilizes YAML scripting language | Utilizes YAML scripting language |
| Ease of Setup | May pose complexities, particularly for newcomers | Relatively user-friendly setup, especially within GitLab | Quick and straightforward setup |

**FINDINGS IN JINKINS:**

1. **Code Modifications:**

Developers create and submit code modifications through a version control system, such as Git.

1. **Activation:**

Jenkins maintains continuous surveillance of the version control system, monitoring for new code modifications or specific events, like code commits or pull requests.

1. **Compilation:**

Upon detecting a modification, Jenkins automatically initiates the compilation process. This involves compiling the code, running tests, and producing executable files.

1. **Testing:**

Jenkins executes a range of tests to verify that the code is free from errors and meets quality standards. In case of any test failures, Jenkins notifies the team.

1. **Deployment:**

If the code successfully passes all tests, Jenkins proceeds to deploy it to a staging or production environment, making it accessible to users.

1. **Surveillance:**

Jenkins is also capable of overseeing the deployed application, keeping an eye out for potential issues or performance bottlenecks.

1. **Input:**

Throughout this process, Jenkins offers feedback to developers, aiding them in swiftly identifying and resolving any problems.

1. **Documentation:**

Jenkins generates reports and logs for each build, facilitating debugging and progress tracking.