Benefits of CI/CD

1. **Catch Compile Errors After Merge:**

This means that the system will automatically identify issues in new code that is merged.

Developers spend less time troubleshooting code integration problems.

2. **Catch Unit Test Failures:**

Automated processes will identify failures in unit tests.

As a result, fewer bugs will make it into the production environment.

3. **Detect Security Vulnerabilities:**

Automated tools will help prevent the introduction of security vulnerabilities.

This avoids the risk of embarrassing or expensive security breaches.

4. **Automate Infrastructure Creation:**

 Automation streamlines the creation of necessary infrastructure.

Fewer human errors occur, leading to more accurate and faster deployments.

5. **Automate Infrastructure Cleanup:**

Unused resources in the infrastructure are automatically identified and cleaned up.

This leads to cost savings by reducing unnecessary infrastructure expenses.

6. **Faster and More Frequent Production Deployments:**

Automated processes allow for quicker and more frequent software releases to the production environment.

This means that new features, which generate value for customers, are rolled out more rapidly.

7. **Deploy to Production Without Manual Checks:**

The production deployment process becomes automated and doesn't require manual intervention.

This accelerates the time it takes to bring new features to the market.

8. **Automated Smoke Tests:**

Smoke tests, which verify basic functionality, are automatically conducted after deployment.

Downtime caused by crashes or major bugs after deployment is reduced.

9. **Automated Rollback Triggered by Job Failure:**

If a deployment fails, an automated rollback to the previous stable version is initiated.

This ensures a quick recovery to a functioning state in the production environment.