Q2) Define CI , Continuous Delivery and Continuous Deployment

Continuous Integration (CI) is a DevOps software development practice that enables the developers to merge their code changes in the central repository. That way, automated builds and tests can be run. The amendments by the developers are validated by creating a built and running an automated test against them.

In the case of Continuous Integration, a tremendous amount of emphasis is placed on testing automation to check on the application. This is to know if it is broken whenever new commits are integrated into the main branch.

Diagram

Description automatically generated with medium confidence

Continuous Delivery (CD) is a DevOps practice that refers to the building, testing, and delivering improvements to the software code. The phase is referred to as the extension of the Continuous Integration phase to make sure that new changes can be released to the customers quickly in a substantial manner.

This can be simplified as, though you have automated testing, the release process is also automated, and any deployment can occur at any time with just one click of a button.

Continuous Delivery gives you the power to decide whether to make the releases daily, weekly, or whenever the business requires it. The maximum benefits of Continuous Delivery can only be yielded if they release small batches, which are easy to troubleshoot if any glitch occurs.

Graphical user interface, application

Description automatically generated

Continuous Deployment When the step of Continuous Delivery is extended, it results in the phase of Continuous Deployment. Continuous Deployment (CD) is the final stage in the pipeline that refers to the automatic releasing of any developer changes from the repository to the production.

ensures that any change that passes through the stages of production is released to the end-users. There is absolutely no way other than any failure in the test that may stop the deployment of new changes to the output. This step is a great way to speed up the feedback loop with customers and is free from human intervention.

Diagram

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