CI/CD Definitions:

Continuous integration, Continuous Delivery, Continuous deployment, Source code management.

Develop ->

 -> Test (up to Cont. integration) -> Stage (up to cont. delivery) -> Production (up to cont. deployment)

Key difference between continuous delivery and continuous deployment is that:

Continuous Delivery requires user intervention

Open-source governance and community

Large community that supports it.

Stable Platform

Extensible Platform

Wide variety of tools: plugins, integrating w/ source code management tools, specific development paradigms

Visibility

Capture metrics and data from any environment

Increased visibility from pipelines and pipeline interface

Running Jenkins:

References: Job is the project name; Build is previous deployments.

You need to define for correct Jenkins format: define pipeline, define agent any (who can run), define stages, steps of pipeline and their actions.

 You can add Parameters, Create multiple steps for a job, Adding scripts as a job step

Track build state, polling SCM, Connecting to GitHub, Webhooks

SSH Build agent, Scaling builds with cloud, docker images for agents, configuring specific agents

Add plugins via plugin manager, shared libraries, build state, build state badges for SCM,

Code coverage tests and reports, using test results to stop build,

triggering builds via REST API, retrieve build status by REST API,

Secure deployment with users, Secure secret cred and files, auditing your environment, using folders to create security,

Create and store artifacts, fingerprinting for artifacts,

Automating deployment with pipelines, create pipeline gates, job promotion for long-running pipelines, multibranch repository automaton, create pipelines with snippets, discover global pipeline variables

"Best Practices":

Distribute builds with agents, automating tool installation on agents, global libraries for pipelines, Jenkins files as code, organizing jobs in views

Pros: More tools and plugins and APIs and integrations

Cons: no support for SLA (customer to client) support, CI management and code management not in the same place, Doesnt offer feature to analyze performance for all deployed apps,