How does Jenkins CI/CD map to AWS Code Services?

Brief about code services

Service	Purpose	Key Features	Common Use Case
CodeCommit	Git-based source control	Secure, scalable, fully managed Git repositories	Store application source code; trigger CI/CD on push
CodeBuild	Build and test automation	Compile code, run unit tests, produce build artifacts using buildspec.yml	Build Java, Python, Node.js, Docker apps with unit testing
CodeDeploy	Automate application deployment	Supports EC2, ECS, Lambda; in-place & blue/green deployments	Deploy new version to EC2 instances or update Lambda functions
CodePipeline	Orchestration of CI/CD stages	Automates the flow from source → build → test → deploy; integrates all services	End-to-end CI/CD pipeline across CodeCommit, CodeBuild, CodeDeploy

AWS Code Artifacts

   A fully managed **artifact repository** service.

   Stores and shares **build artifacts** like packages and dependencies.

   Supports **npm, PyPI, Maven, NuGet, and more**.

CI/CD Stage	Jenkins	AWS Equivalent	Mapping Explanation
1. Source Control	External Git (GitHub, GitLab, Bitbucket, etc.)	**AWS CodeCommit**	Stores Git-based source code securely; works with CodePipeline natively.
2. Build & Unit Test	Build tools (Maven, Gradle, npm, etc.) run via Jenkins jobs	**AWS CodeBuild**	Fully managed build service; uses buildspec.yml (similar to Jenkinsfile) to run builds, tests, and package code.
3. Artifact Storage	Jenkins workspace, Nexus, Artifactory,	**Amazon S3 / ECR,**	Artifacts (ZIPs, JARs) go to **S3**; Docker images go to **ECR, dockerHub, AWS Artifacts**
4. Deployment	Custom scripts, plugins for EC2/ECS/Lambda	**AWS CodeDeploy**	Automates deployment to EC2, Lambda, or ECS. Handles rollback, health checks, blue/green or in-place strategies.
5. Pipeline Orchestration	Jenkinsfile (Groovy script) or Freestyle UI-based pipelines	**AWS CodePipeline**	Central service tying all stages (source → build → test → deploy) together. Fully visual and event-driven.

1. <mark>**In Jenkins, a "Job" refers to a build process. What is the equivalent in AWS CodePipeline?**</mark>
   A. CodeBuild
   B. CodeDeploy
   C. Pipeline
   D. Artifact

✅ **Answer: C. Pipeline**

1. **Jenkins Pipelines are defined using a Jenkinsfile. What is the AWS equivalent used to define build steps?**
   A. CodePipeline.json
   B. BuildTemplate.yaml
   C. buildspec.yml
   D. deployspec.yml

✅**Answer: C. buildspec.yml**

2. In Jenkins, credentials are stored in "Credentials Manager." What is the AWS equivalent?
   A. Secrets.yaml
   B. IAM User
   C. CodeBuild Env Vars
   D. AWS Secrets Manager

✅**Answer: D. AWS Secrets Manager**