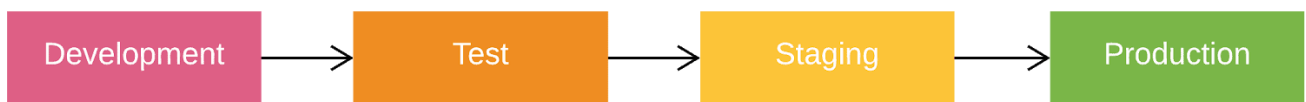


SDLC Automation

SDLC Automation is the most asked domain in AWS Certified DevOps Engineer-Professional Exam and it **covers 22%** of the exam. This domain mainly revolves around automating the Software Development Lifecycle.

Overview

SDLC domain supports one of the core principles of DevOps of removing the difference between developers and operators with the intent of performing automation as much as possible. The main idea behind Automation is to set up, configuration, deploy, and support infrastructure and the applications that run on it. With the help of automation, you can set up environments more rapidly in a standardized and repeatable manner. The removal of manual processes is key to a successful DevOps strategy. The advantage of automation is critical to realizing the full benefits of the cloud.



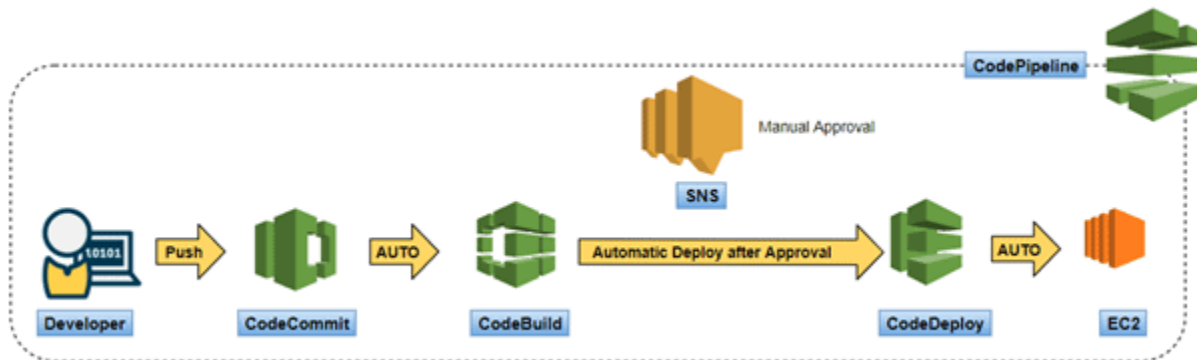
Benefits of Automation:

- Rapid changes
- Improved productivity
- Repeatable configurations
- Reproducible environments
- Leveraged elasticity
- Leveraged auto-scaling
- Automated testing

There are many services and concepts that plays important role in SDLC Automation. We are going to discuss a few services and concepts that are important for the AWS Certified DevOps Engineer-Professional Exam.

What is CI/CD?

SDLC Automation revolves around Continuous Integration and Continuous Delivery. It helps in securely store and version application's source code and automatically build, test, and deploy your application to AWS or your on-premises environment. **Continuous Integration(CI)** and **Continuous Deployment(CD)** get rid of the traditional manual gate and implement fully automated verification of the acceptance environment to determine the scenario of whether the pipeline can continue to production or not.



Benefits of CI/CD:

- Build Faster
- Decrease code review time
- Automatic
- Faster fault isolation
- Additional deployment features

What is AWS CodeCommit?

AWS CodeCommit is a fully-managed source control service that hosts your secure Git-based repositories. It makes it easy for groups to collaborate on code in a secure and highly scalable ecosystem. CodeCommit eliminates the need to operate your source control system or worry about scaling its infrastructure. CodeCommit securely stores anything from source code to binaries, and it runs seamlessly with your existing Git tools. To know more check our blog on [AWS CodeCommit](#)

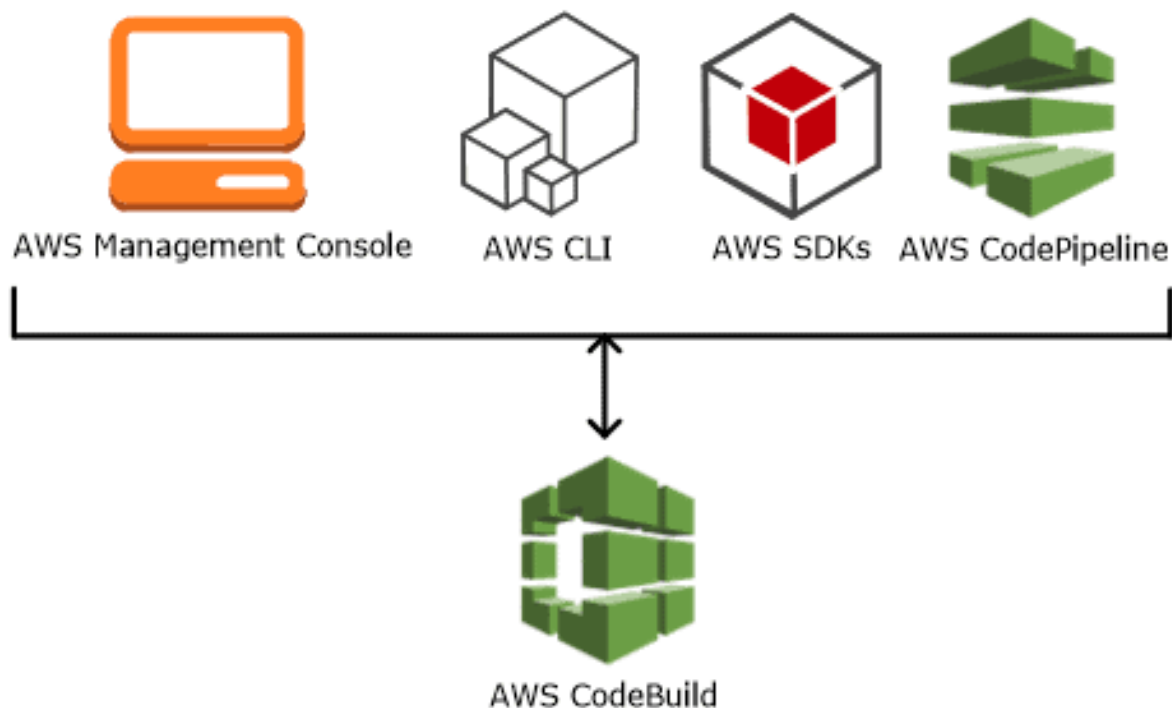


Benefits of CodeCommit:

- Fully managed
- Able to store anything
- Highly available
- Offers faster development lifecycles
- Works with your existing tools
- Secure

What is AWS CodeBuild?

AWS CodeBuild is a fully managed continuous integration service that compiles source code, runs tests, and produces software packages that are ready to deploy. With CodeBuild, you don't need to provision, manage, and scale your build servers. CodeBuild scales continuously and processes multiple builds concurrently, so your builds are not left waiting in a queue. You can get started quickly by using prepackaged build environments, or you can create custom build environments that use your own build tools. With CodeBuild, you are charged by the minute for the compute resources you use.



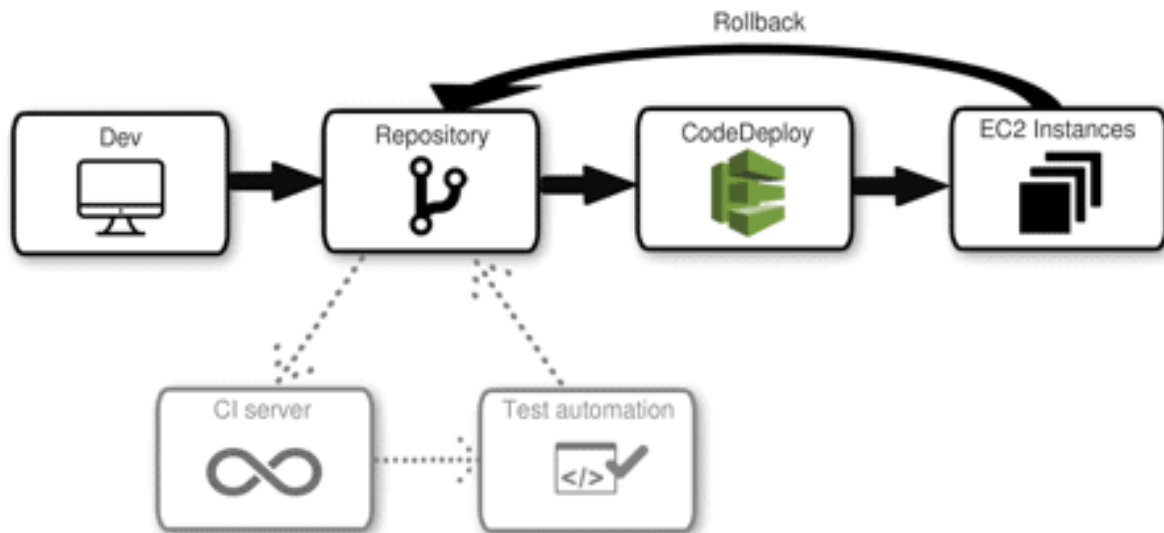
Benefits of CodeBuild:

- Fully managed build service
- Continuous scaling
- Pay as you go
- Extensible
- Enables continuous integration and delivery
- Secure

What is AWS CodeDeploy?

AWS CodeDeploy is a fully managed deployment service that automates software deployments to a variety of computing services such as Amazon EC2, AWS Fargate, AWS Lambda, and your on-premises servers. AWS CodeDeploy makes it easier for you to rapidly release new features, helps you avoid downtime during application deployment, and handles the complexity of updating your applications.

CodeDeploy Flow

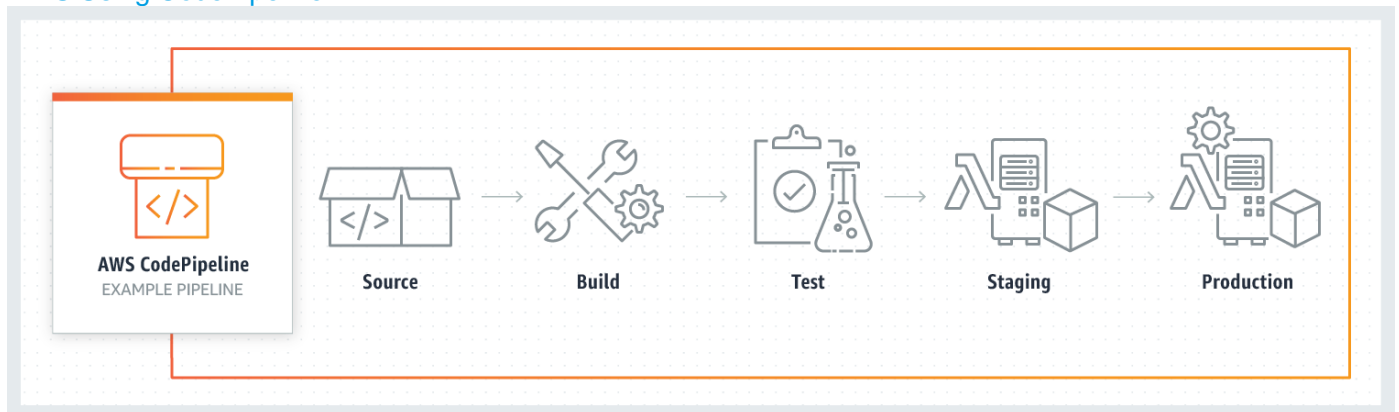


Benefits of CodeDeploy:

- Automated deployments
- Minimize downtime
- Centralized control
- Easy to adopt

What is AWS CodePipeline?

AWS CodePipeline is a fully managed continuous delivery service that helps you automate your release pipelines for fast and reliable application and infrastructure updates. CodePipeline automates the build, test, and deploy phases of your release process every time there is a code change, based on the release model you define. This enables you to rapidly and reliably deliver features and updates. With AWS CodePipeline, you only pay for what you use. There are no upfront fees or long-term commitments. To get in-depth knowledge check our blog on [Deploy Web App On AWS Using CodePipeline](#)



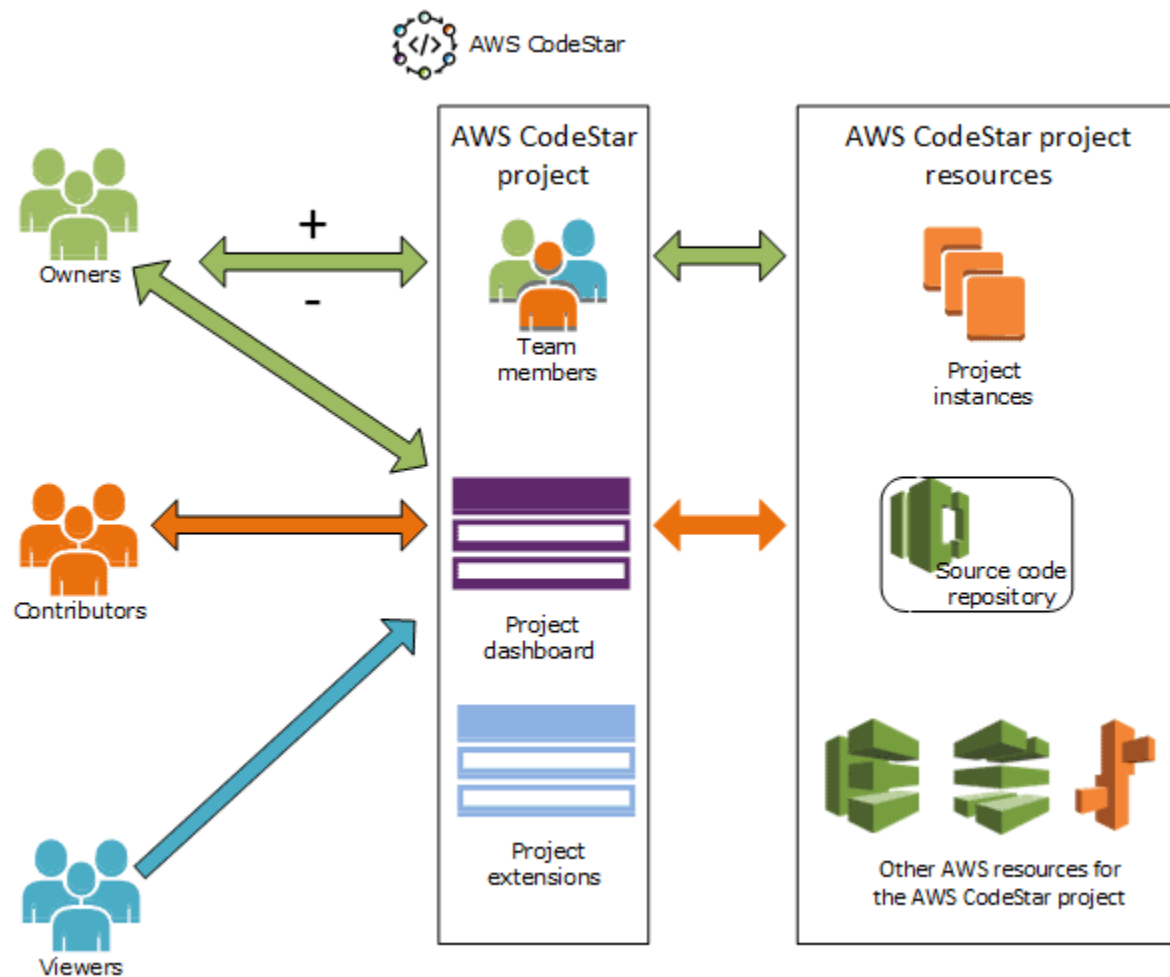
Benefits of CodePipeline:

- Rapid delivery
- Configurable workflow
- Get started fast
- Easy to integrate

What is AWS CodeStar?

AWS CodeStar enables you to quickly develop, build, and deploy applications on AWS. AWS CodeStar provides a unified user interface, enabling you to easily manage your software development activities in one place. With AWS CodeStar, you can set up your entire continuous delivery toolchain in minutes, allowing you to start releasing code faster. With the AWS CodeStar project dashboard, you can easily track progress across your entire software development process, from your backlog of work items to teams' recent code deployments.

There is no additional charge for using AWS CodeStar. You only pay for the AWS resources that you provision for developing and running your application (for example, Amazon EC2 instances).



Benefits of CodeStar:

- Start developing on AWS in minutes
- Manage software delivery in one place
- Work across your team securely
- Choose from a variety of project templates

For a good understanding of SDLC Automation and DevOps, it is important to understand the above concepts and services.