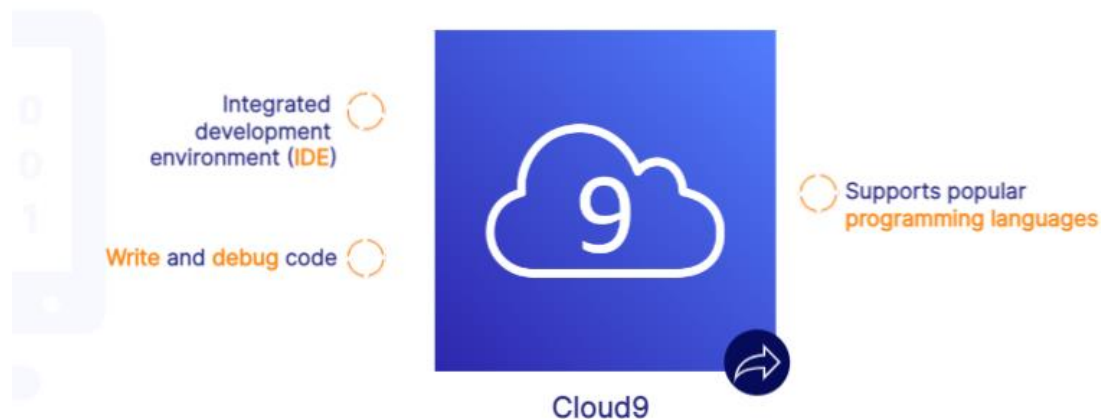Developer Tools:

- Software developers use tools to accelerate the software development and release cycle.

Cloud9

Cloud9 allows you to write code within an integrated development environment (**IDE**) from within your web browser.

Integrated development environment (IDE)

Write and debug code

Supports popular programming languages

Cloud9

CodeCommit

CodeCommit is a source control system for private Git repositories.

Create repositories to store code

Commit, branch, and merge code

Collaborate with other software developers

CodeCommit

CodeBuild

CodeBuild allows you to build and test your application source code.

Compiles source code and **runs** tests ⊕

Enables continuous integration and **delivery** ⊕

⊕ Produces **build** artifacts ready to be deployed

CodeBuild
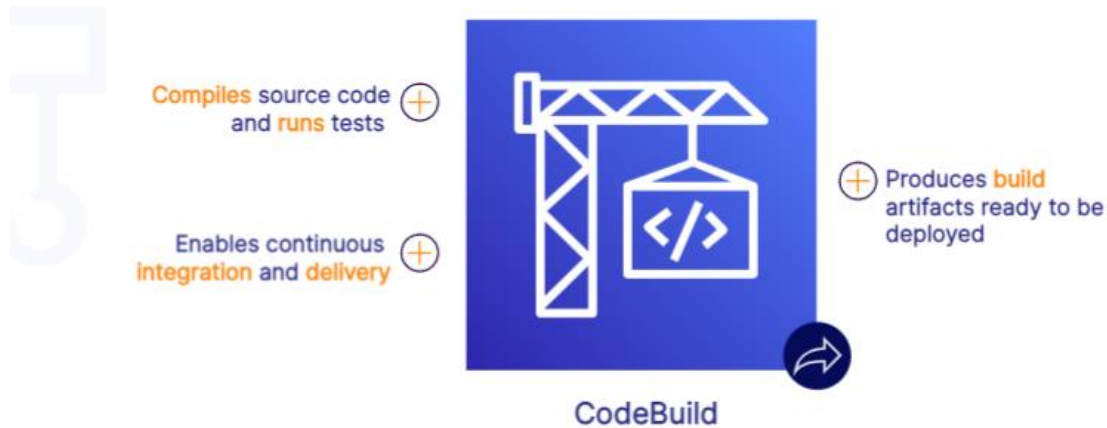
CodeDeploy

CodeDeploy manages the deployment of code to compute services in the cloud or on-premises.

Deploys code to **EC2**, **Fargate**, **Lambda**, and **on-premises**.

Maintains application **uptime**

CodeDeploy

CodePipeline

CodePipeline automates the software release process.

Quickly deliver new features and updates

Integrates with **CodeBuild** to run builds and unit tests

Integrates with **CodeCommit** to retrieve source code

Integrates with **CodeDeploy** to deploy your changes

CodePipeline

X-Ray

X-Ray helps you debug production applications.

Analyze and debug production applications

Map application components

View requests end to end

X-Ray

CodeStar

CodeStar helps developers **collaboratively** work on development projects.

Developers **connect** their development environment

Integrates with **CodeCommit, CodeBuild, and CodeDeploy**

Contains issue tracking **dashboard**

CodeStar

Things to Remember When Studying for the Exam

CodeCommit

Don't forget CodeCommit offers a service similar to GitHub that works with Git repositories.

Cloud9

Don't forget Cloud9 offers an integrated development environment (IDE) that runs inside a web browser.

CodeDeploy

Remember that CodeDeploy allows you to deploy an application to servers running on-premises and in the cloud.
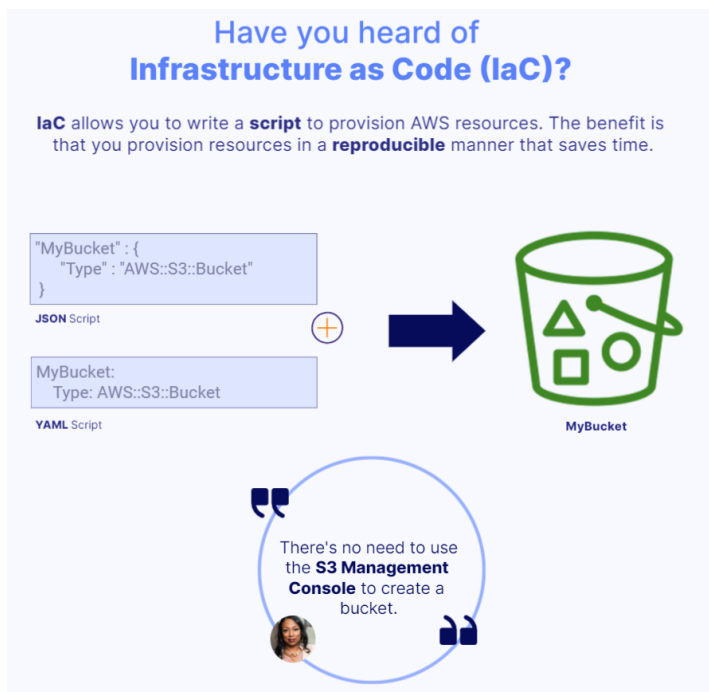
CodePipeline

Don't forget CodePipeline allows you to implement a CI/CD pipeline.

Deployment and infrastructure management services:

- These services help you quickly stand up new applications, automate the management of infrastructure, and provide real-time visibility into system health.
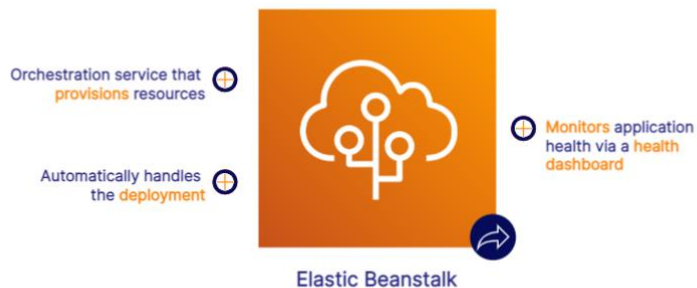
Have you heard of Infrastructure as Code (IaC)?

IaC allows you to write a **script** to provision AWS resources. The benefit is that you provision resources in a **reproducible** manner that saves time.

```
"MyBucket" : {
    "Type" : "AWS::S3::Bucket"
}
```
JSON Script

```
MyBucket:
    Type: AWS::S3::Bucket
```
YAML Script

MyBucket

"There's no need to use the **S3 Management Console** to create a bucket."

CloudFormation

CloudFormation allows you to provision AWS resources using Infrastructure as Code **(IaC)**.

Provides a repeatable process for provisioning resources

Works with most AWS services

Create templates for the resources you want to provision

CloudFormation

Template   Stack

Elastic Beanstalk

Elastic Beanstalk allows you to deploy your web applications and web services to **AWS**.

Orchestration service that provisions resources

Automatically handles the deployment

Monitors application health via a health dashboard

Elastic Beanstalk

OpsWorks

OpsWorks allows you to use **Chef** or **Puppet** to automate the configuration of your servers and deploy code.

Deploy code and manage applications

Manage on-premises servers or EC2 instances in AWS Cloud

Works with Chef and Puppet automation platforms

CHEF
Progress

puppet

OpsWorks

Things to Remember when
Studying for the Exam

☑ **CloudFormation**

Don't forget CloudFormation supports infrastructure automation using Infrastructure as Code (IaC).

☑ **Elastic Beanstalk**

Don't forget Elastic Beanstalk is only used to deploy applications to the AWS Cloud — it is not used to deploy applications on-premises.

☑ **OpsWorks**

Remember that OpsWorks can deploy applications on-premises, and it also automates infrastructure management using Chef or Puppet.