

Cloud deployment challenges

- ▶ How do you update servers that have already been deployed into a production environment?
- ▶ How do you consistently deploy an infrastructure to multiple Regions in disparate geographical locations?
- ▶ How do you roll back a deployment that did not run according to plan? In other words, how do you reclaim the resources that were already created?
- ▶ How do you test and debug a deployment before you roll it out to production?
- ▶ How do you manage dependencies on systems and technologies, and also on entire subsystems (for example, a website that is deployed on top of an e-commerce infrastructure)?



MagicStudio

AWS Cloudformation

- ▶ Deploying and managing infrastructure at scale section
- ▶ AWS CloudFormation is an Infrastructure as a code (IaC) service that lets you define, provision, and manage AWS resources in a declarative, template based format.

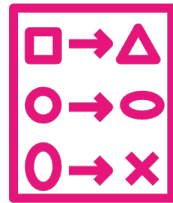


AWS CloudFormation

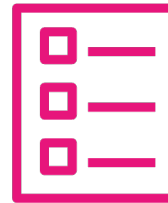
- ▶ Models and provisions cloud infrastructure resources
- ▶ Supports most AWS services
- ▶ Creates, updates, and deletes a set of resources as a single unit called a “*Stack*”
- ▶ Detects changes, called “*drift*” on stack and individual resources



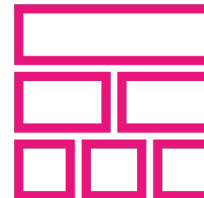
AWS CloudFormation



Change set

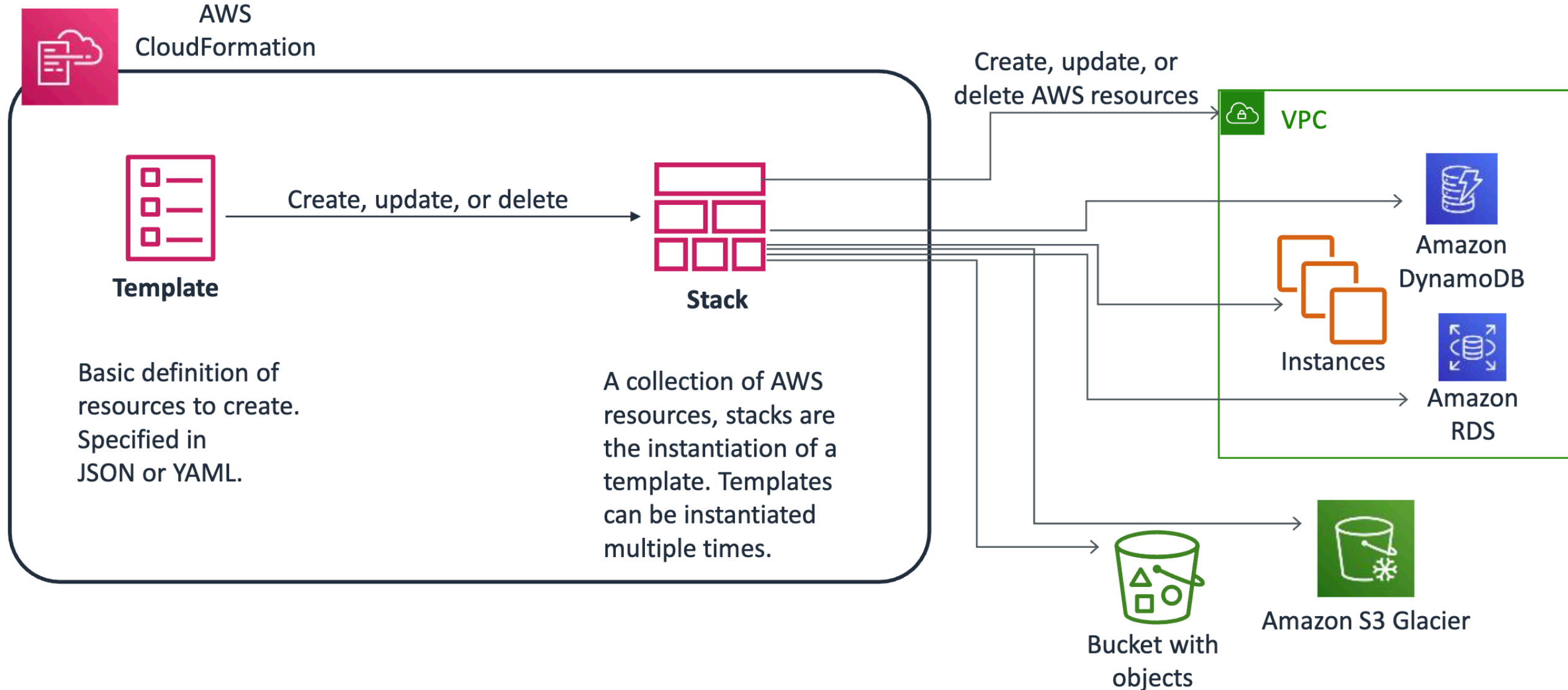


Template



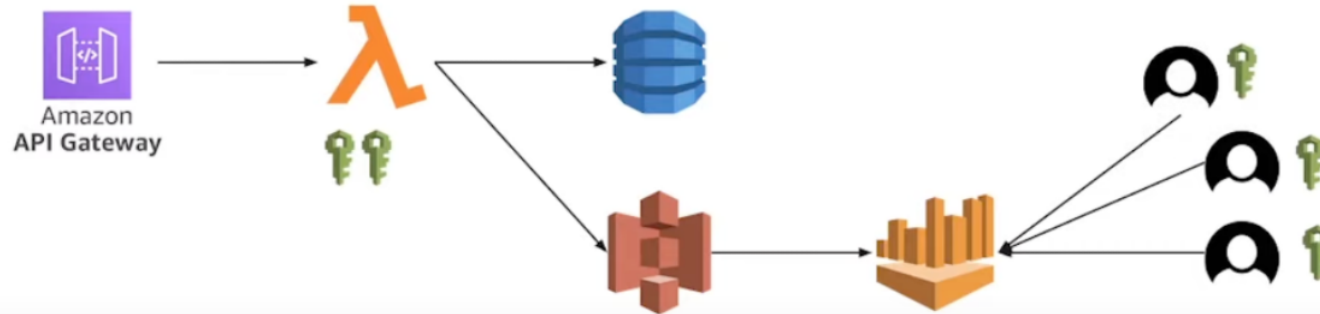
Stack

AWS CloudFormation terminology

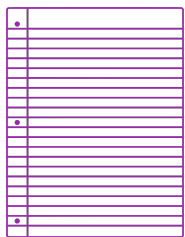
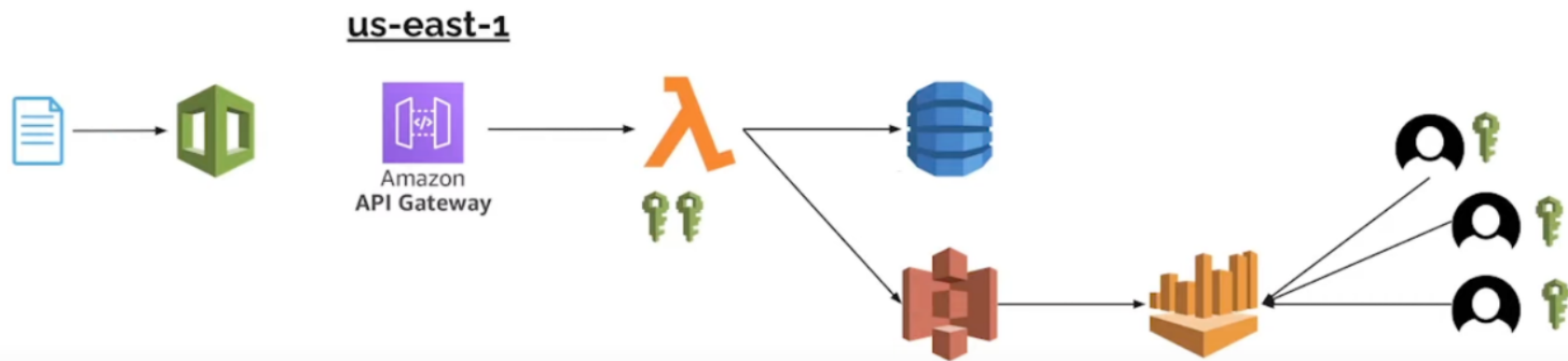


What is Cloudformation?

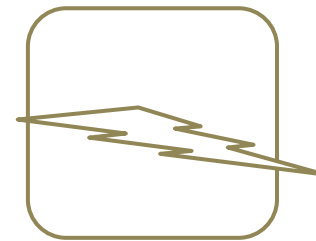
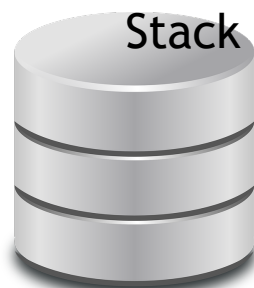
us-east-1



What is Cloudformation?



Template file



Changeset

- Create a .yaml or .json **templates** containing Resources
- **Stacks** : Logical group of AWS Resources belongs to the templates.
 - i. CloudFormation is a declarative way of outlining your AWS Infrastructure, for any resources (most of them are supported).
 - ii. For example, within a cloudformation template, you say:
 - i. I want a security group
 - ii. I want two ec2 instances using this security group
 - iii. I want an s3 bucket
 - iv. I want a load balancer (ELB) in front of these machines.
 - iii. Then cloudformation creates those for you, in the right order, with the exact configuration that you specify