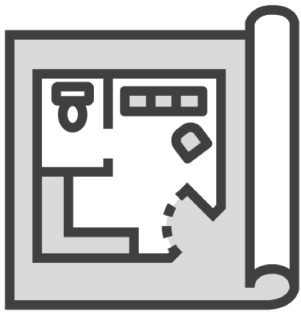# Preparing to Improve Your Architecture
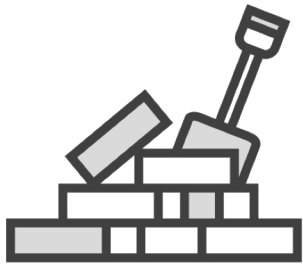

Kien Bui

DevOps & Platform Engineer

You're done!

But…
- Unexpected usage patterns
- Poor performance
- New services
- New requests

Repeatable builds
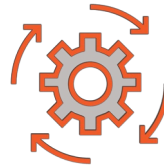
Rebuildable infrastructure

Controlled tests

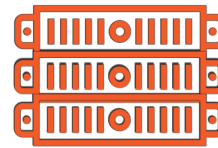CI/CD

Team

Architect
Code
Test

Artifacts

Source Code
Infrastructure

Build

Compile
Validate

Deploy

Infrastructure
Application

Test

Automation
Integration
Performance

Release

Real users

CloudFormation

Infrastructure template

Automate creation
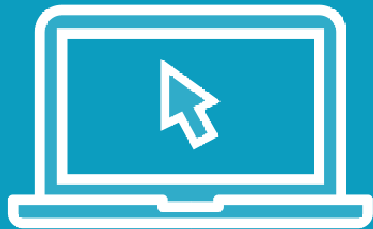
Ensure consistency

Create or update

Manages dependencies

Preview changes

Extensible

Source control

Demo

AWS architecture resources

Introducing CloudFormation Templates

Common Template Sections

Format Version	Description	Parameters

Resources	Output

```
AWSTemplateFormatVersion: 2010-09-09

Description:

    Simple Example - S3 Website

Parameters:

    BucketName:

        Type: String

        Default: simples3site

        Description: Name of Bucket
```

- Template version (optional)

- Description (optional)

- Parameters (optional)

- Defines name we will use for the S3 Bucket we create

```yaml
Resources:

    WebSiteBucket:

        Type: AWS::S3::Bucket

        Properties:

            AccessControl:
                PublicRead

            BucketName:

                !Ref BucketName

        WebsiteConfiguration:

            IndexDocument:
                index.html

        DeletionPolicy: Retain
```

- Resources (required)

- Resourcename

- Resourcetype

- Properties

- Reference to a parameter

- Keep bucket when deleting stack

```
Outputs:

    WebsiteURL:

        Value:

            !GetAtt [
            "WebSiteBucket",
            "WebsiteURL"]

        Description:

            URL of website
```
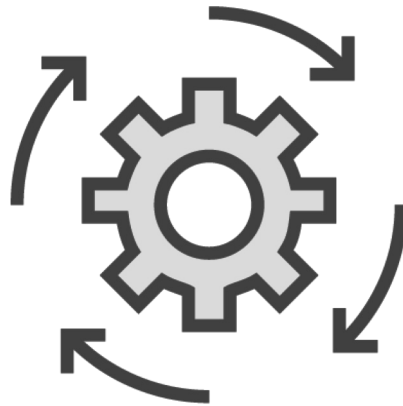
- t Outputs (optional)

- t   Output name

- t Define the value

- t Get the WebsiteURL value from
     the WebSiteBucket resource

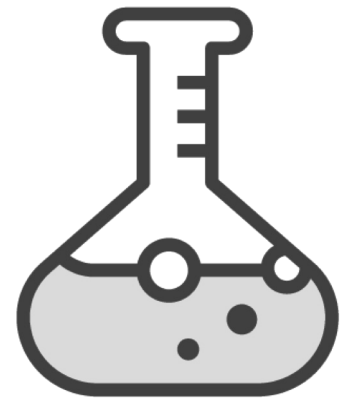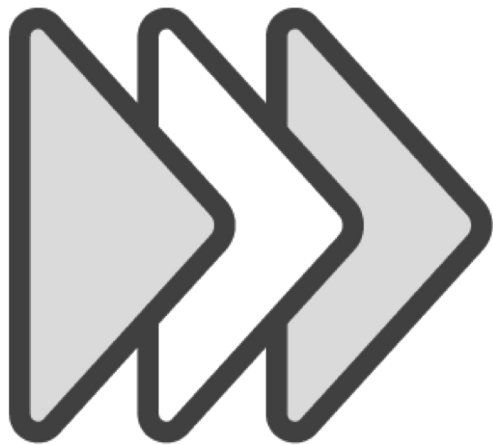- t Description of the output value

Keys to Support Improvement

CloudFormation

CI/CD

Test

Monitoring your architecture