Introduction & Setup

Welcome to our AWS workshop on CloudFormation and Cloud Development Kit (CDK)! In this session, we will dive into the practical aspects of deploying and managing AWS resources using CloudFormation, CDK and Infrastructure as Code (IaC). This workshop is designed for university students who already have a *foundational* understanding of cloud concepts and are ready to apply their knowledge in a hands-on environment.

Learning Objectives

Upon successful completion of this lab, you will be able to:

1. Create and manage AWS resources using CloudFormation stacks.
2. Customize CloudFormation stacks with parameters.
3. Utilize conditions in CloudFormation.
4. Deploy a resource using the Cloud Development Kit

Warning: Code Inside
This lab contains workflows that requires you to be able to **read and understand** code. The code is short and supplied to you, but could be challenging for anyone that is new to coding. This is not a lab to learn how to code for the first time. Most of the code used throughout the lab is written in YAML with the last workflow using Python. YAML stands for *Yet Another Markup Language*, and is comprised of human-readable programming constructs commonly used for configuration files.

AWS Accounts
In this lab, you will be connecting to the AWS cloud which requires use of an **AWS Account**.

Hosted Lab Event
The lab instructions assume you are taking part in a **hosted lab event**, and the instructors will supply an AWS account for you to use throughout the event. If you are taking part of a hosted event, you can skip the remainder of this section.

Using Your Own AWS Account
If you are attempting this workshop independently, you will need to source your own AWS account to complete all the steps. If you don't already have an account, you can create one: How do I create and activate a new AWS account?

Important if using your own account
Cloud resources utilize a *'pay for what you use'* model, so delete or switch off what you're not using. The lab steps will provision AWS services, and instruct you to store several files which incur a cost. While provisioning and briefly using the S3 buckets as a learning exercise should only incur a relatively low cost, care should be taken to delete resources when no longer needed to ensure future charges do not accrue. While the S3 bucket is only used for an hour, **provisioned AWS resources cost money and you should check the pricing in your currency before attempting to create other resources.** Deleting unused services and resources will help reduce costs. Instructions on how to delete all of the resources used in this lab are included at the end of this lab Summary and Clean-up.