



# MCMA Launch Control

Managed deployment and monitoring of your  
cloud infrastructure



# Project objective

Build a web-based application that allows the user to design, create, update, validate, and monitor MCMA cloud infrastructure. Further it must allow integration with CI/CD pipelines and support the phased approach of software testing and deployment.



# Why Launch Control?

- Need for more visibility in deployed cloud infrastructure
  - MCMA service composed of several cloud resources
    - E.g. Api Gateway, Lambda, DynamoDB, S3 Bucket, Step functions, IAM, SNS, SQS, etc
  - Many MCMA services -> Even more cloud resources
    - Hard to see which cloud resource belongs to which service
  - Easier to determine which resources belong to which service when in control of cloud deployment
    - Therefore lets control the deployment
- Since we are going to be in control of the deployment can we make it easier?
  - Managing Terraform state file
  - Having a GUI
- Make it easier and faster to create a separate environments for developers and automatic testing



# MCMA Modules

- When designing infrastructure you want to deal with higher level logical blocks
  - Not the details of an individual service
- MCMA Modules are logical blocks for building cloud infrastructure
  - E.g. microservice, storage location, workflow, website
  - We don't enforce any particular grouping
- Extension of Terraform modules
- Zip file containing
  - Terraform script describing which cloud resources will be created
  - Code package (if applicable)
  - Module.json (describing name, version, input/output vars etc)



# MCMA Module Repository

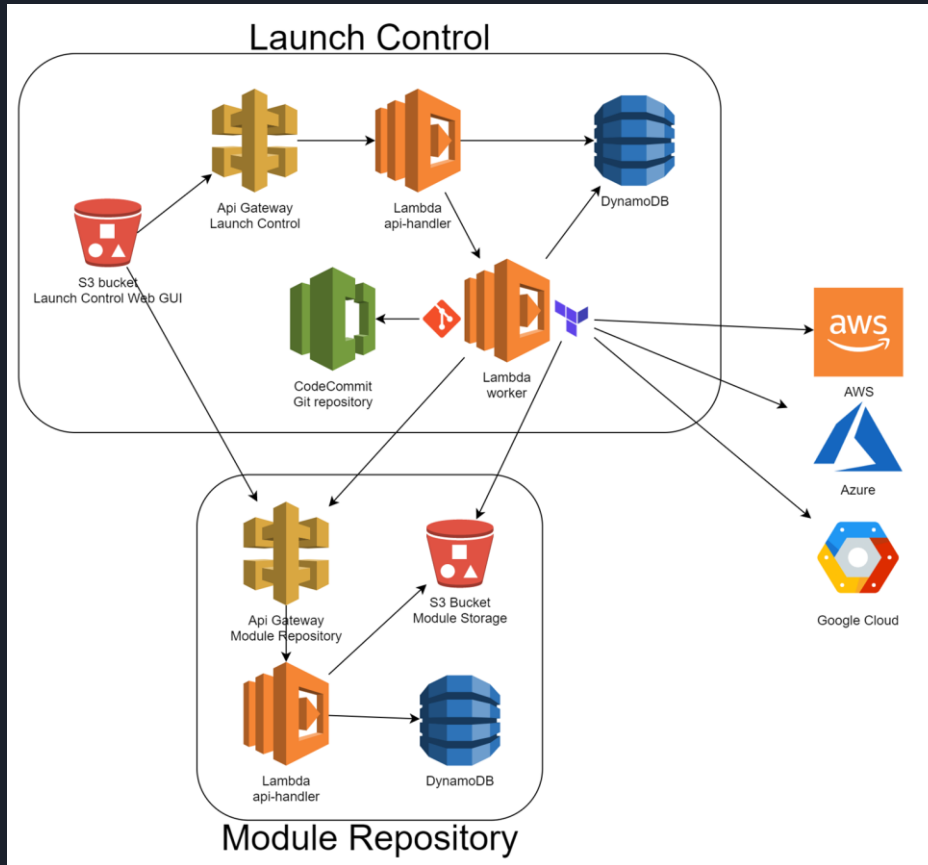
- Repository like NPM, Maven, and NuGet
- Stores and manages MCMA Modules
- Exposes Rest API
  - Listing / searching available modules
  - Publishing new modules
- Launch Control consults repository for available modules



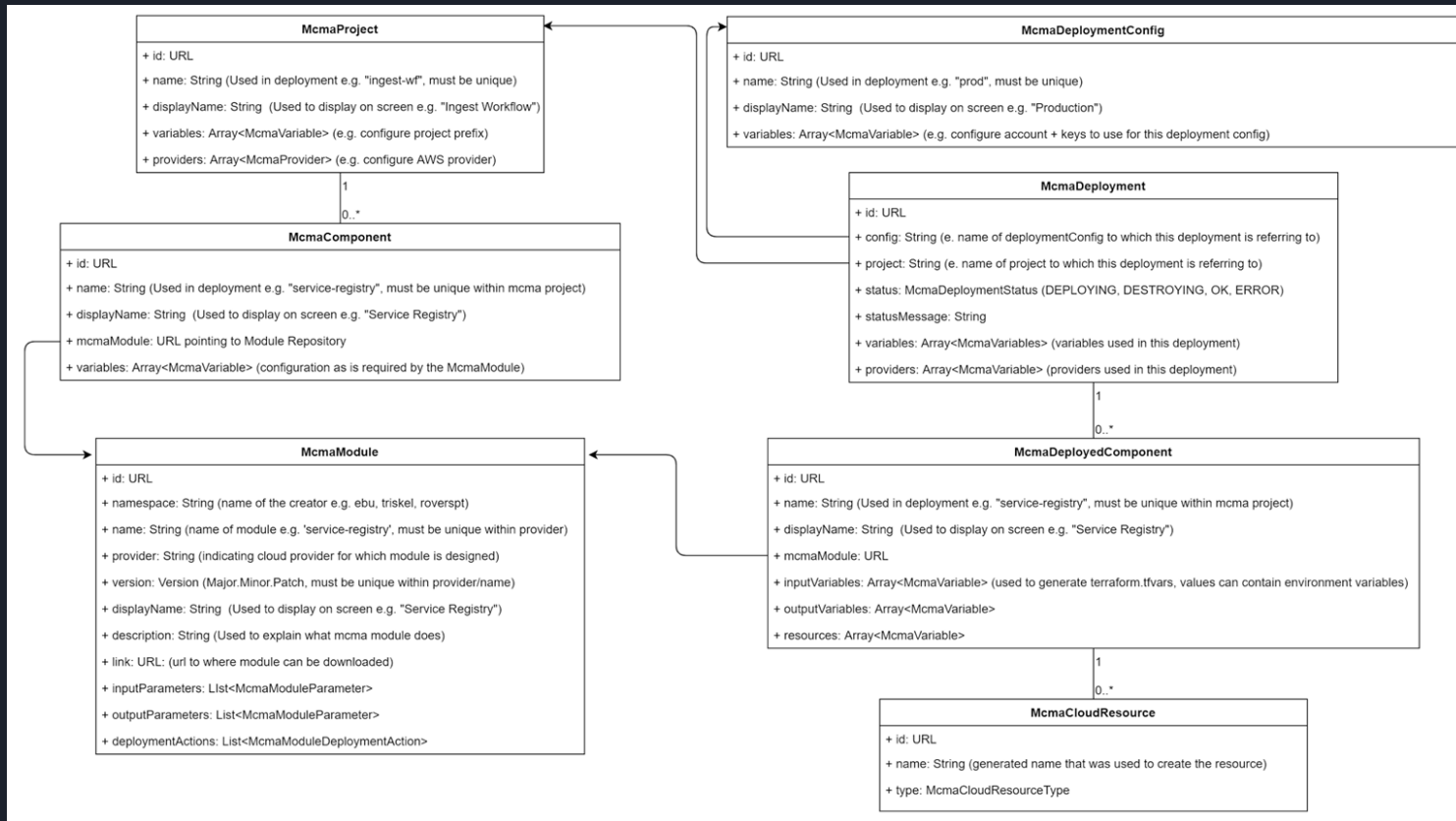
# Milestones Launch Control

- GUI + backend service allowing composition of cloud infrastructure
- Managed deployment to multiple environments
- Module repository providing reusable components to Launch Control
- Support for DTAP deployment workflow
- Integration with CI/CD pipeline when developing new MCMA Modules
- Validation and monitoring of deployed MCMA cloud infrastructure

# Application structure

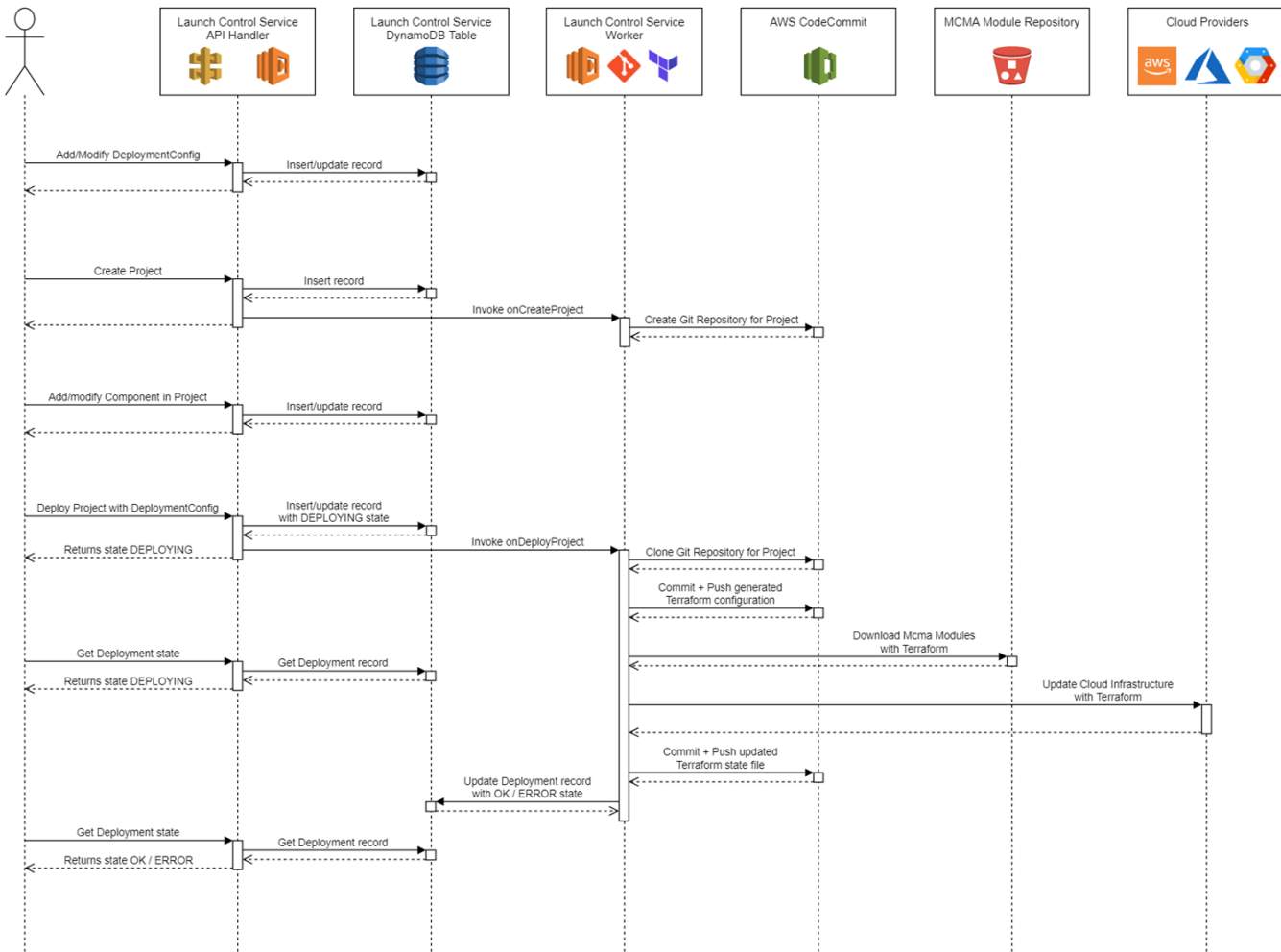


# Object model





# MCMA Launch Control Sequence Diagram



Demo time!

