



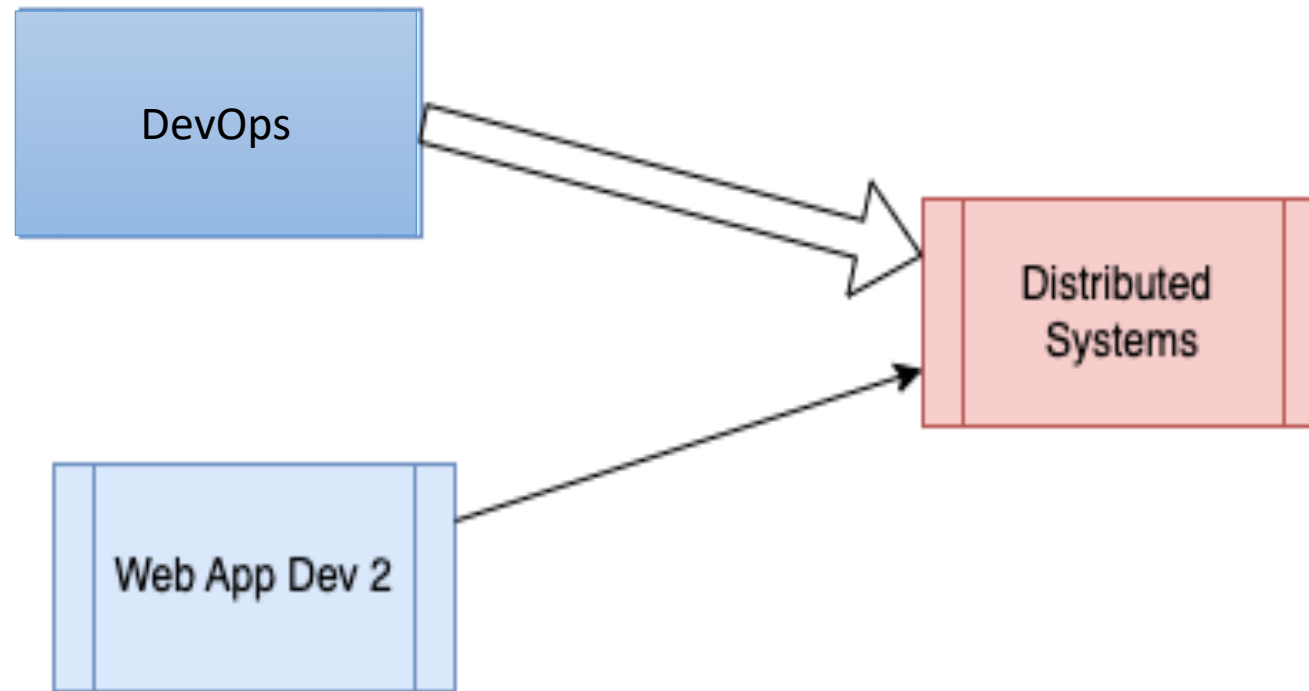
# Distributed Systems

BSc (H) Applied Computing – Year 4

BSc (H) Computer Forensics & Security – Year 4

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# Context



# Overview

- “. . .to comprehend the architecture of a modern, distributed (cloud-based), service-oriented application and the skills to develop and deploy same for a constrained set of requirements . . .”  
(Module Spec.)
- Key themes:
  - Infrastructure As Code (IaC)
  - Serverless
  - Scalability
  - Microservices architecture
  - Event-driven architecture
- Language: TypeScript

# Pre-requisites

- An AWS account (<https://aws.amazon.com/> )
- Installed locally:
  - AWS CLI installed locally (see <https://docs.aws.amazon.com/cli/latest/userguide/getting-started-install.html>)
  - NodeJs platform
  - VS Code editor
  - Git tool
- A GitHub account
- Knowledge of JavaScript

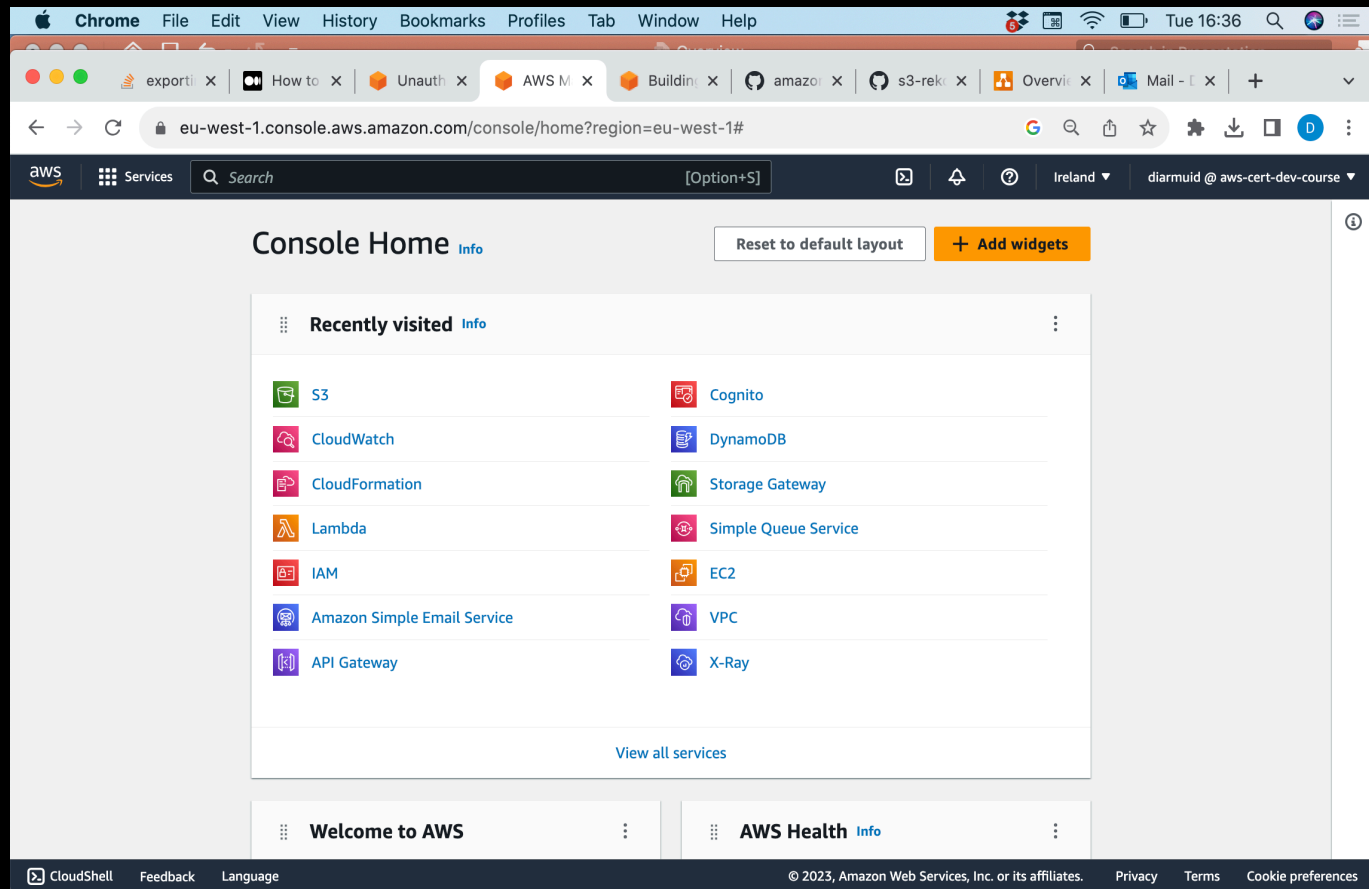


```
diarmuidoconnor ~$ aws --version
aws-cli/2.2.28 Python/3.8.8 Darwin/19.6.0 exe/x86_64 prompt/off
diarmuidoconnor ~$ node -v
v18.13.0
diarmuidoconnor ~$
```

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# Pre-requisites

- The (AWS) Management Console



# Student Information

- Contact hours:
  - Two lectures (Online) + Two lab hours.
- Assessment:
  - 100% Continuous Assessment. Breakdown (approx.):
    - Lab work handups (10%)
    - Two assignments (40%)
    - Lab-based exam (Week 13 – 50%)
- Resources:
  - Website – <https://tutors.dev/course/distributed-systems-setu-deise>
  - Moodle – <https://moodle.wit.ie/course/view.php?id=209056>
    - For assignment submissions only.
    - Self-enrolment – Use Enrolment key = ds24

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Distributed Sys...

Module overview,




The module's context, themes and structures.

Typescript Language.




A crash course on the Typescript language from a Javascript...

CDK framework.




Imperative infrastructure as code (IaC). Resource...

Serverless Architecture.




The rationale for serverless and the main AWS services that...

Application Architecture.




The evolution of architecture from monolith to...

Messaging.



AWS services that enable decoupling of components - SQS, SNS.

Lecture Recordings.



The complete set of lecture videos.

https://tutors.dev/topic/distrib-systems-ssd-2024-setu-deise/topic03