



Distributed Systems

BSc (H) Software Systems Development – Year 4

BSc (H) Software Systems Practice – Year 4

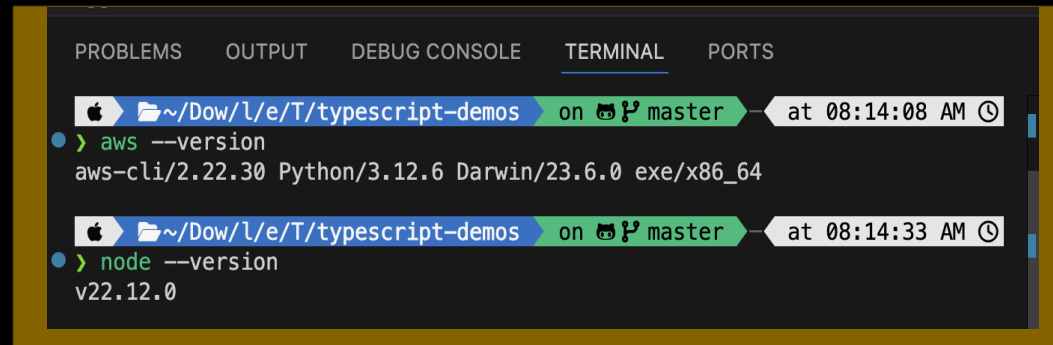
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Overview

- “. . .to comprehend the architecture of a modern, distributed (cloud-based), service-oriented application and acquire 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 (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



The screenshot shows a VS Code terminal window with the following content:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS
```

Terminal session 1 (08:14:08 AM):

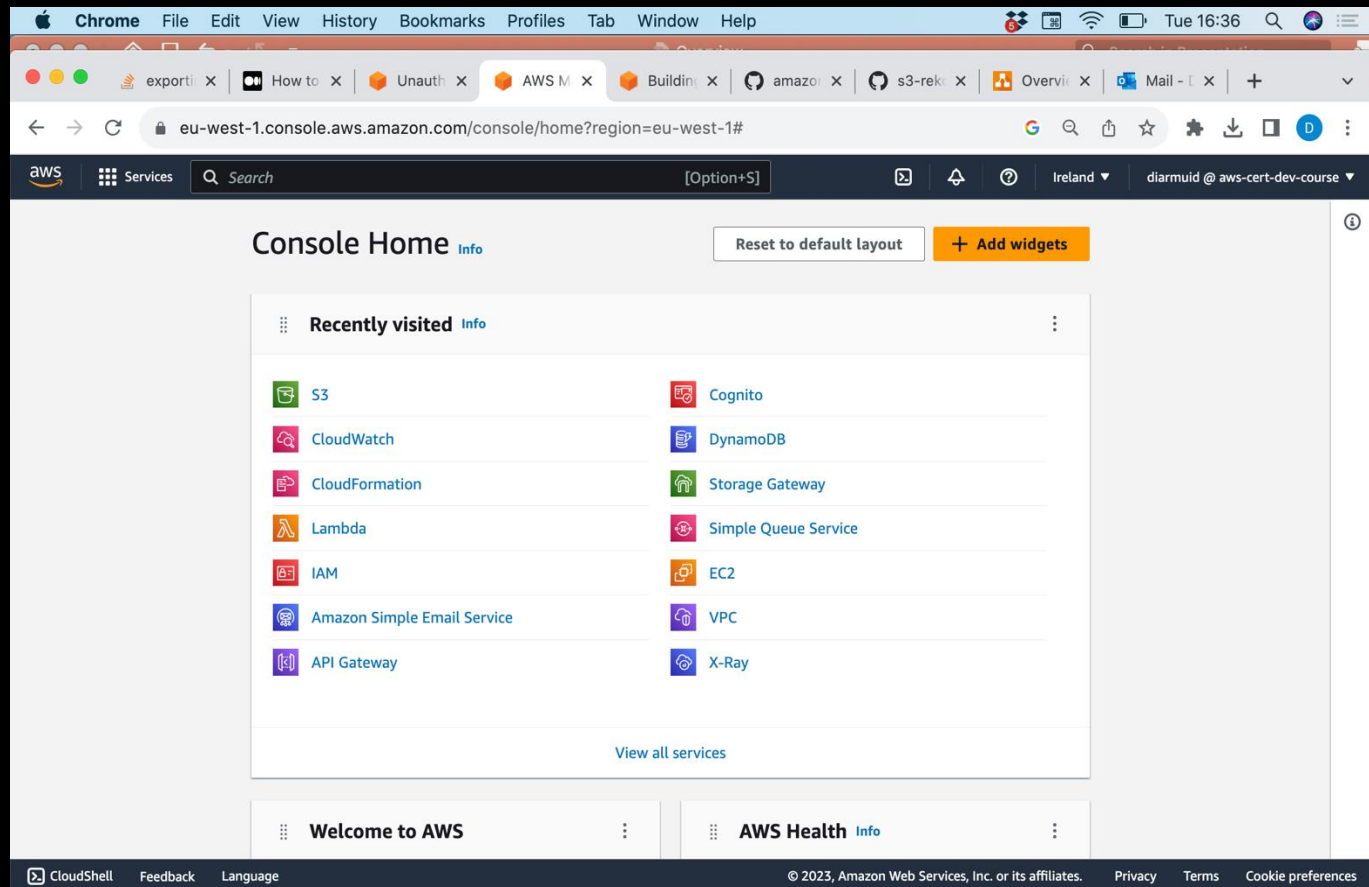
```
~/Dow/l/e/T/typescript-demos on master  
> aws --version  
aws-cli/2.22.30 Python/3.12.6 Darwin/23.6.0 exe/x86_64
```

Terminal session 2 (08:14:33 AM):

```
~/Dow/l/e/T/typescript-demos on master  
> node --version  
v22.12.0
```

Pre-requisites

- The (AWS) Management Console



Student Information

- Contact hours:
 - Two lectures (Online) + Two lab hours.
- Assessment:
 - 100% Continuous Assessment. Breakdown (approx.):
 - Lab work hand-ups (10%)
 - Two assignments (50%)
 - Lab-based exam (Week 13 – 40%)
- Resources:
 - Website - <https://tutors.dev/course/distributed-systems-setu-waterford>
 - Moodle - <https://moodle.wit.ie/course/view.php?id=209056>
 - For assignment submissions only.
 - Self-enrolment – Use Enrolment key = ds2025



Messaging.



A large blue circle containing a white envelope icon, representing messaging.

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

Lecture Recordings.



The complete set of lecture videos.