

Arvid Hallstroem

2960850@student.gla.ac.uk

+44 7377 292857

<https://arvid.engineering>

Education

University of Glasgow

BSc (Hons) Computing Science, Graduating in July 2027

Member of the University Tech Society



Technical Skills

Programming Languages: Java (Primary), Python (Secondary)

Experience with DB products: SQL queries (mySQL)

Linux Dabbler: Experience using Arch & Ubuntu flavors as my personal desktop

Projects

Side-Quests, Interest-based Projects

1 OAuth 2.0 Client Credentials flow demo

<https://auth.arvid.engineering>

Generates session key in JWT (signed) format, payload contains access scopes.

Hosted a JWKS endpoint to host the public key.

Allows users to verify JWT through JWKS.

Sets cross-subdomain cookie so that other services on the same domain can “see” the cookie.

Learnings for this project:

- Running Python on GCP's AppEngine PaaS
- Generating key pairs to sign JWT
- Verifying JWT token using JWKS
- Cross-domain cookies through Python-Flask
- Using Cursor (Claude 3.5/Sonnet) to build the JWT utility functions & the UI

2 Redis Write-through Cache demo

<https://cache.arvid.engineering>

Receives requests to write and read, all while implementing Redis as a write-through cache.

Redis and the MySQL VM is built inside a VPC.

Two users are created, one who can read & write to the DB; and the other who can only read the DB:

Access scopes implemented via login on auth.arvidproject.com. Performing actions on this project requires login into the auth project and permitted actions are scope-based.

Learnings for this project:

- Redis running on the GCP Memorystore
- Running MySQL on an Ubuntu VM
- VPCs, Firewalls
- Basic HAProxy config (as a reverse proxy & jump-server) for developer access to the Redis (as Redis was inside a VPC) on Debian Linux.
- Using Cursor (Claude 3.5/Sonnet) to guide me through configuration of GCP's VPC.

3 News Collector

An application that uses Microsoft Playwright RPA to scrape news headlines off select news websites and to store them in a MySQL DB.

Learnings

for this project:

- Microsoft Playwright RPA, with Python
- Running the Playwright job on Arch Linux