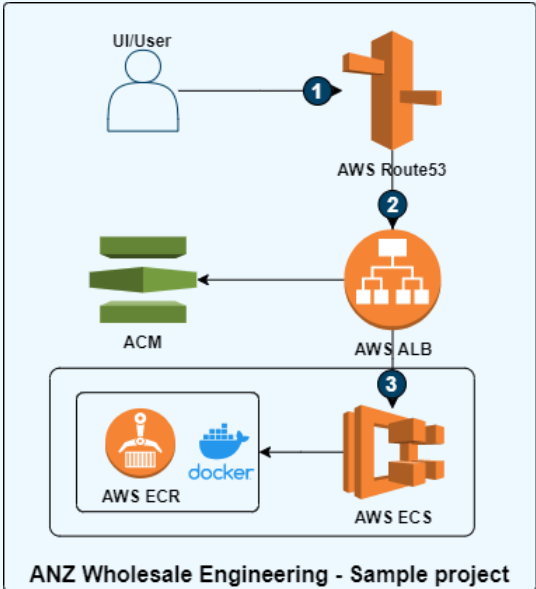# ANZ Wholesale Engineering – Sample Project

Spring boot based REST APIs are created based on provided requirements. The application is deployed into AWS and made available via HTTPs endpoints.

Features are present to obtain paginated and filtered information. H2 in-memory database is used to store demo data that supports the APIs. Method calls are also cached so that multiple calls to database are not made. The APIs are documented using Swagger UI. JPA interface based projections are used to respond with only required attributes.

Actuator endpoints are exposed to determine application health, information and metrics.

- API to fetch accounts that belong to a specific user - **/users/{id}/accounts**
- API to fetch transactions for the provided account - **/accounts/{accountNumber}/transactions**

How to access the application and underlying code

The code of application is checked-in to Github as a public repository, the repository can be accessed by using the following link,
https://github.com/Uttam92477/wholesale

The application endpoints are directly accessible using the following links
- https://anzwholesale.learnerdev.com/users/1/accounts
- https://anzwholesale.learnerdev.com/accounts/a1/transactions

The application can also be started locally. The commands and prerequisite environment details are provided in the application documentation in README.md file

Solution Design

ANZ Wholesale Engineering - Sample project

Flow	Description
1	The API is exposed through Route53 using a custom sub-domain. UI/API user can access the API by making a HTTPs call to the endpoint
2	The Route53 A record routes traffic to an application load balancer. The application load balancer uses certificate provided by ACM to enable HTTPs listener
3	The load balancer sends the traffic to the API hosted as AWS ECS service by means of a target group

Key Features	Description	Technology/ Framework used
HTTPs endpoints	The application is deployed in AWS and HTTPs endpoints are available to be consumed. ACM Certificate is attached to load balancer lister to enable HTTPs.	ACM, AWS ECS, AWS ECR, AWS ALB, Route53
Pagination	Request parameter based page querying is available. Supported queries page, size	Spring boot - Pageable
Filters	Transaction type filter is available for querying transactions. Query param - transactionType	Spring boot
Actuator endpoints	The default health, info and metrics actuator endpoints are enabled and more can be enabled if required	Spring boot actuator
Swagger	Application specification is available both as swagger JSON spec and swagger UI at /swagger-ui and /v2/api-docs	springfox swagger
H2 DB and seeding	Automatic demo database is created at startup and required data is seeded so that demo works as expected	H2 DB, Spring JPA
Cache	The method responses are cached so that we don't query DB frequently	Spring boot – Cacheable