Purpose

In order for the team to turn our findings into business insight, we develop an AWS architecture to understand the various components needed to commercialise our findings for battery optimisation project
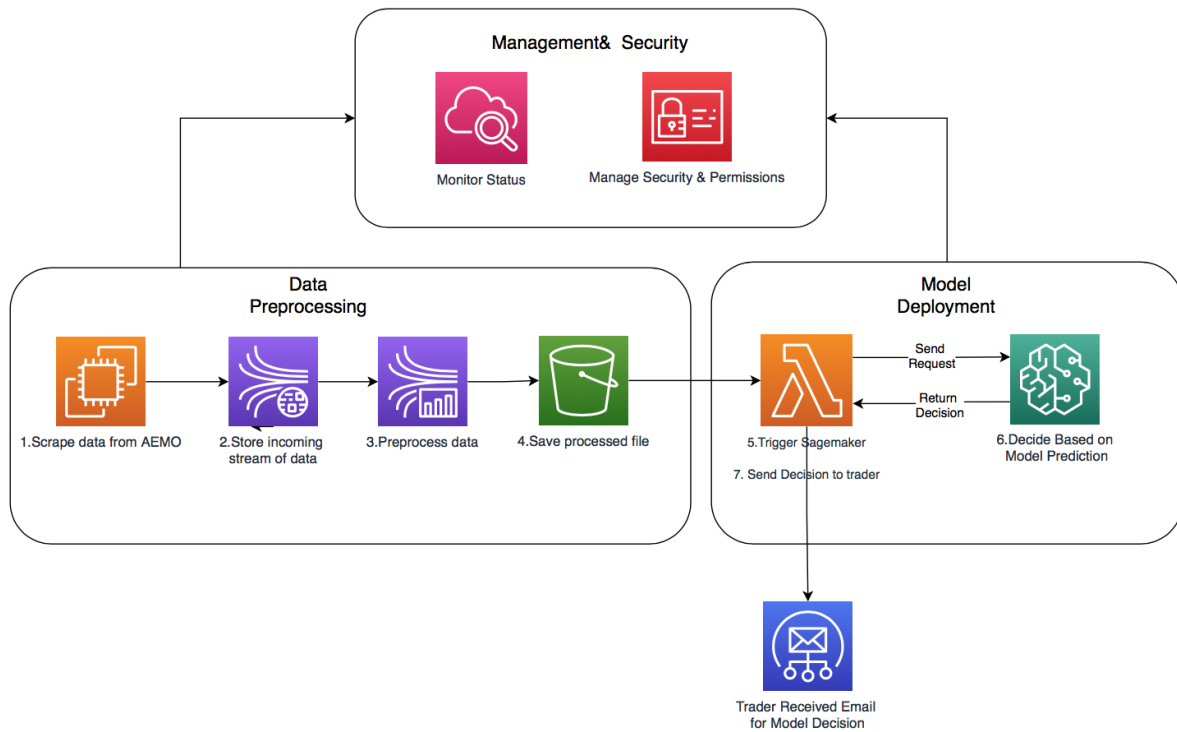
Architecture Diagram

Figure 1 : Battery Project Architecture

Process View

In this part, we will describe how the entire system works for every 30 minutes interval which is then split into three main parts which are Data Preprocessing, Model Deployment and Management & Security.

Data Preprocessing

EC2 : A web scraper that scrapes data from AEMO that are relevant features for the model.

Kinesis : The incoming stream of data is then stored here.

Kinesis Data Analytics : The data is then preprocess here to ensure the datafile is suitable for the model.

S3 : The preprocessed data is then stored here.

Model Deployment

Lambda: Once the preprocessed data is stored in S3, it will trigger Lambda which will then send the features to Sagemaker for model prediction. Once the model decision is sent back, Lambda will then write an email on the model decision to be sent using Amazon SES.

Sagemaker : Sagemaker will make model predictions by taking required input from Lambda and send the model decision back to Lambda.

SES : The email with the model decision will be sent via SES to the trader to make the final decision of the trade.

Management & Security

Cloudwatch : All status from each service is logged here for monitoring purposes.

IAM : Security and Access level are managed here. Ensuring all users have proper access permissions and follow security policies set forth.