**Implement a URL shortening service**

The basic idea is given a long Url it should return a short code for it. Also, if the short code is given, it should return a long URL.

**Technology stack that can be used is:**

Node.Js

Database- here we use Postgres

AWS for deployment --- EC2 instance can be used for deployment and also it can be made autoscalable depending on the load.

**Approach:**

**Part1**

One way to generate a short code for any given url will be using a random code generated for each url, but this will generate a different code each time which will cause a wastage of space. To solve this, we can use hashing which will generate the same input for the same URL. We will use base64 encoding on hash to generate the code and use the first 6 characters .

The code to create hash of a string can be found in file – UrlShortner.js

**Part 2:**

In order to fetch the URL and their short Code later, we will need to save the information in a database.

Database will need two fields:

Code – to save the 6 character hash value

Original Url --- corresponding to the hash value

The code for creating a database can be found in file --- UrlDatabase.js

The code to write the URLs into database can be found in file --- Urls.js

**Part 3:**

Given the short url, we should be able to get the long URL, this can be done using the code – OriginalUrls.js