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**Question 1**

1. Name a (or more) cryptographic algorithm you would use to perform the following
   1. encryption
      * Advanced Encryption Standards (AES)
      * RSA
   2. non repudiation
      * data hashing algorithm combined with public/private key such as MD5, SHA1, SHA256
   3. no tempering
      * data hashing algorithm combined with public/private key such as MD5, SHA1, SHA256
2. Name the following JWT registered claim names (see <https://tools.ietf.org/html/rfc7519#page-9>)
   1. unique JWT identifier
      * jti
   2. cannot be used before a certain date

* nbf
  1. issue date
     + iat
  2. token recipient
     + aud
  3. mobile number
     + in payload and can be any type

**Question 2**

You are developing a hotel reservation application. After your user have successfully booked a hotel, the application can (opt in) update a user’s Google calendar with the stay’s detail and alerts. The application needs to create, update and delete calendar entries.

What are the required steps to allows the reservation system to update the a user’s calendar?

In Google Cloud Platform,

* Create a project
* Enable “API and Services” and select Google Calendar APIs functions.
* Enable Credentials and create an API key.
* Develop the Google Calendar APIs functions using the API key.

**Question 3**

You and a few friends have co-founded a hot social media startup. Like any good social media startups, you will need a new feed. A news feed is a list of post that is constantly updated with stories, activities, polls, etc from your friends. A post content includes the poster, text, images, videos, simple questionnaires, links, locations, etc.

The post will also include likes, the number of people reacted to it.

Two REST endpoints have been designated for users to publish and retrieve their feeds.

Publish a post

POST /api/v1/feed/me

Retrieving a feed

GET /api/v1/feed/me

The endpoints are secured with JWT.

Each user of your social site can have up to a total of 1000 friends/followers. You anticipate 5 million daily active users with about 70% of them posting at least 1 post.

Design a system that will support your REST endpoints along with the given requirements. Be as details a possible with your design.

One service created for each of the service

* GET /api/v1/feed/me
* POST /api/v1/feed/me

For postingChart

Description automatically generated with medium confidence

**Submission**

Copy this Word document to your repository and commit it.

git add .

git commit -m ‘worksheet03’

git push origin master