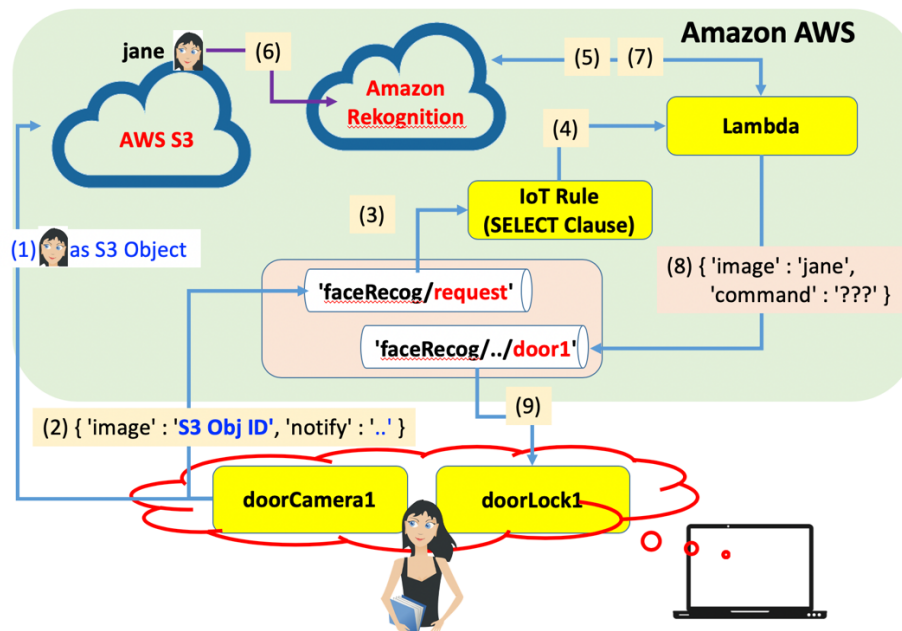


## 2020 Cloud IoT Services

### Homework Assignment #5: Smart Door System with Amazon Rekognition

2020. 05. 11



### Homework Assignment

- Task #1:** Develop a **Face Recognition Service** (SaaS) on the Amazon **Rekognition** Service (PaaS)
  - Image DB:** S3 objects (one facial image as one S3 object). Less than five images.
  - Face Recognition Lambda Service** where the IDs of the S3 objects in the image DB are hard-coded in an JavaScript array. (**Warning: The bill for the AWS Rekognition service can be high if you invoke the service too many times in a loop**)
    - Input Argument (JSON Object): ID of the S3 Object to contain the facial image of the current visitor
    - Action
      - Invoke the Rekognition service to compare the image of the visitor with the images in the DB (for loop)
      - Return the search result
  - Test App**
    - Create a S3 object to contain a visitor image
    - Invoke the Face Recognition Lambda Service

2. **Task #2:** Develop a **Face Recognition Platform** (PaaS) on the Amazon **Rekognition** Service (PaaS). (Why PaaS not SaaS?)
  - **Image DB:** same as in Task #1
  - **Two IoT Applications** on your PC: doorCamera & doorLock in Node.JS
    - **doorCamera.JS:** create a S3 object (visitor image) and publish a recognition request to the Topic: 'faceRecog/request'
    - **doorLock.JS:** subscribe to the Topic: 'faceRecog/notify/door1'
  - **IoT Rule (SQL SELECT Clause)**
    - Subscribe to the Topic 'faceRecog/request'
    - Action: Face Recognition Lambda Service
  - **Face Recognition Lambda Service** (Warning: The bill for the AWS Rekognition service can be high if you invoke the service too many times in a loop)
    - Invoke Amazon Rekognition Service for facial comparison
    - Publish the search result to the Topic ('faceRecog/notify/door1') to be specified in the request

## Report Submission

1. **Deadline:** 2020. 06. 15 (Monday)
2. **Report**
  - Document
    - ① System **Design** Document:
    - ② System **Implementation** Document
    - ③ The **screen snapshots:** Web Console & Node.JS code 실행 화면을 캡처
  - Node.JS code
    - ① Node.JS code: 실제 코드를 보고서에 포함
  - Security Configuration
    - ① Permission JSON Document