# Full guide on how to create the serverless auto check-in system

## Introduction/Concepts

AWS Lambda+Github Webhook+Google Spreadsheet: <a href="https://blog.techbridge.cc/2018/09/14/lambda-and-github-api/">https://blog.techbridge.cc/2018/09/14/lambda-and-github-api/</a>

# Steps/Methods

## Github:

- 1. Repository settings  $\rightarrow$  webhook  $\rightarrow$  add webhook
  - a. Payload url: aws API Gateway deployed stage invoked url + func name (e.g. https://escrfx0jpf.execute-api.ap-east-1.amazonaws.com/dev1/comment-issue)
  - b. Content type: Application/JSON
  - c. Which events would you like to trigger this webhook?
    - i. ✓ Let me select individual events.
      - 1. 

        ✓ "Issue comments"
- 2. Settings → Developer settings → Personal access tokens → Generate new token
  - a. Scopes: repo, user, notifications (should be enough?) or check all options
  - b. Copy the access token and create endpoint by appending the token

(e.g. endpoint ='https://api.github.com/repos/kittychengyuenpui/lambda-check-in-test/issues? access\_token=' + token;)

# Google:

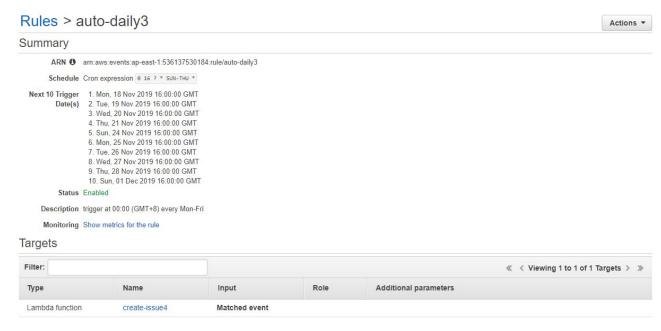
- 1. Create a service account: service-account-creds.json
- 2. Share the spreadsheet with the service account (service-account-kc2019@silent-thunder-258702.iam.gserviceaccount.com)
- 3. Transfer ownership to service account (Optional?)

## Lambda API:

- 1. Create api gateway trigger
- 2. Create method (post)
- 3. Enable CORS
- 4. Deploy api

#### Lambda Function:

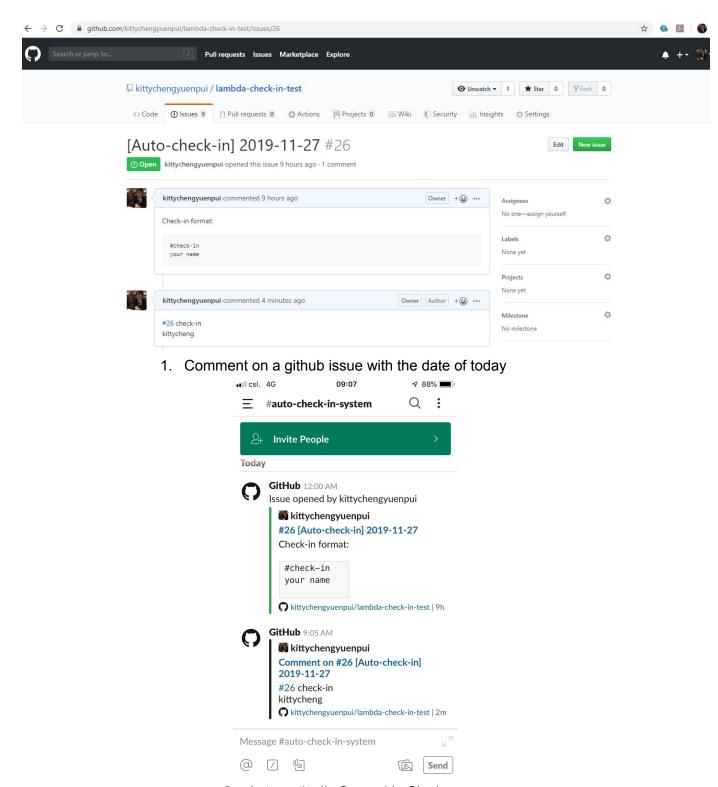
- 1. Create lambda functions in aws (create issue and comment issue)
- 2. Add cloudwatch event to trigger the create issue function while adding api gateway to trigger the comment issue function
  - a. Set the cloudwatch event schedule: Cron (0 16 ? \* SUN-THU \*)



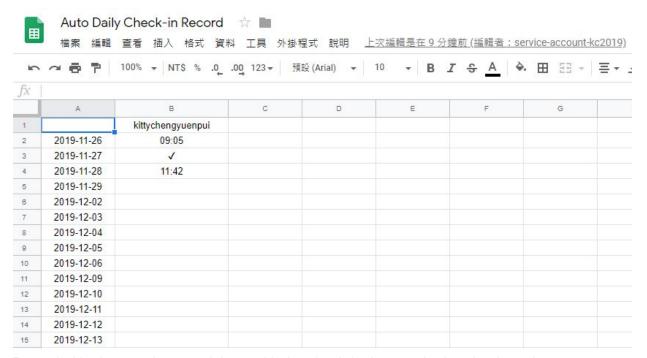
The above cloudwatch event set as triggering the create issue function on every Monday to Friday at 12:00 am (GMT+8)

- Update create issue via inline code while updating comment issue with aws cli, because "If the deployment package of your Lambda function "comment-issue" > 3 MB, it will be too large to enable inline code editing"
  - a. Download aws cli
  - b. aws configure: aws-rootkey-for-aws-cli.csv + default region name: ap-east-1+ default output format: json
- Update commands in aws cli (for comment issue): aws-lambda-update-function-commands.txt
  - a. cd comment-issue
  - b. 7z a -tzip -r ../comment-issue \*
  - c. aws lambda update-function-code --function-name comment-issue --zip-file fileb://comment-issue.zip

### Results



2. Automatically Synced in Slack



3. Recorded in the google spreadsheet with the check-in time marked under the column of your name and on the row of the date of today by service account

#### Resources

Simple Google Spreadsheet Access (node.js):

https://github.com/theoephraim/node-google-spreadsheet

### **Further Implementation**

- 1. If create new google spreadsheet (e.g. once per month), update spreadsheet id in lambda function: comment-issue
- 2. If add a new github user, add the user's username in the first row of the spreadsheet