

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

## Introduction/Concepts

AWS Lambda+Github Webhook+Google Spreadsheet:

<https://blog.techbridge.cc/2018/09/14/lambda-and-github-api/>

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## Steps/Methods

### Github:

1. Repository settings → webhook → add webhook
    - a. Payload url: aws API Gateway deployed stage invoked url + func name (e.g. <https://escrxf0jpf.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;](https://api.github.com/repos/kittychengyuenpui/lambda-check-in-test/issues?access_token=' + token;))
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### 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](mailto:service-account-kc2019@silent-thunder-258702.iam.gserviceaccount.com))
  3. Transfer ownership to service account (Optional?)
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### Lambda API:

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

## Summary

ARN ⓘ `arn:aws:events:ap-east-1:536137530184:rule/auto-daily3`Schedule Cron expression `0 16 ? * SUN-THU *`

Next 10 Trigger Date(s)

1. Mon, 18 Nov 2019 16:00:00 GMT
2. Tue, 19 Nov 2019 16:00:00 GMT
3. Wed, 20 Nov 2019 16:00:00 GMT
4. Thu, 21 Nov 2019 16:00:00 GMT
5. Sun, 24 Nov 2019 16:00:00 GMT
6. Mon, 25 Nov 2019 16:00:00 GMT
7. Tue, 26 Nov 2019 16:00:00 GMT
8. Wed, 27 Nov 2019 16:00:00 GMT
9. Thu, 28 Nov 2019 16:00:00 GMT
10. Sun, 01 Dec 2019 16:00:00 GMT

Status **Enabled**

Description trigger at 00:00 (GMT+8) every Mon-Fri

Monitoring [Show metrics for the rule](#)

## Targets

Filter: <input type="text"/>		« < Viewing 1 to 1 of 1 Targets > »		
Type	Name	Input	Role	Additional parameters
Lambda function	<a href="#">create-issue4</a>	Matched event		

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"
    - Download aws cli
    - 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
    - cd comment-issue
    - 7z a -tzip -r ../comment-issue \*
    - aws lambda update-function-code --function-name comment-issue --zip-file fileb://comment-issue.zip
  - Set Environment variables for sensitive data in Lambda function (e.g. github personal access token → key:token, value: xxx → process.env.token)
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## Results

github.com/kittychengyuenpui/lambda-check-in-test/issues/26

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kittychengyuenpui / lambda-check-in-test

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[Auto-check-in] 2019-11-27 #26

Open kittychengyuenpui opened this issue 9 hours ago · 1 comment

kittychengyuenpui commented 9 hours ago

Check-in format:

```
#check-in  
your name
```

Assignees: No one—assign yourself

Labels: None yet

Projects: None yet

Milestone: No milestone

### 1. Comment on a github issue with the date of today

csf. 4G 09:07 88%

#auto-check-in-system

Invite People

Today

GitHub 12:00 AM  
Issue opened by kittychengyuenpui

kittychengyuenpui  
#26 [Auto-check-in] 2019-11-27  
Check-in format:  
#check-in  
your name  
kittychengyuenpui/lambda-check-in-test | 9h

GitHub 9:05 AM  
kittychengyuenpui  
Comment on #26 [Auto-check-in] 2019-11-27  
#26 check-in  
kittycheng  
kittychengyuenpui/lambda-check-in-test | 2m

Message #auto-check-in-system

@ / U Send

### 2. Automatically Synced in Slack

Auto Daily Check-in Record ☆

檔案 編輯 查看 插入 格式 資料 工具 外掛程式 說明 上次編輯是在 9 分鐘前 (編輯者: service-account-kc2019)

100% NT\$ % .0 .00 123 預設 (Arial) 10 B I S A

	A	B	C	D	E	F	G
1		kittychengyuenpui					
2	2019-11-26	09:05					
3	2019-11-27	✓					
4	2019-11-28	11:42					
5	2019-11-29						
6	2019-12-02						
7	2019-12-03						
8	2019-12-04						
9	2019-12-05						
10	2019-12-06						
11	2019-12-09						
12	2019-12-10						
13	2019-12-11						
14	2019-12-12						
15	2019-12-13						

- 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

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