

Purpose: Planning and maintaining a checklist of things to do is critical as we need to perform personal, professional and leisure activities in our lives. I felt that such a microservice which will help me manage tasks and sync with my calendar(Google Calendar) will be helpful.

Project Overview: Planning Application

Create a microservice, to manage tasks and connect them to Google calendar.

1. Create, view and manage tasks and store them into the user's database.
2. Create events in the user's Google calendar referring to tasks from the database.

Microservices specific to database:

1. Create tasks, view them and mark as done.

Microservices specific to Google Calendar:

1. Retrieve Events from Google Calendar.
2. Create events in Google Calendar.

Technologies used:

Application to use “Google API” using Spring Boot and OAuth2.

1. Spring Boot
2. Rest API
3. Google Calendar API (Maven Dependencies)
4. A Google account with Google Calendar enabled

References: To register a Google App perform the following steps

<https://developers.google.com/calendar/quickstart/java?authuser=1>

<https://console.developers.google.com>

Maven Dependencies:

```
<dependency>

    <groupId>com.google.apis</groupId>
    <artifactId>google-api-services-calendar</artifactId>
    <version>v3-rev224-1.22.0</version>
</dependency>

<!-- Gmail Maven Dependency-->
<dependency>
    <groupId>com.google.apis</groupId>
    <artifactId>google-api-services-gmail</artifactId>
```

```
<version>v1-rev65-1.18.0-rc</version>
</dependency>
```

Create a project in Google developer console <https://console.developers.google.com>
We need to create one having permission to update or edit Events.

Credentials for Google API

The screenshot shows the Google Cloud Platform console interface. The left sidebar contains navigation links: Dashboard, Library, Credentials (selected), OAuth consent screen, Domain verification, and Page usage agreements. The main content area is titled 'Credentials' and includes a '+ CREATE CREDENTIALS' button and a 'DELETE' button. Below this, there is a warning message about consent screens. The 'API Keys' section shows 'No API keys to display'. The 'OAuth 2.0 Client IDs' section displays a table with two entries: 'Web client 1' and 'Desktop client 1', both created on Mar 21, 2020. The 'Service Accounts' section shows 'No service accounts to display'.

Name	Creation date	Restrictions	Key	Usage with all services (last 30 days)
No API keys to display				

Name	Creation date	Type	Client ID
Web client 1	Mar 21, 2020	Web application	763435151653-bvd2...
Desktop client 1	Mar 21, 2020	Desktop	763435151653-bh9c...

Email	Name	Usage with all services (last 30 days)
No service accounts to display		

Download the JSON file and put in our project.

Database Info:

```
mysql> show Databases;
+-----+
| Database |
+-----+
| db_example |
| dev_db |
| event_planner_task_db |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
7 rows in set (0.02 sec)

mysql>
```

Table Info:

```
mysql> DESCRIBE task_info;
```

Field	Type	Null	Key	Default	Extra
task_id	int(11)	NO	PRI	NULL	auto_increment
task_name	varchar(255)	NO		NULL	
task_description	varchar(255)	NO		NULL	
Task_date	date	NO		NULL	
created_at	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
mark_as_done	tinyint(1)	YES		0	

6 rows in set (0.00 sec)

```
mysql> select * from task_info;
```

task_id	task_name	task_description	Task_date	created_at	mark_as_done
1	Outing	Visit Almeden Lake	2020-04-05	2020-03-31 05:34:46	0
2	Laundry	Go for Laundry	2020-04-06	2020-03-31 05:35:45	0
3	Groceries	Go to Safeway	2020-04-07	2020-03-31 05:39:48	0
4	Groceries	Go to India Bazar	2020-04-08	2020-03-31 05:40:22	1
6	Groceries	Go to India Bazar	2020-04-08	2020-03-31 05:50:03	1

5 rows in set (0.00 sec)

Rest APIs:

These results are derived through Postman

1. Print All Task

Url: <http://localhost:8080/printAllTasks>

The screenshot shows a Postman interface with a GET request to `http://localhost:8080/printAllTasks`. The response is a JSON array of 6 tasks. The response status is 200 OK, and the response body is displayed in a pretty-printed JSON format.

```
1 SELECT * from task_info;
2 1, Outing, Visit Almeden Lake, 2020-04-04, false, 2020-03-30 22:34:46.0
3 2, Laundry, Go for Laundry, 2020-04-05, false, 2020-03-30 22:35:45.0
4 3, Groceries, Go to Safeway, 2020-04-06, false, 2020-03-30 22:39:48.0
5 4, Groceries, Go to India Bazar, 2020-04-07, true, 2020-03-30 22:40:22.0
6 6, Groceries, Go to India Bazar, 2020-04-07, true, 2020-03-30 22:50:03.0
7
```

2. Add Task:

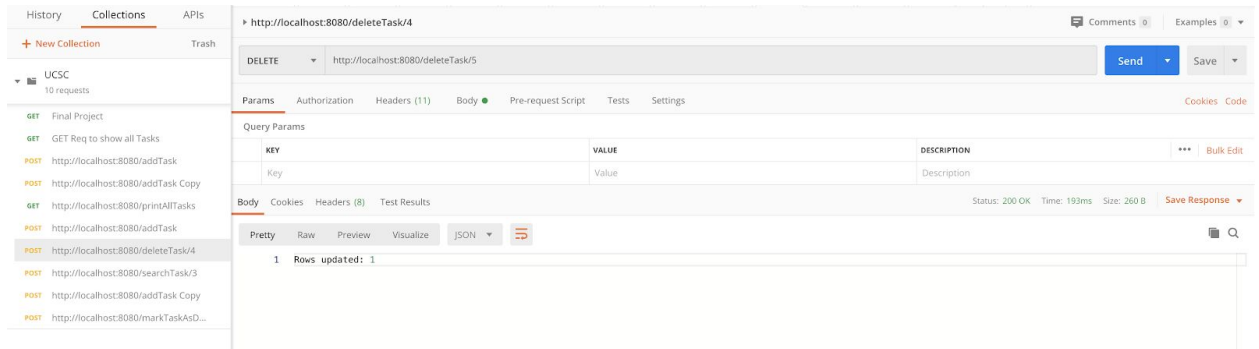
Url: <http://localhost:8080/addTask>

Raw data:

```
{"taskName": "Get Medicines", "taskDescription": "Medicines from Walgreen", "date": "2020-02-28"}
```

3. Delete task with specified id:

Url: <http://localhost:8080/deleteTask/5>



4. Mark Task as Done:

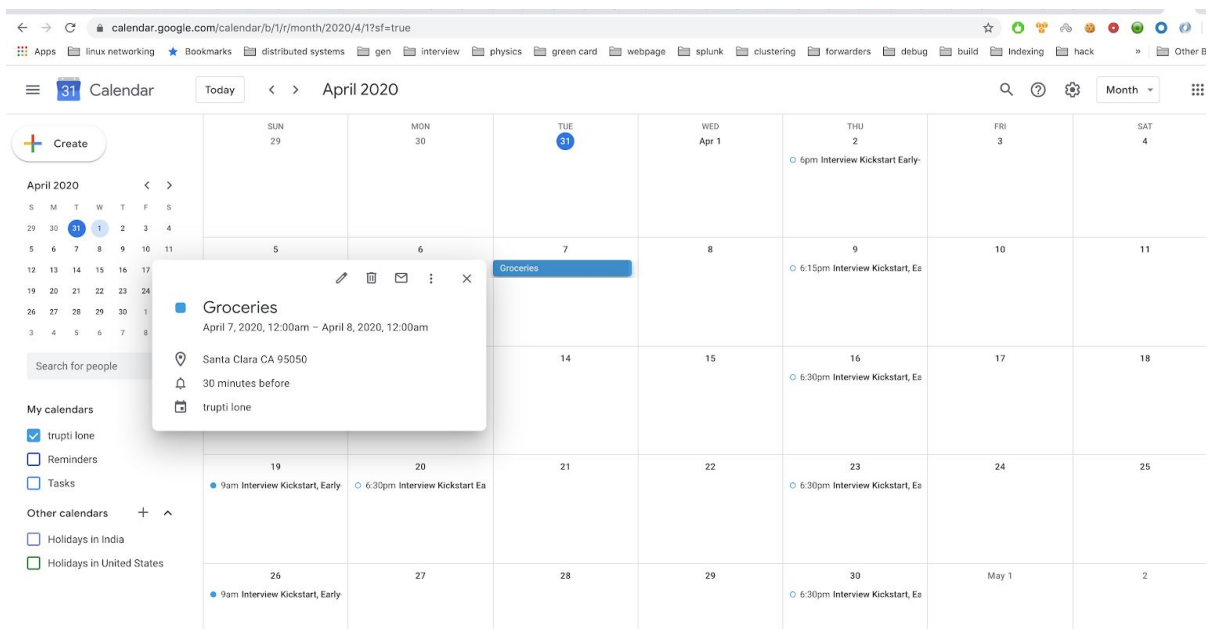
Url: <http://localhost:8080/markTaskAsDone/3>

5. Search Task:

Url: <http://localhost:8080/searchTask/2>

6. Create Event in Google Calendar:

Url: <http://localhost:8080/createCalendarEvent/3>



HistoryCollectionsAPIs

+ New Collection

Trash

UCSC

10 requests

GETFinal Project

GETGET Req to show all Tasks

POSThttp://localhost:8080/addTask

POSThttp://localhost:8080/addTask Copy

GEThttp://localhost:8080/printAllTasks

POSThttp://localhost:8080/addTask

POSThttp://localhost:8080/deleteTask/4

POSThttp://localhost:8080/searchTask/3

POSThttp://localhost:8080/addTask Copy

POSThttp://localhost:8080/markTaskAsD...

GET Req to show all Tasks

Comments 0Examples 0

GET

http://localhost:8080/printAllTasks

SendSave

ParamsAuthorizationHeaders (7)BodyPre-request ScriptTestsSettings

noneform-datax-www-form-urlencodedrawbinaryGraphQL

This request does not have a body

BodyCookiesHeaders (8)Test ResultsStatus: 200 OKTime: 291msSize: 636 BSave Response

PrettyRawPreviewVisualizeText

1SELECT * from task_info:

21, Outing, Visit Alweden Lake, 2020-04-04, false, 2020-03-30 22:34:46.0

32, Laundry, Go for Laundry, 2020-04-05, false, 2020-03-30 22:35:45.0

43, Groceries, Go to Safeway, 2020-04-06, false, 2020-03-30 22:39:48.0

54, Groceries, Go to India Bazar, 2020-04-07, true, 2020-03-30 22:40:22.0

66, Groceries, Go to India Bazar, 2020-04-07, true, 2020-03-30 22:50:03.0

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