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| --- |
| Project Plan |
|  |

Date: 25/06/2018

Version number: 0.1

Prepared By: Glenn Bathan

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# Change History

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Description | Author |
| 0.1 | 25/06/2018 | First Draft | Glenn Bathan |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

# Related Documents

|  |  |
| --- | --- |
| Name | Description and Location |
|  |  |

# Glossary

# Requirements

1. We need to calculate calendar schedules for project plans
2. Each project plan consists of tasks. Every task has a certain duration.
3. A task can depend on zero or more other tasks. If a task depends on some other tasks, it can only be started after these tasks are completed
4. So, for a set of tasks (with durations and dependencies), the solution for the challenge should generate a schedule, i.e. assign Start and End Dates for every task

# Exclusions

# Notes

# Introduction

This will be my project proposal for Project Plan.

The technologies used are:

* Spring boot
* Rest API
* Hibernate
* Oracle database

# Project Table

|  |  |  |
| --- | --- | --- |
| Column name | Type | Notes |
| ID | NUMBER | Generated ID |
| NAME | VARCHAR2(50 BYTE) | Project Name |
| DESCRIPTION | VARCHAR2(100 BYTE) | Project short description |

# Project Task Table

|  |  |  |
| --- | --- | --- |
| Column name | Type | Notes |
| ID | NUMBER | Task id |
| NAME | VARCHAR2(50 BYTE) | Task name |
| DESCRIPTION | VARCHAR2(100 BYTE) | Description |
| PROJECT\_ID | NUMBER | Project id that the task is under |
| PARENT\_PROJECT\_TASK\_ID | NUMBER | Parent task |
| STATUS | VARCHAR2(25 BYTE) | active, complete |
| START\_DATE | DATE | Start date |
| END\_DATE | DATE | End date |
| DURATION\_HOURS | NUMBER | Duration in hours |
| DEPENDS | VARCHAR2(1 BYTE) | Flag that identifies the dependency of a task to its children tasks |

# Project Create api

|  |
| --- |
| POST – https://<server>/project/create |
| {  "project": {  "projectName": "sample project",  "description": "sample description"  }  }  Response:   * Id of the created project |

# Project Update api

|  |
| --- |
| POST – https://<server>/project/update |
| {  "project": {  "id": "1",  "projectName": "sample project",  "description": "sample description"  }  }  Response:   * “Success” |

# Project Delete api

|  |
| --- |
| DELETE – https://<server>/project/delete/{id} |
| Response:   * “Success” |

# Project Get All

|  |
| --- |
| GET – https://<server>/project/all |
| Response:  [  {  "project": {  "description": "sample description",  "id": 1,  "projectName": "sample project"  },  "tasks": [  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 4,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 5,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": 4,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 6,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": 6,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 7,  "projectId": 1,  "status": "active"  }}  ]  },  {  "project": {  "description": "sample description",  "id": 2,  "projectName": "sample project"  },  "tasks": [  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 2,  "projectId": 2,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 3,  "projectId": 2,  "status": "active"  }}  ]  }  ] |

# Task Create api

|  |
| --- |
| Example request to Passwords Service upon successful creation of user |
| POST – https://<server>/task/create  {  "task": {  "taskName": "child task",  "desc": "desc",  "durationHours": "24",  "start": "2018-06-24T12:08:56",  "end": "2018-06-24T12:08:56",  "parentTaskId": "2",  "projectId": "1",  "status": "active",  "childDepends": "true"  }  }Response:   * Id of the created task |

# Task Update api

|  |
| --- |
| PUT – https://<server>/project/update |
| {  "task": {  "id": "3",  "taskName": "child task",  "desc": "desc",  "parentTaskId": "2",  "projectId": "1",  "childDepends": "true"  }  }  Response:   * “Success” |

# Task Update Status api

* Tasks that are dependent to its child tasks for it to be completed is validated in this API

|  |
| --- |
|  |
| PUT – https://<server>/project/update  {  "task": {  "id": "2",  "durationHours": "24",  "start": "2018-06-24T12:08:56",  "end": "2018-06-24T12:08:56",  "status": "complete"  }  }  Response:   * “Success” |

# Task Delete api

|  |
| --- |
| DELETE – https://<server>/task/delete/{id} |
| Response:   * “Success” |

# Task Get All

|  |
| --- |
| GET – https://<server>/task/all |
| [  {"task": {  "durationHours": 24,  "children": [{"task": {  "durationHours": 24,  "children": [{"task": {  "durationHours": 24,  "parentTaskId": 6,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 7,  "projectId": 1,  "status": "active"  }}],  "parentTaskId": 4,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 6,  "projectId": 1,  "status": "active"  }}],  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 4,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 2,  "projectId": 2,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 3,  "projectId": 2,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": null,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "task name",  "id": 5,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "children": [{"task": {  "durationHours": 24,  "parentTaskId": 6,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 7,  "projectId": 1,  "status": "active"  }}],  "parentTaskId": 4,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 6,  "projectId": 1,  "status": "active"  }},  {"task": {  "durationHours": 24,  "parentTaskId": 6,  "start": "2018-06-24T04:08:56.000+0000",  "description": "desc",  "end": "2018-06-24T04:08:56.000+0000",  "taskName": "child task",  "id": 7,  "projectId": 1,  "status": "active"  }}   * ] |

# Database Setup

CREATE TABLE "PROJECT"

( "ID" NUMBER NOT NULL ENABLE,

"NAME" VARCHAR2(50 BYTE) NOT NULL ENABLE,

"DESCRIPTION" VARCHAR2(100 BYTE)

)

CREATE TABLE "ENTERPRISE"."PROJECT\_TASK"

( "ID" NUMBER NOT NULL ENABLE,

"NAME" VARCHAR2(50 BYTE) NOT NULL ENABLE,

"DESCRIPTION" VARCHAR2(100 BYTE),

"PROJECT\_ID" NUMBER,

"PARENT\_PROJECT\_TASK\_ID" NUMBER,

"STATUS" VARCHAR2(25 BYTE),

"START\_DATE" DATE,

"END\_DATE" DATE,

"DURATION\_HOURS" NUMBER,

"DEPENDS" VARCHAR2(1 BYTE)

)

CREATE SEQUENCE "PROJECT\_ID" MINVALUE 1 MAXVALUE 9999999999999999999999999999 INCREMENT BY 1 START WITH 21 CACHE 20 NOORDER NOCYCLE ;

CREATE SEQUENCE "PROJECT\_TASK\_ID" MINVALUE 1 MAXVALUE 9999999999999999999999999999 INCREMENT BY 1 START WITH 21 CACHE 20 NOORDER NOCYCLE ;