



## CMPS356 Project Phase 1 – Web UI Design and Web API Implementation (15% of the course grade).

Group Id:	G1
<b>Group Members:</b>	Muhamad Irfan Fauzan(201609690)
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Grading Rubric - In the Functionality column please specify either: Working (completed x%), Not Working (completed x%) or Not done.

Criteria	%	Functionality*	Quality of the implementation	Score
<ul> <li>1) Application Design:</li> <li>3 Class Diagrams for Entities,</li> <li>Repositories and Services [5 pts each].</li> <li>Discussion of design rationale of 5 key design decisions [5 pts]</li> </ul>	20		- Good quality class diagrams with few issues highlighted in the comments.	19
2) Create test data JSON file for each of the entities.	5		Excellent work	5
3) [30%] Design and implement the Web UI using HTML and CSS for:				28
Main menu design	4		Excellent	4
⊖ Login	4		Excellent	4
Register Customer	5		Good, no need for cancel button	5
Get Jobs	20		Good, but job details is not attribute. Also, the available buttons should be based on the job status.	19
Add Job			Good work	10
Update Job	10			
Cancel Job	1		Good	1
Add Invoice	8		Ok but could be better. See model solution.	7

View Invoice	6	Poorly done. This is not really an invoice! See the provided model solution.	4
Pay Invoice	5	It is better to display bit of details about the job and its invoice. See model solution.	4
Mill Calendar	4	Good	4
Add Job Note	5	Poor design	4
Get Job Notes	5	Poor design	4
Get Products (i.e., Products Catalog use case)	8	Excellent	8
Add / Update Product	7	Excellent	7
Jobs Summary Report	8	Excellent	8
			38
0%] Implement the repositories and e services (i.e., Web API) using waScript for:			
e services (i.e., Web API) using	5	Using post for login is better to avoid revealing the password in the Url. Also, the returned user object should NOT have a password.	4
e services (i.e., Web API) using vaScript for:	5	avoid revealing the password in the Url. Also, the returned user object should NOT have a	4
e services (i.e., Web API) using vaScript for:  Login		avoid revealing the password in the Url. Also, the returned user object should NOT have a password.	
e services (i.e., Web API) using vaScript for:  Login  Add Customer	6	avoid revealing the password in the Url. Also, the returned user object should NOT have a password. Excellent	6
e services (i.e., Web API) using vaScript for:  Login  Add Customer  Get Jobs	6 10	avoid revealing the password in the Url. Also, the returned user object should NOT have a password. Excellent Good work	6
e services (i.e., Web API) using vaScript for:  Login  Add Customer  Get Jobs  Add Job	6 10 6	avoid revealing the password in the Url. Also, the returned user object should NOT have a password.  Excellent  Good work  Excellent	6 10 6 5
e services (i.e., Web API) using vaScript for:  Login  Add Customer  Get Jobs  Add Job  Update Job	6 10 6 5	avoid revealing the password in the Url. Also, the returned user object should NOT have a password.  Excellent  Good work  Excellent  Excellent  Excellent  Better to use delete method	6 10 6 5
e services (i.e., Web API) using vaScript for:  Login  Add Customer  Get Jobs  Add Job  Update Job  Cancel Job	6 10 6 5	avoid revealing the password in the Url. Also, the returned user object should NOT have a password.  Excellent  Good work  Excellent  Excellent  Better to use delete method with url /api/jobs/:id	6 10 6 5
e services (i.e., Web API) using vaScript for:  Login  Add Customer  Get Jobs  Add Job  Update Job  Cancel Job  Add Invoice	6 10 6 5 5	avoid revealing the password in the Url. Also, the returned user object should NOT have a password.  Excellent  Good work  Excellent  Excellent  Better to use delete method with url /api/jobs/:id  Excellent	6 10 6 5 4

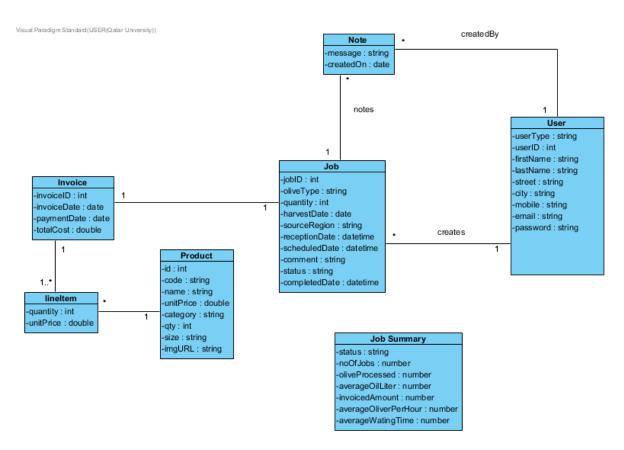
Get Jobs for Mill Calendar	8	Good work	8
Add Job Note	5	When adding a note, you should specify createdBy	4
Get Job Notes	5	Should return an array of notes	4
Get Products (i.e., Products Catalog use case)	8	Excellent	8
Add Product	6	Excellent	6
Update Product	5	Excellent	5
<b>5) Testing documentation</b> using screen shots illustrating the testing of Web UI and Web API.	5	Excellent	5
- Discussion of the project contribution of each team member [-10pts if not done]			
Total	100	Excellent work Ali El-Jaam made no project contribution (assigned grade = 0)	95
Copying and/or plagiarism or not being able to explain or answer questions about the implementation	- 100%		

<sup>\*</sup> Possible grading for functionality: *Complete and Working* (get 70% of the assigned grade), *Complete and Not working* (lose 40% of assigned grade) and *Not done* get 0. The remaining grade is assigned to the quality of the implementation. In case your implementation is not working then 40% of the grade will be lost and the remaining 60% will be determined based on of the code quality and how close your solution to the working implementation. Quality correct application of MVC, includes meaningful naming of identifiers, no redundant code, simple and efficient design, clean code without unnecessary files/code, use of comments where necessary, proper white space and indentation. Marks will be reduced for code duplication, poor/inefficient coding practices, poor naming of identifiers and unnecessary complex/poor user interface design.

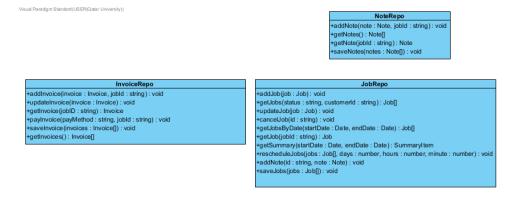
## 1. Design Documentation

## 1.1. Class Diagrams: Entities, Repositories and Services

**Entities Class Diagram** 



#### Repositories Class Diagram



UserRepo
+login(email : string password: string) : User
+addUser(user : User) : void
+getUser(i : string) : User
+getUsers() : User[]
+saveUsers(users : User[]) : void

ProductRepo
+addProduct(product: Product): void
+updateProduct(product: Product): void
+getProduct(id: string): Product
+getProducts(category: string): Product[]
+saveProducts(products: Product[]): void

#### Services

Visual Paradigm Standard (USER (Qatar University))

#### NoteService

+addNote(req, res): Note +getNote(req, res): Note

#### JobService

+addJob(req, res): Job +updateJob(req, res): void +cancelJob(id: string): void +getJobs(req, res): Job[] +getJob(req, res): Job

#### InvoiceService

+addInvoice(req, res): Invoice
+updateInvoice(req, res): string
+getInvoice(req, res): Invoice
+payInvoice(req, res): string
+getInvoices(req, res): Invoice[]

#### ProductService

+addProduct(req, res): Product +updateProduct(req, res): string +getProducts(req, res): Product[] +getProduct(req, res): Product

#### UserService

+login(req, res): User +addUser(req, res): User +getUser(req, res): User +getUsers(req, res): User[]

#### Services Table

JobService			
Verb	Url	Function	
get	/api/jobs	getJobs	
post	/api/jobs	addJob	
get	/api/jobs/:id	getJob	
put	/api/jobs/:id	updateJob	
get	/api/jobs/:id/cancel	cancelJob	

NoteService			
Verb	Url	Function	
get	/api/jobs/:id/notes	getNote	
post	/api/jobs/:id/notes	addNote	

InvoiceService			
Verb	Url	Function	
get	/api/jobs/:id/invoice	getInvoice	
post	/api/jobs/:id/invoice	addInvoice	
get	/api/jobs/:id/invoice	updateInvoice	

get	/api/jobs/:id/invoice/:payment	payInvoice
get	/api/invoices	getInvoices

UserService			
Verb	Url	Function	
get	/api/users	getUsers	
post	/api/users	addUser	
get	/api/login	login	
get	/api/users/:id	getUser	

ProductService			
Verb	Url	Function	
get	/api/products	getInvoices	
post	/api/products	addInvoice	
get	/api/products/:id	getInvoice	
put	/api/products/:id	updateInvoice	

## 1.2. Discussion of design rationale of 5 key design decisions

- 1.2.1.Our team has decided that for use cases that involves the use of forms, we will reusing the same web UI design for both the Add (Data) and Update (Data). We decided this to save ourselves development time from implementing similar HTML pages with minor changes and instead be manipulating the base pages later on with JavaScript depending on which use case will be selected by the user. Using JavaScript we will be changing the title of the form to match the use case being used and for the update use cases we will bill filling in the fields by default depending on what object the user chooses to update. We feel this will bring a level of consistency that the user might appreciate due to being familiar with the designs.
- 1.2.2. For the design of our UI, we have decided on a universal approach with some elements being shared across all html pages with the exception of the login. We have decided to keep the same Header and Navbar across all pages with the exception of the login page. We believe these elements are crucial for all the webpages and further emphasise our importance of consistency between pages in order to make our website more user-friendly. Our plan is to simply have a base page (the index) and will replace the body of this page with contents of our pages. These will be triggered through pressing the links on the navbar.
- 1.2.3. In order to make our website more appealing, we have decided to use some open-resources from the internet when we wish to implement a more complex design for one of our elements within a page. For example, we used a button generator from a website to get our

desired look for a button. Like the first point, this will mainly serve to save ourselves the development time in trying to reach the appropriate look we strive to achieve. However, it is important to note that we have also strictly limited our use of these resources in order for the design to better reflect our html and css skills. Our goal is to only use these resources in order to achieve a desired design while keeping the structure of our page to be dependent on our skills.

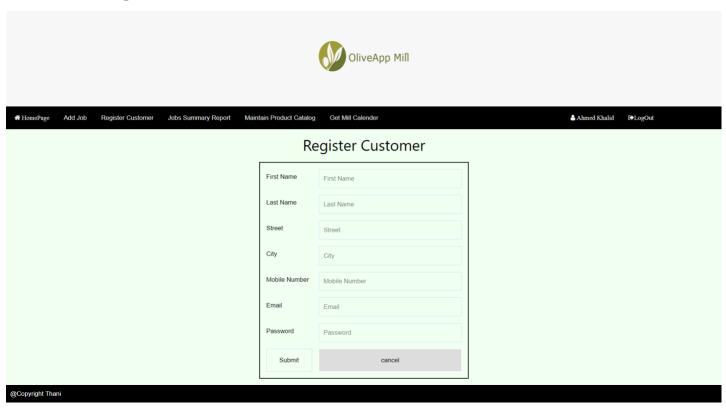
- 1.2.4. We have noticed that a lot of the use cases are dependent on the jobs. Each Invoice and Note and linked to only one job and unrelated to other jobs. This observation lead to how we determined the URLs of the webAPI. In order to get an Invoice or Note, you have to go through the URL to access the related job first. We believe this is the appropriate measure to take in order to increase clarity as when you want to get an invoice or a note, you want to get them for a specific job. Other data which are less dependent on other data such as user have a unique URL that does not go through the URL of another data.
- 1.2.5. In our implementation of the webAPI, we have decided not to implement any services that will utilize DELETE. We have come to this conclusion after reading through the requirements and none of them requires any data to be deleted. The closest thing in our webAPI to deleting is the Cancel Job Use Case. In this case, we are simply changing the status of the job rather then removing that job entirely from our file. This will allow us to filter just the cancelled jobs and view all the jobs that were cancelled.
- 1.2.6. While designing some of the repositories, we noticed that some repositories are required for some functions of another repository. The Invoice Repo in particular uses the JobRepo in order for a jobs status to be changed when dealing with the payment of an invoice. However, this could simply be due to the nature of working with files instead of a database and may change our implementation after implementing mongoDB for our work.

# 2. User Interface Testing

## 2.1. Login

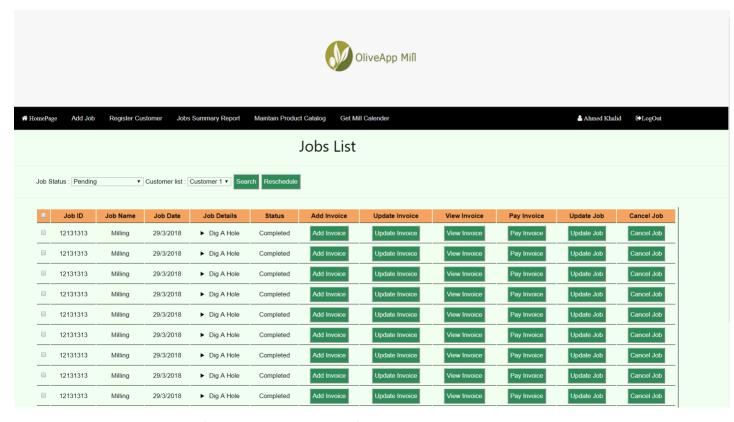


## **2.2.** Register Customer:



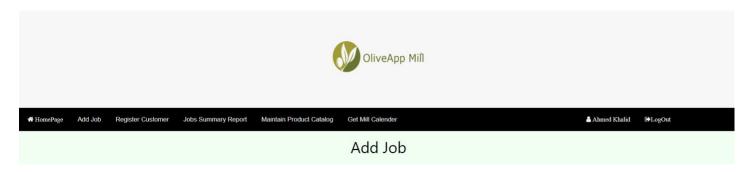
8

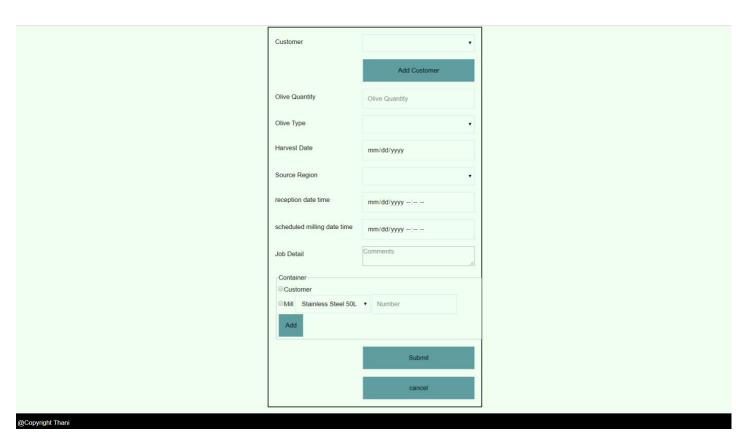
## 2.3. Get Jobs: Home page has the list of jobs



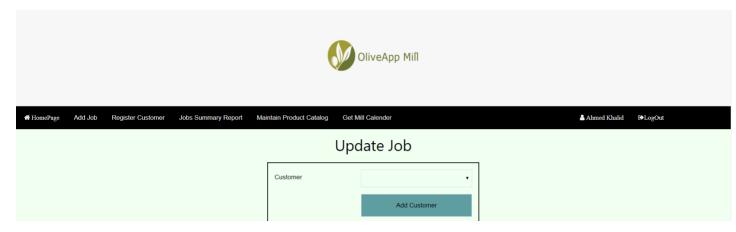
Note: Check Boxes only appear for Pending Jobs to allow for rescheduling

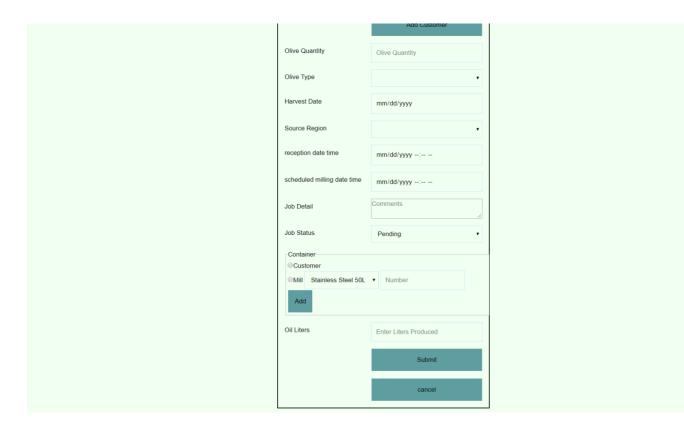
### 2.4. Add Job



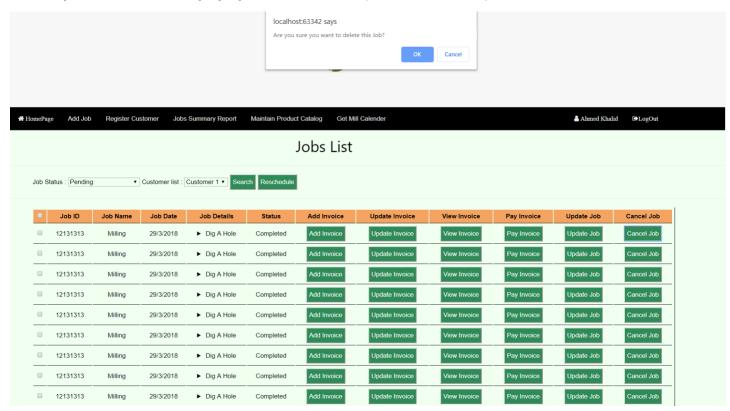


2.5. Update Job: Same template as add job expect when using javascript it will be populated with data, and it is not available in the folder given since it will be created with javascript folder for next stage.

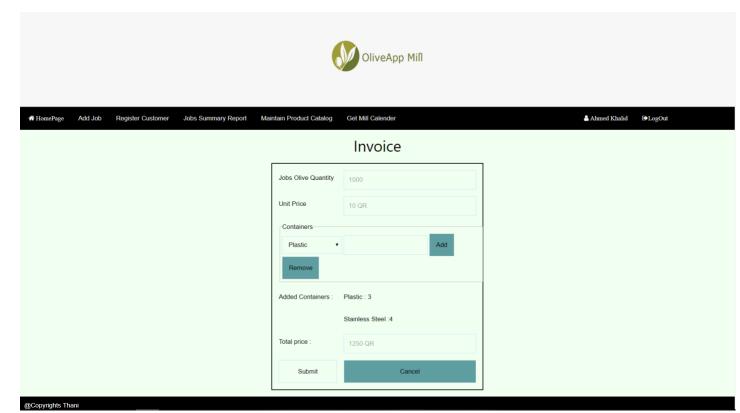




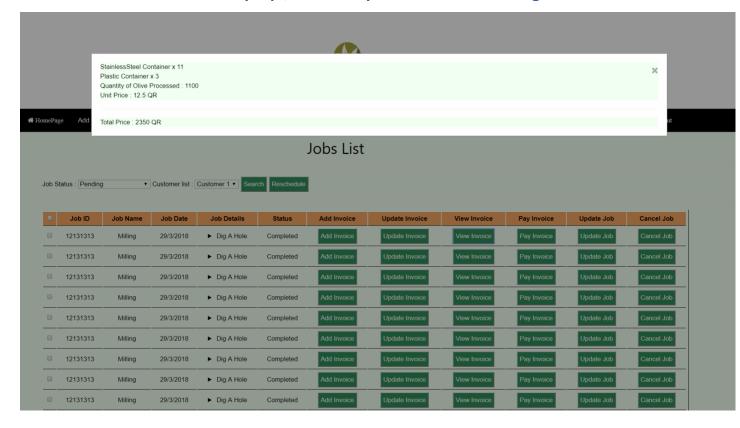
2.6. Cancel Job: Doesn't have a page since it will be simple button on the table of home page Which will prompt(alert) if your sure you want to delete it. In second phase it will be a popup small window (more colourful).



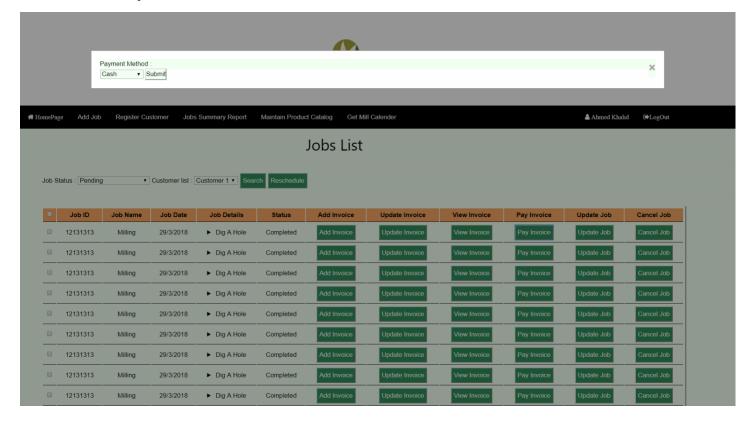
# 2.7. Add Invoice



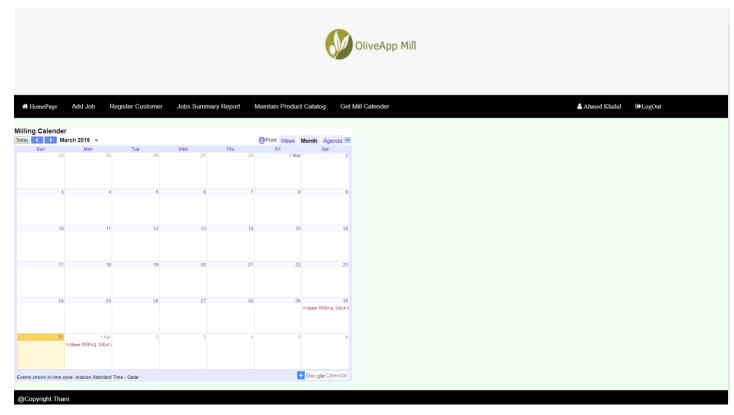
- 2.8. Update Invoice: Same as page above.
- 2.9. View Invoice: Pop-up, click on update invoice to change.



## 2.10. Pay Invoice:



2.11. Mill Calendar: Fail safe added as <a> link after using javascript (phase 2) other methods will ensure calender get loaded.

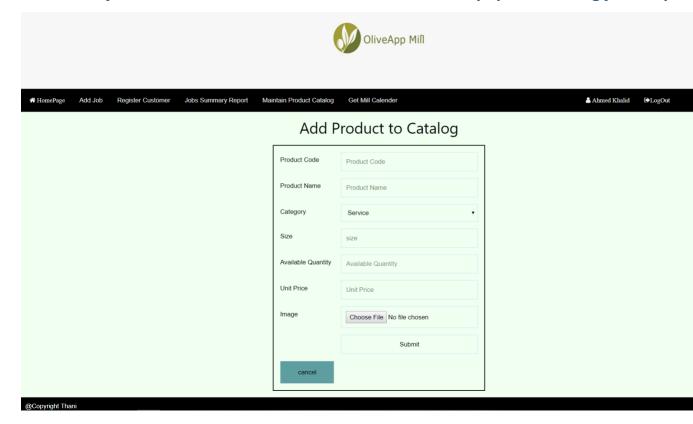


- 2.12. Add Job Note: Available as <detail> on Home page. Check Job Detail Column
- 2.13. Get Job Notes: Available as <detail> on Home page. Check Job Detail Column
- **2.14.** Get Products (i.e., Products Catalog use case):





2.15. Add / Update Product: update product is the same expect javascript would be used to adjust which fields would be available and will be populated using javascript.



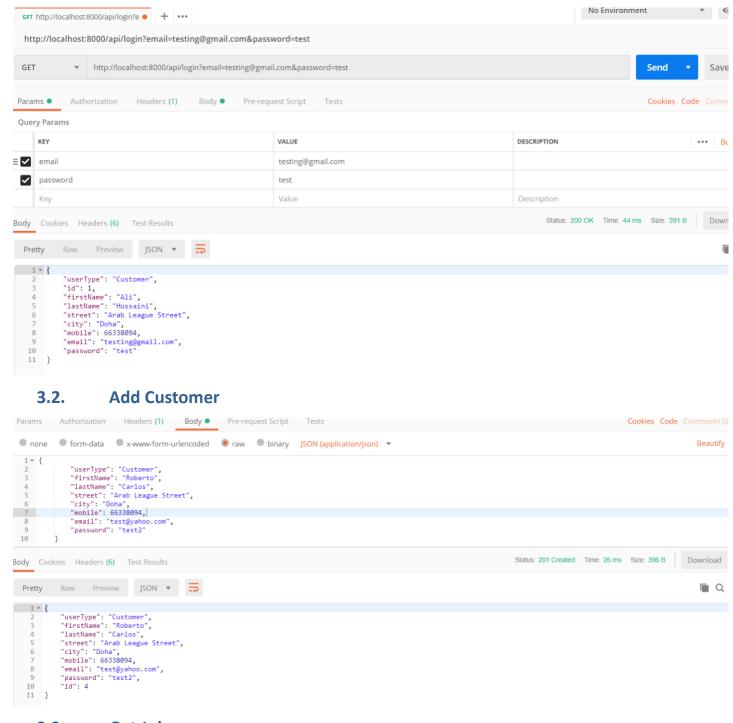
# 2.16. Jobs Summary Report





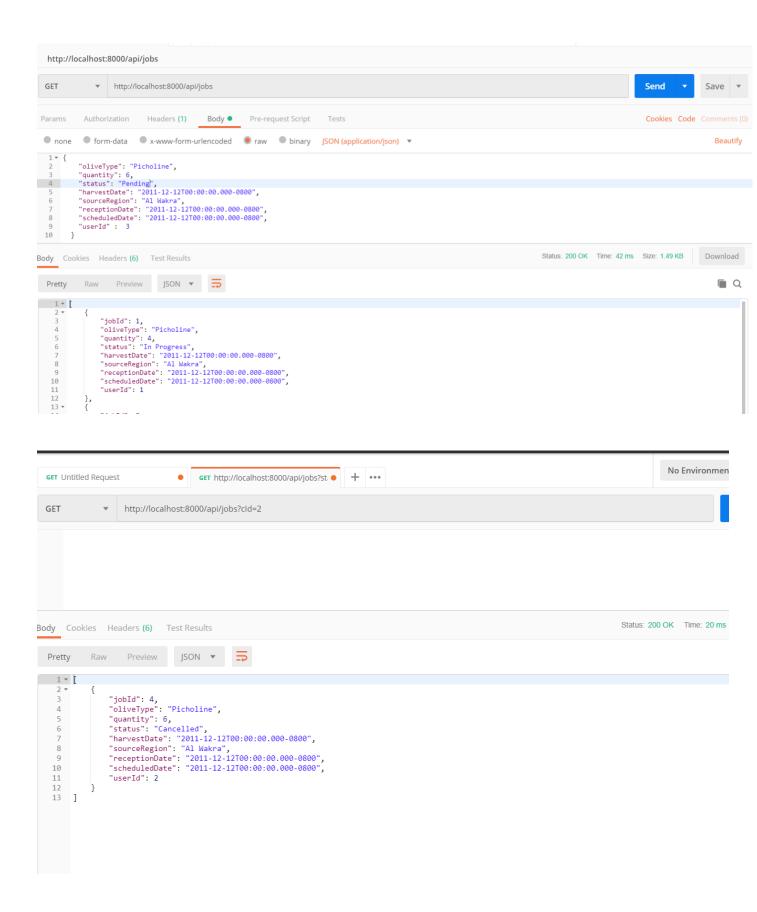
### 3. Web API Testing

## 3.1. Login



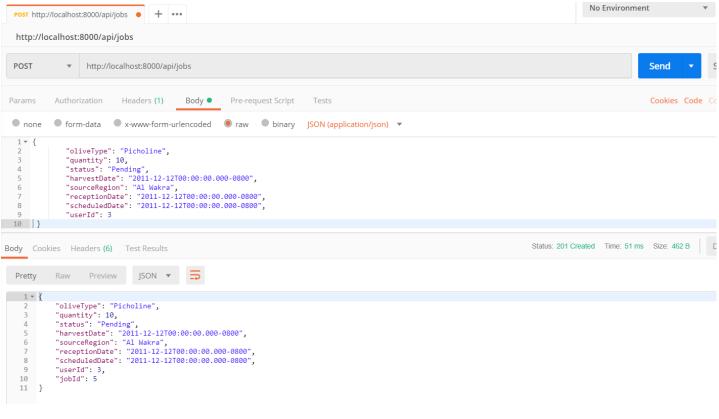
#### 3.3. Get Jobs

Note: Temporarily added just the userId as a property of job. After we implement this using database, it will have a reference to the user from the Users database

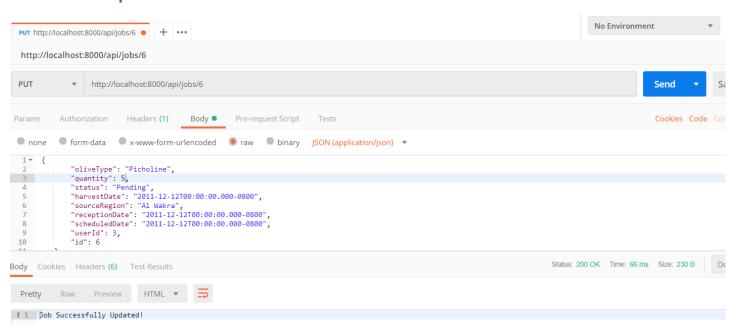


```
GET
                           http://localhost:8000/api/jobs?status=Pending
Body Cookies Headers (6)
                                       Test Results
                                             JSON ▼
   Pretty
                            Preview
    1 - [
      2 🔻
                      "jobId": 1,
"oliveType": "Picholine",
      3
      4
                     oilvelype: Picholine,
"quantity": 4,
"status": "Pending",
"harvestDate": "2011-12-12T00:00:00.000-0800",
"sourceRegion": "Al Wakra",
"receptionDate": "2011-12-12T00:00:00.000-0800",
"scheduledDate": "2011-12-12T00:00:00.000-0800",
      5
      8
      9
    10
                      "userId": 1
    11
    12
    13
   GET Untitled Request
                                                   ● GET http://localhost:8000/api/jobs?st ● + ・・・
                               http://localhost:8000/api/jobs?status=cancelled&cld=3
  GET
                                                    ISON
                   Raw
                                Preview
   Pretty
      2 =
      3
                          "oliveType": "Picholine",
                          "quantity": 10,
      4
                         "status": "Cancelled",
"harvestDate": "2011-12-12T00:00:00.000-0800",
"sourceRegion": "Al Wakra",
"receptionDate": "2011-12-12T00:00:00.000-0800",
      5
      6
      7
      8
                          "scheduledDate": "2011-12-12T00:00:00.000-0800",
      9
     10
                          "userId": 3,
     11
                          "jobId": 5
     12
     13
```

### 3.4. Add Job

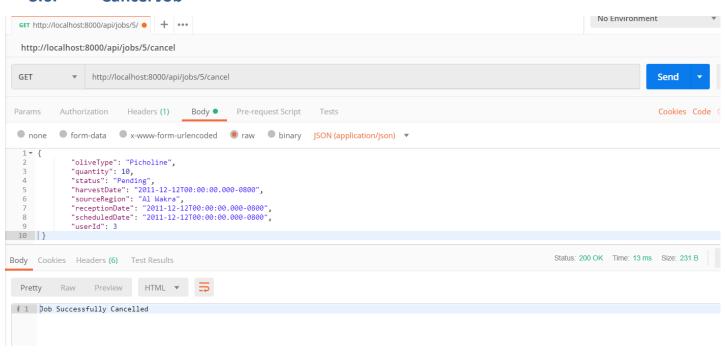


## 3.5. Update Job



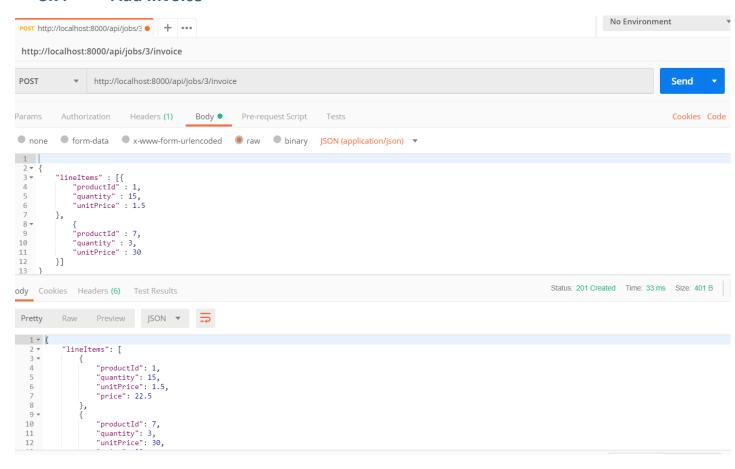
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· • •
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No Environment
GET http://localhost:8000/api/jobs • + •••
                                          ▼ http://localhost:8000/api/jobs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Save
                                Raw Preview JSON ▼ ■
Pretty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ■ Q
   25 × 26 × 27 × 28 × 29 × 30 × 31 × 32 × 33 × 34 × 35 × 36 × 40 × 41 × 42 × 43 × 44 × 45 × 46 × 47 × 48
                                             "jobId": 3,
"oliveType": "Picholine",
"quantity": 6,
"status": "Cancelled",
"harvestDate": "2011-12-12T00:00:00.000-0800",
"sourceRegion": "Al Wakra",
"receptionDate": "2011-12-12T00:00:00.000-0800",
"scheduledDate": "2011-12-12T00:00:00.000-0800",
"scheduledDate": "2011-12-12T00:00:00.000-0800",
                                               "userId": 1
                                             "jobId": 4,
   "oliveType": "Picholine",
   "quantity": 6,
   "status": "Cancelled",
   "harvestDate": "2011-12-12T00:00:00.000-0800",
   "sourceRegion": "Al Wakra",
   "receptionDate": "2011-12-12T00:00:00.000-0800",
   "scheduledDate": "2011-12-12T00:00:00.000-0800",
   "userId": 2
                              },
{
                                             "oliveType": "Picholine",
"quantity": 5,
"status": "Pending",
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"sourceRegion": "Al Wakra",
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"scheduledDate": "2011-12-12T00:00:00.000-0800",
"userId": 3,
"id": 6
   49
50
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                                              "id": 6
```

#### 3.6. Cancel Job

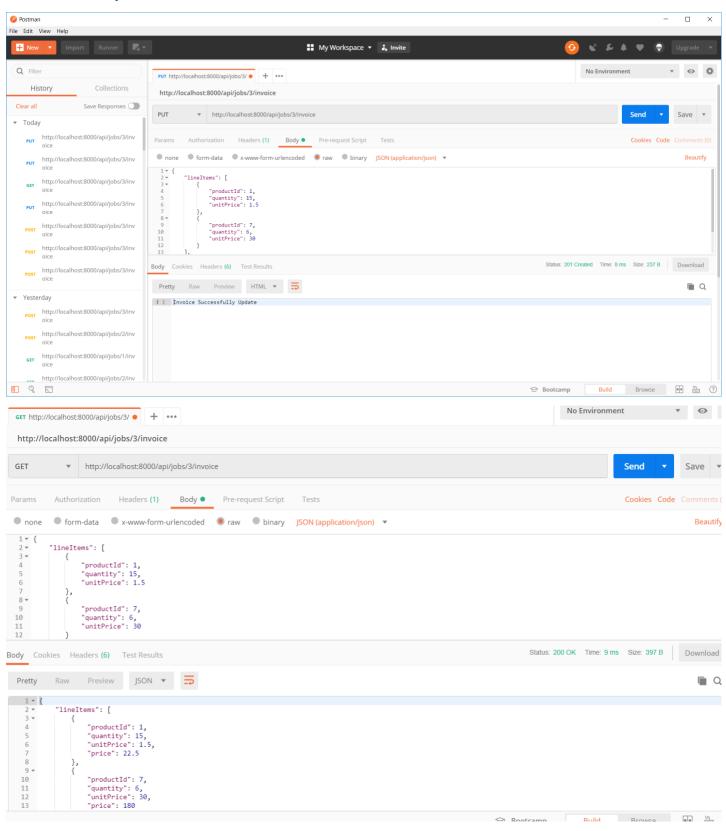


```
47 🕶
48
                     "oliveType": "Picholine",
                    "quantity": 10,
"status": "Cancelled",
"harvestDate": "2011-12-12T00:00:00.000-0800",
49
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51
                    "sourceRegion": "Al Wakra",
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"scheduledDate": "2011-12-12T00:00:00.000-0800",
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53
54
                     "userId": 3,
55
                     "jobId": 5
56
57
ΕО
```

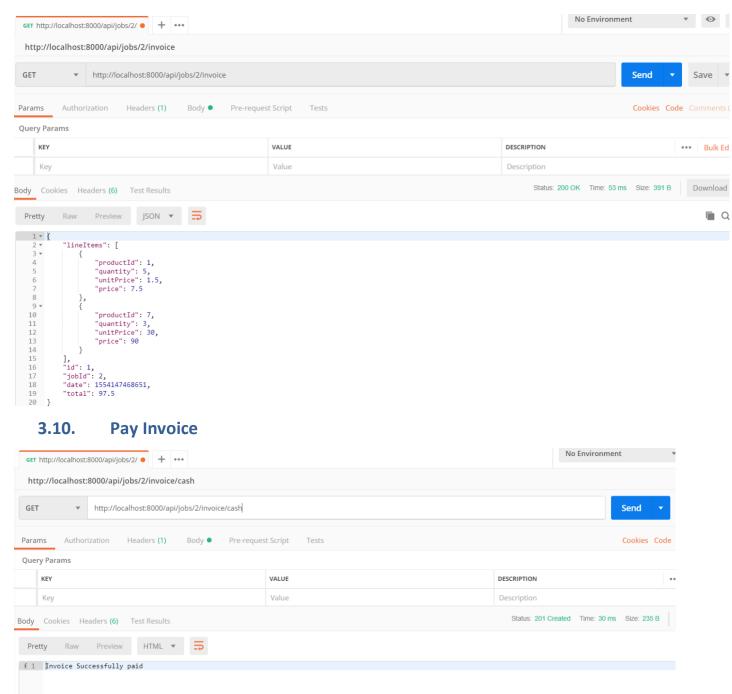
## 3.7. Add Invoice

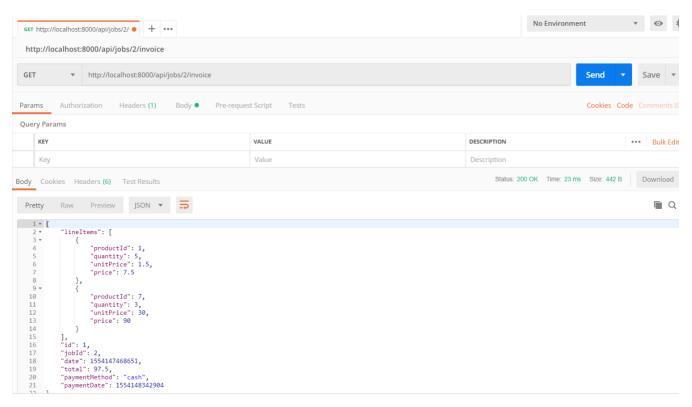


## 3.8. Update Invoice

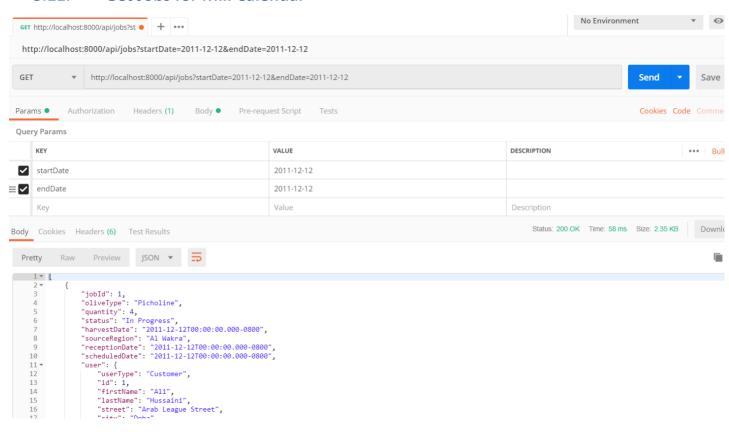


### 3.9. Get Invoice

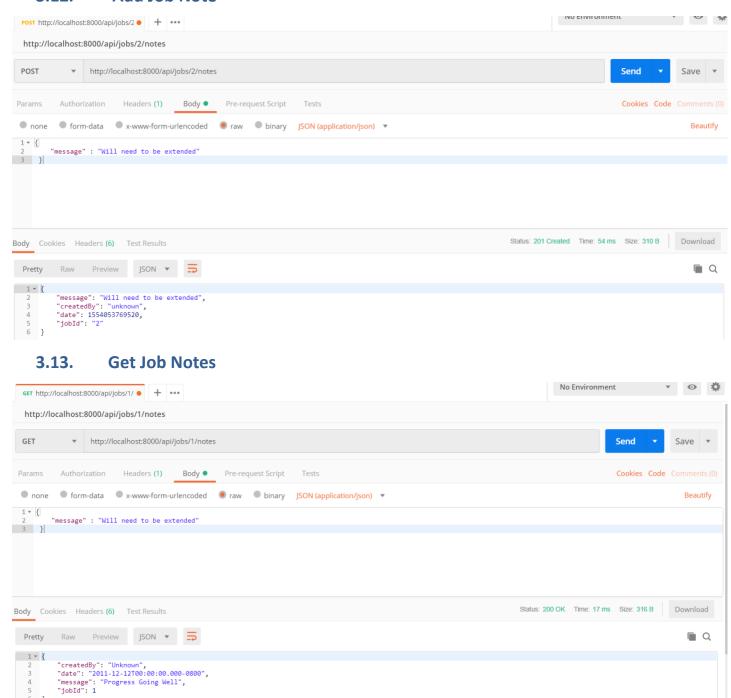




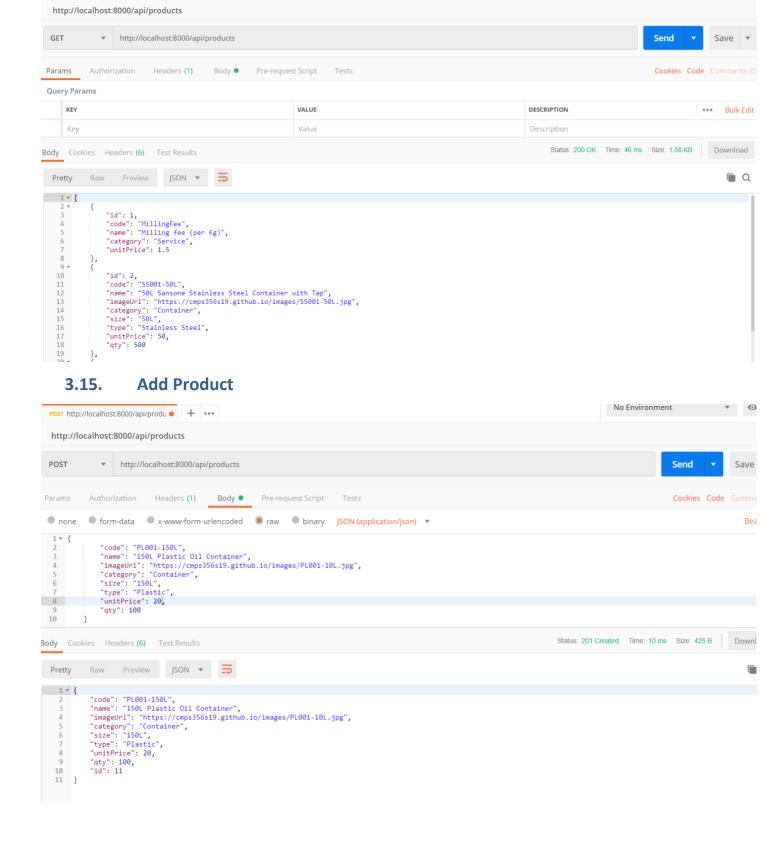
## 3.11. Get Jobs for Mill Calendar



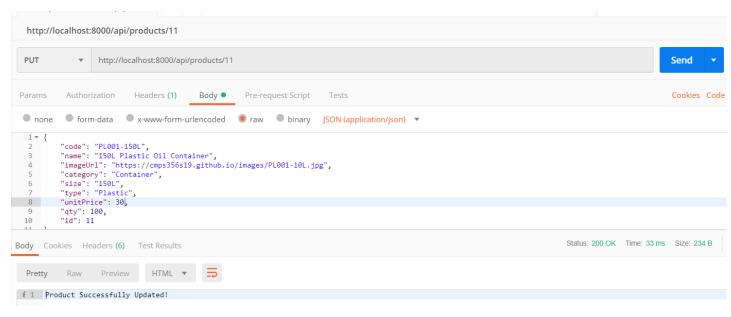
#### 3.12. Add Job Note



## 3.14. Get Products (i.e., Products Catalog use case)



### 3.16. Update Product



#### **Student Contributions**

# **Muhamad Irfan Fauzan**

For phase 1, my role in the team was to develop the WebAPI. To do this first I had to design the 3 class diagrams as well to give myself an idea on how I would want to implement the WebAPI. After getting feedback on the class diagrams and make adjustments to them, I started working on the repositories first. I decided on 5 major repositories and used my knowledge from the lab and experience to code appropriate functions that can fulfill the required use cases. Also, I had to write some test files that can be read and written to in order for me to store the datas that were being used for the repositories. After finishing the repositories, I worked on the services. Services just implemented the functions of the repositories but to be used through the web. After organizing my different service classes, I finally moved on to route.js to figure out the necessary urls that would be appropriate to access the various functions within the services. Over the creation of the repositories and services, I made modifications to the class diagram whenever I felt a change was necessary or was more suitable. I also helped give feedback on the web UI whenever I feel like an element of a web UI can be improved on. With the Monday extension, I was also able to contribute on the web UI by working on the login page. I was also the person who wrote the key decisions in the report.

# Thani Al-Thani:

In this Phase I implemented the HTML & CSS and took feedback from Muhammed Fuzan.

We both shared and took opinions but mostly he did the web api and designs.

I implemented and designed the web pages. And took key decisions on implementations to simplify the User experience.

The discussion and reasoning was given in the main Document and will be more detailed on the upcoming office hour presentation.

# Ali Jaam

In this phase, I have not contributed much to the project because the work was split between my 2 other members and I was not given a specific objective to work on. They have done all the work from HTML to CSS to WEB api to documentation. However, I will contribute in phase 2.