



Enhancing DoReMi's Order and Inventory Management process

with **The Sunday Lunatics Consultancy Ltd**

User Guide

Brought to you by:



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System Overview

Harmony is web based Order and Inventory management system customized to DoReMi, a music retailer. The platform is targeted at internal users of DoReMi in the Sales, Accounts and Warehouse departments. Users are able to perform the tasks listed below:

Sales	Accounts	Warehouse
<ul style="list-style-type: none">• Make Order	<ul style="list-style-type: none">• Evaluate Customer Credit Risk• Approve Order	<ul style="list-style-type: none">• Approve Inventory Restock Request

User Interface

Angular is used Harmony's front end user interface.. Once our rules and workflow inference engine outputs the result, which would be sent to Angular to display the results onto the web interface.

Requirements

Harmony supports the following web browsers:

- Internet Explorer 11
- Microsoft Edge 39 and above
- Firefox 53 and 52 ESR and above
- Google Chrome Version 59 and above
- Safari Version 10 and above

Deployment

To run the system in Linux Server

1. open terminal/git bash
2. `$ git clone //todo:git_url`
3. unzip folder
4. `$ cd folder_location/DoRemi-service`
5. make sure jdk 1.8 is installed
6. make sure maven installed
7. `$ chmod 777 launch.sh`
8. `$./launch.sh clean install`

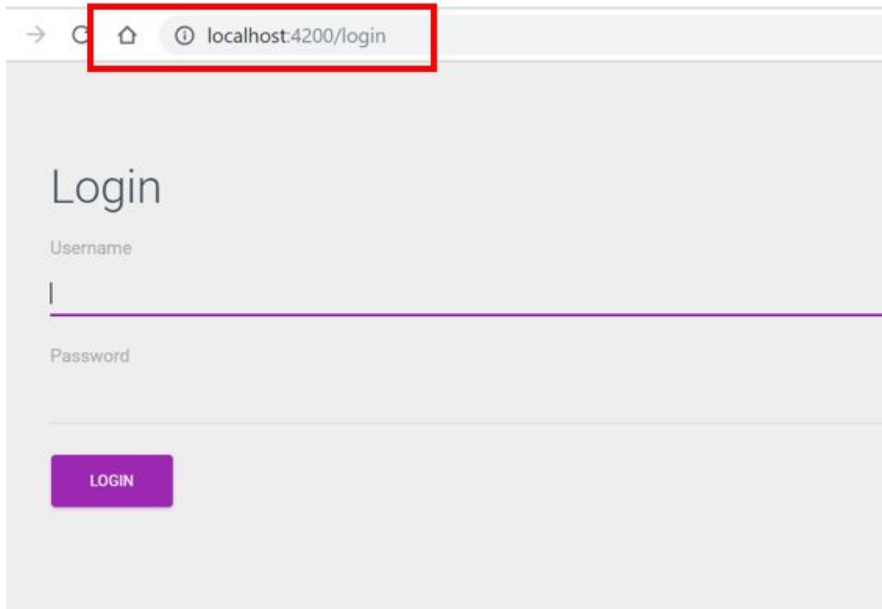
9. Go to URL using web browser Should be able to see a page with content "DoReMi-service-1.0-SNAPSHOT" via <http://localhost:8090>
10. \$ cd folder_location/ang-doremi
11. \$ npm install -g @angular/cli
12. \$ npm install
13. \$ ng serve --open
14. Go to URL using web browser <http://localhost:4200>
15. The default configuration is running under h2 in-memory database
16. Once the backend application is stopped, all the data will be lost
17. To persist the data, the backend application support running on actual database server

To run the backend application in PostgreSQL

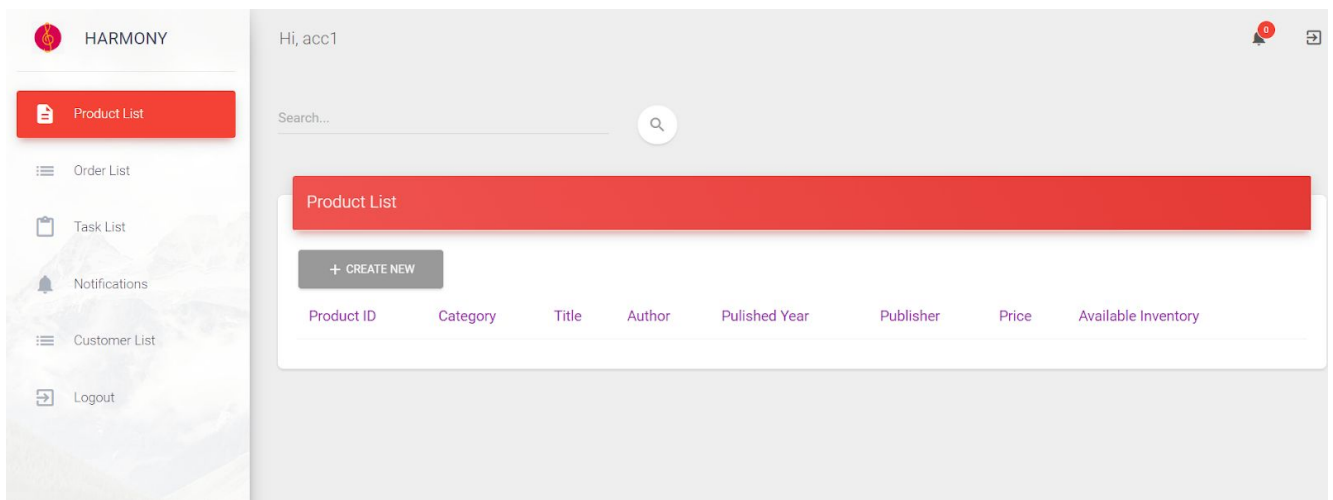
1. Refer to https://docs.jboss.org/jbpm/release/7.17.0.Final/jbpm-docs/html_single/#_run_your_business_application for more details
2. install postgresQL 11.1
3. \$ cd folder/location/DoReMi-service
4. \$ psql -U postgres -f psql-script/create-user-db-grant.sql
5. **** change application configuration ****
6. \$ rm src/main/resources/application.properties
7. \$ mv src/main/resources/application-postgres.properties src/main/resources/application.properties
8. \$./launch.sh clean install -Ppostgres

Get Started

Open up your preferred browser and go to the URL "http://localhost:4200/login" as shown below:



Enter the credentials provided in the Test Data.xlsx file. Upon successful login, the Harmony user interface will be presented:

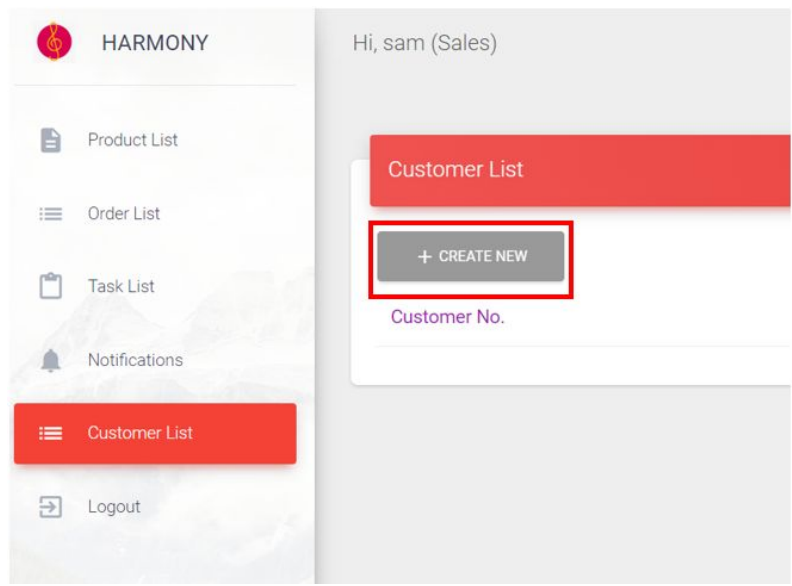


Walkthrough

The following section will provide a step by step walkthrough of the various actions which DoReMi users can perform within Harmony

All Roles: Create Customer

1. From the Navigation Panel, select 'Customer List' and select 'Create New'.



2. Create a New Customer by inputting the following details:
Date Registered: 01/01/2019
Name: Ruby
Address: 25 Heng Mui Kee Terrace

The screenshot shows the 'Customer Detail' form. It has a red header with the title 'Customer Detail'. Below the header are three input fields: 'Date Registered' with the value '01/01/2019' and a calendar icon, 'Name' with the value 'Ruby', and 'Address' with the value '25 Heng Mui Kee Terrace'. At the bottom of the form are two red buttons: 'SAVE' and 'BACK'.

3. A new customer will be created

Customer List

+ CREATE NEW

Customer No.	Name	Address
1	Ruby	25 Heng Mui Kee Terrace

All Roles: Create Product

1. From the Navigation Panel, select Product List' and select 'Create New'.

HARMONY

Hi, sam (Sales)

Search...

Product List

+ CREATE NEW

Product ID	Category	Title
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3. Create a new product through the Input of Product Details:
Title: Cats the Musical
Author: Andrew Lloyd Webber
Publisher: Hal Leonard
Unit Price: 16.45
Available Inventory: 200
Year of Publication: 1983

Add Product

Title *
Cats the Musical

Category *
Book

Author *
Andrew Lloyd Webber

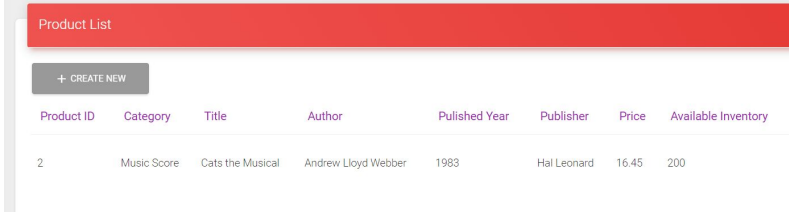
Year of Publication *
1983

Unit Price *
\$16.45

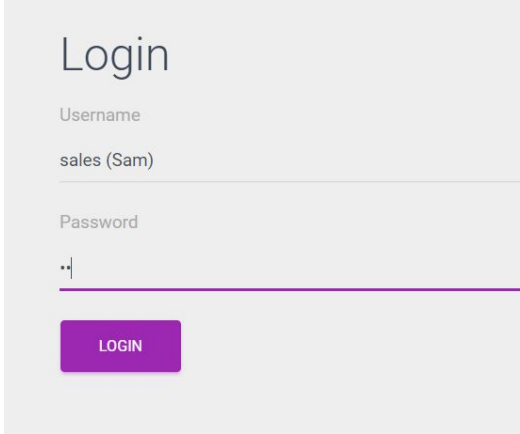
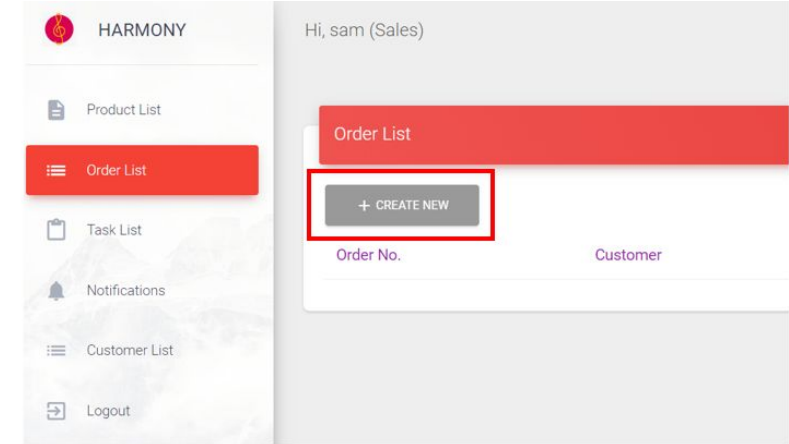
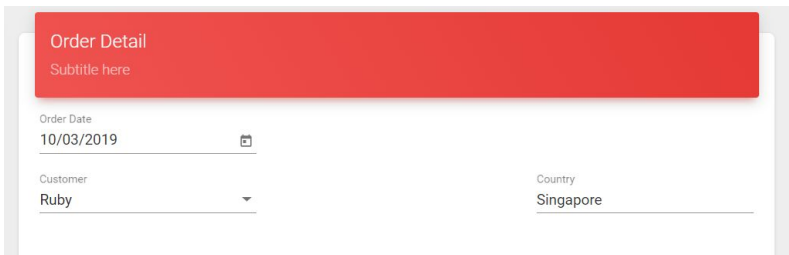
Publisher *
Hal Leonard

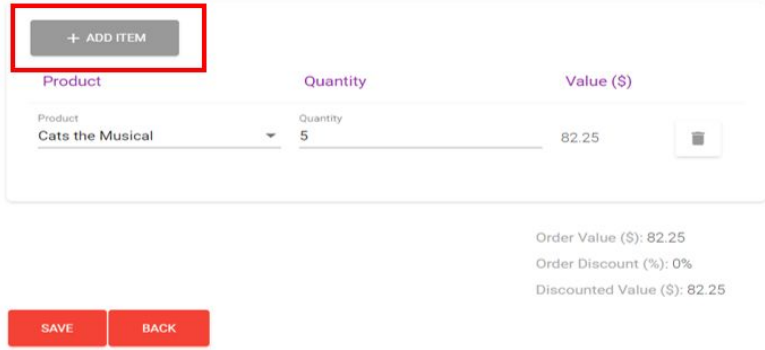
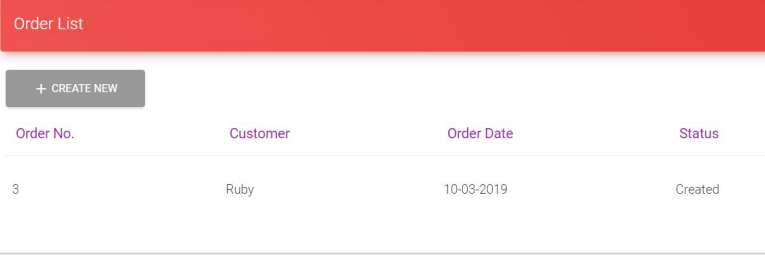
Available Inventory *
200

SAVE BACK

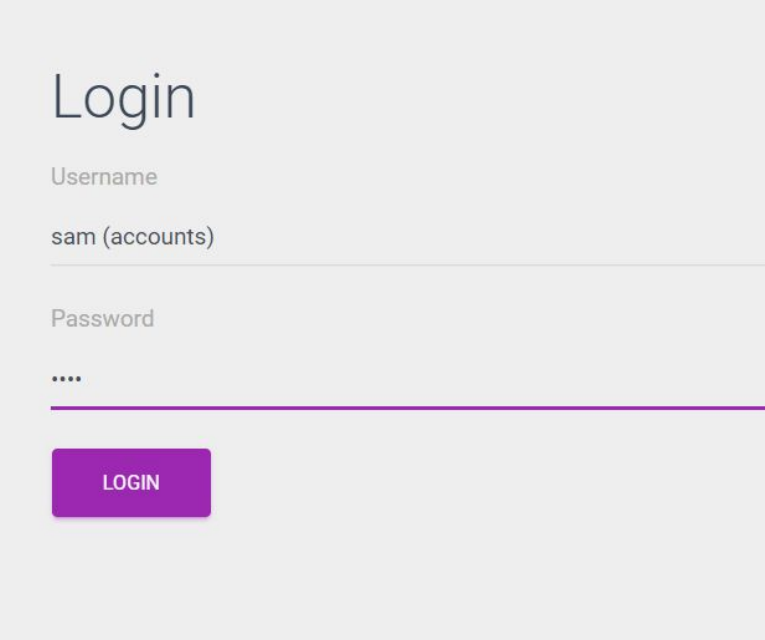
<p>3. A new Product is Created</p>	
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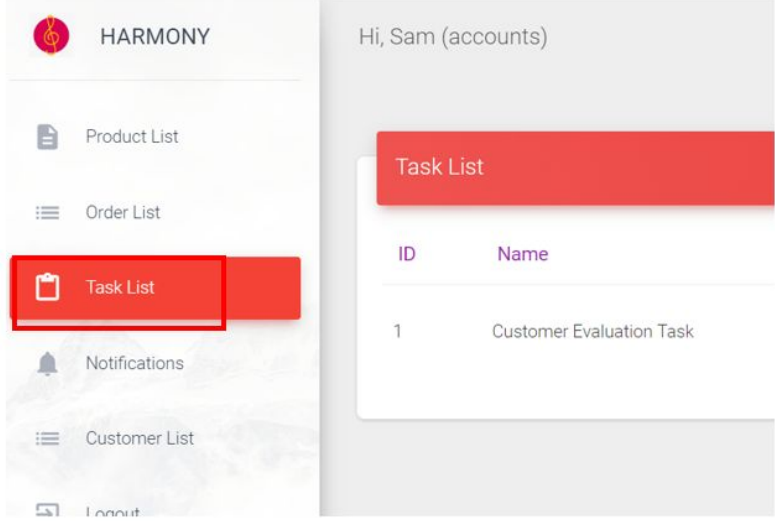
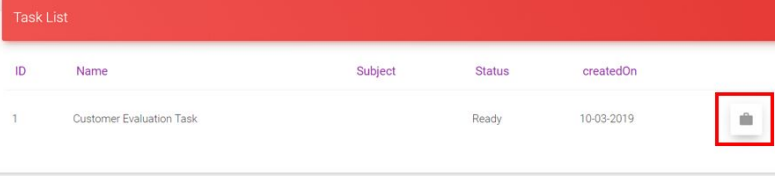
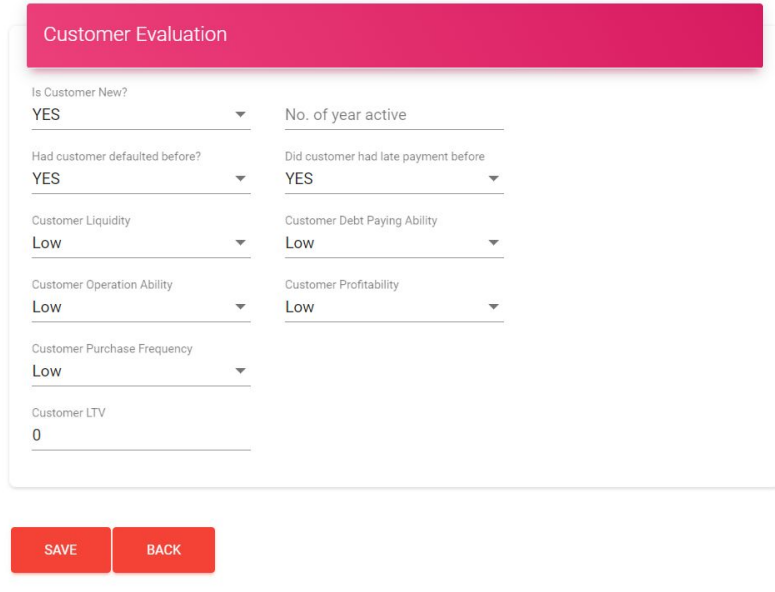
Sales: Create Order

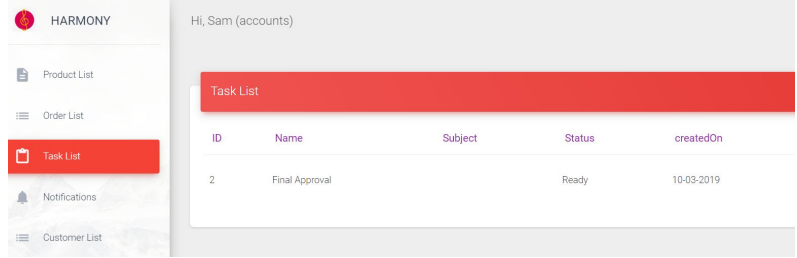
<p>1. Login as a Sales User</p> <ol style="list-style-type: none"> Username: Sam (Sales) Password: s1 	
<p>2. From the Navigation Panel, select 'Order List' and select 'Create New'.</p>	
<p>3. Create a new order with the following details:</p> <ol style="list-style-type: none"> Order Date: 10/03/2019 Customer: Ruby Country: 	

Singapore	
<p>4. Add a New Item to the order</p> <p>a. Product: Cats the Musical</p> <p>b. Quantity: 5</p> <p>5. The Order Value should be automatically calculated</p>	
<p>6. The Order is successfully created</p>	

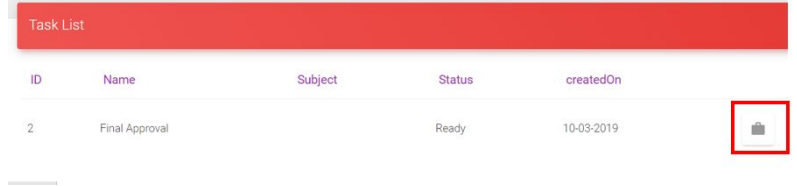
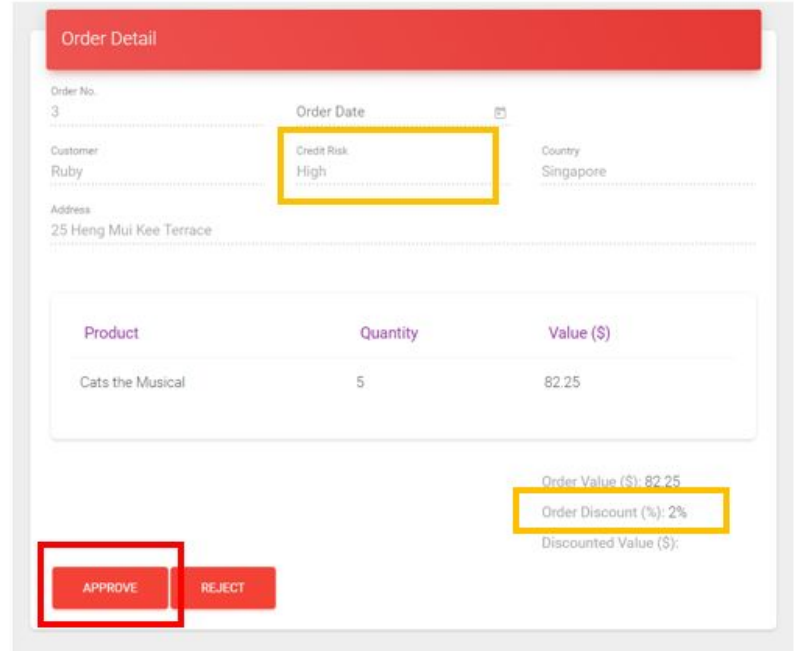
Accounts: Evaluate Customer

<p>1. Login as a Accounts User</p> <p>a. Username: Sam (accounts)</p> <p>b. Password: acc11</p>	
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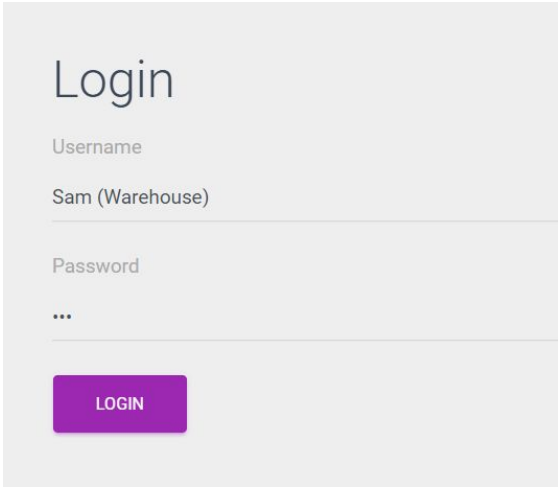
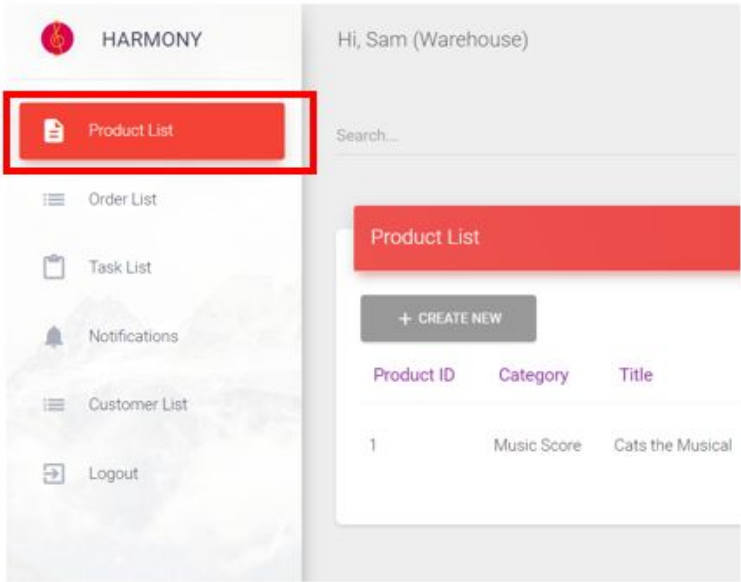
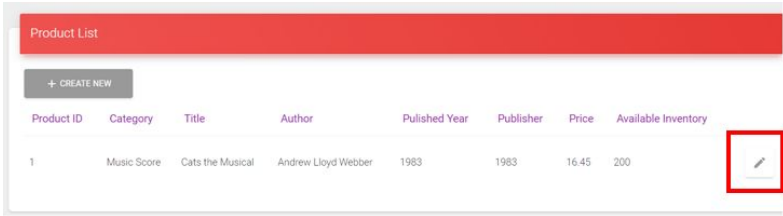
<p>2. From the Navigation Panel, select 'Task List'.</p>	
<p>3. A New Task 'Customer Evaluation Task' is displayed</p> <p>4. Select the Briefcase icon to view task details.</p>	
<p>5. Fill in the Customer Evaluation Form with the following details:</p> <ol style="list-style-type: none"> Is Customer New: Yes Has Customer Defaulted Before: Yes Did customer had late payment before: Yes Customer Loyalty: Low Customer Debt Paying Ability: Low Customer Operation Ability: Low Customer Profitability: LOW Customer 	

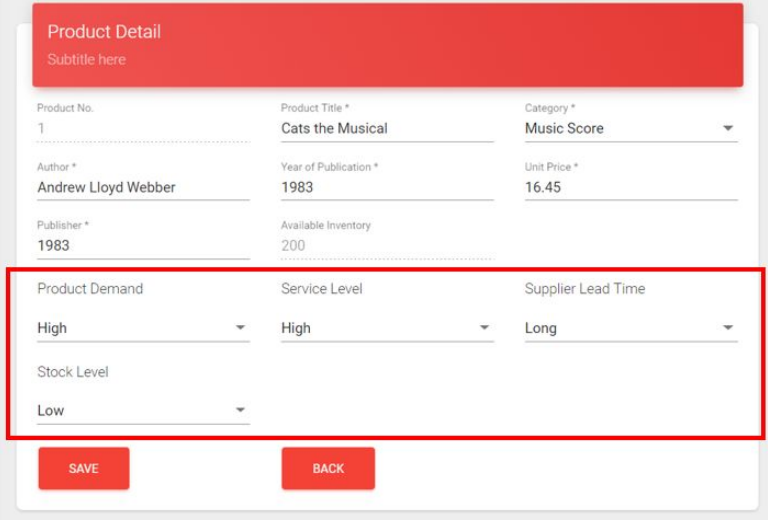
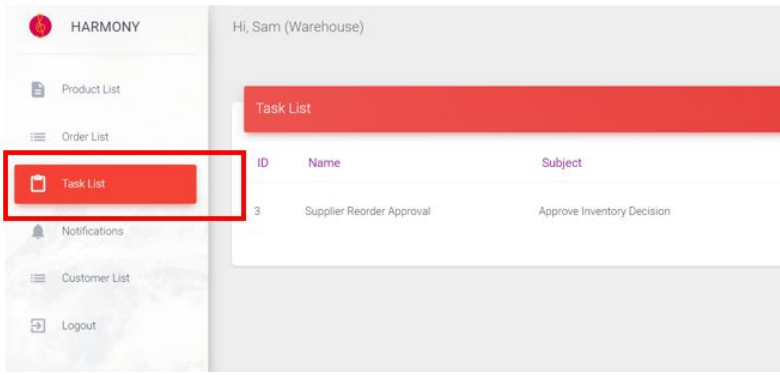
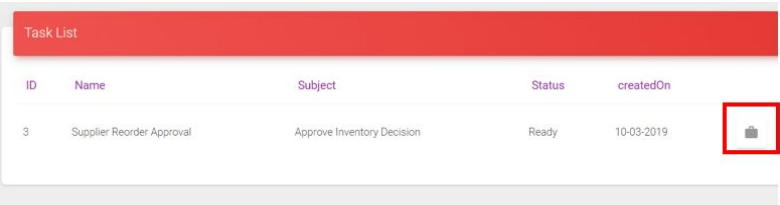
Purchase Frequency: Low i. Customer LTV: 0	
6. A new 'Final Approval' task is created	

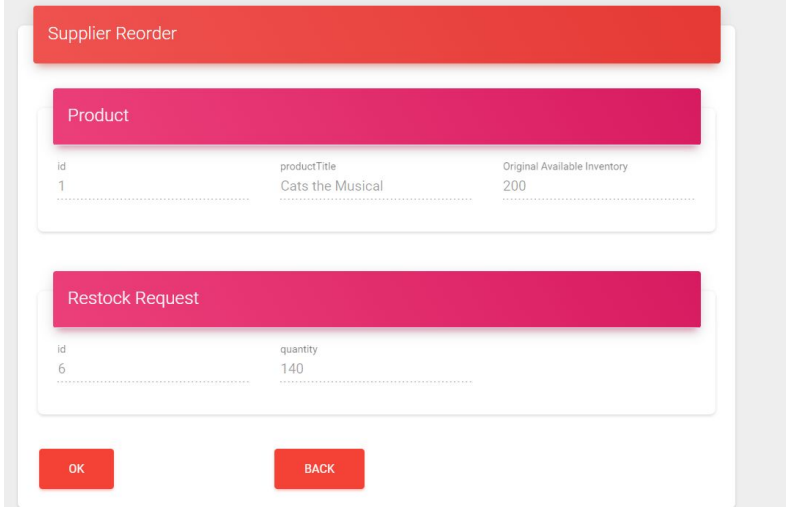
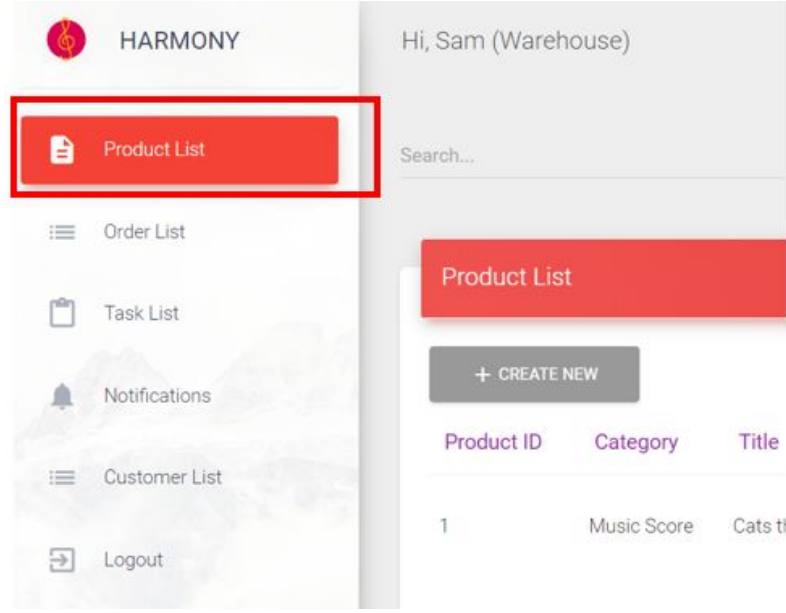
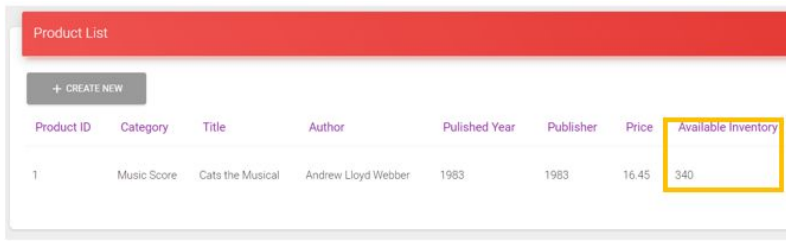
Accounts: Approve Order

1. When logged in as Accounts user, from the Navigation Panel, select 'Task List'. Click on Briefcase icon to view task details.	
2. Harmony's rule engine has determined the following: <ul style="list-style-type: none"> a. Credit Risk is High b. Order Discount should be 2% 3. Approve the order by selecting 'Approve'	

Warehouse: Approve Restock Request

<p>1. Login as a WarehouseUser</p> <ul style="list-style-type: none">a. Username: Sam (Warehouse)b. Password: wh1	 <p>The login form has a title 'Login'. It contains two input fields: 'Username' with the value 'Sam (Warehouse)' and 'Password' with masked characters '***'. A purple 'LOGIN' button is at the bottom.</p>
<p>2. From the Navigation Panel, select 'Product List'.</p>	 <p>The screenshot shows the 'HARMONY' application interface. On the left is a navigation panel with options: Product List (highlighted with a red box), Order List, Task List, Notifications, Customer List, and Logout. The main content area shows 'Hi, Sam (Warehouse)' and a 'Search...' bar. Below is a 'Product List' section with a '+ CREATE NEW' button and a table with one row: Product ID 1, Category Music Score, Title Cats the Musical.</p>
<p>3. Edit the Product Details.</p>	 <p>The screenshot shows the 'Product List' table with columns: Product ID, Category, Title, Author, Pulished Year, Publisher, Price, and Available Inventory. The first row contains: 1, Music Score, Cats the Musical, Andrew Lloyd Webber, 1983, 1983, 16.45, 200. A red box highlights an edit icon (pencil) at the end of the first row.</p>

<p>4. Input the following values:</p> <ol style="list-style-type: none"> Product Demand: High Service Level: High Supplier Lead Time: Long Stock Level : Low 	
<p>5. From the Navigation Panel, select 'Task List'.</p>	
<p>6. A new 'Supplier Reorder Approval' task is created. Click on Briefcase icon to view task details.</p>	

<p>7. A new Supplier Restock Request is Created. Select 'Ok'</p>	
<p>8. From the Navigation Panel, select 'Product List'.</p>	
<p>9. The Quantity of Available Inventory has been increased to 340, from the original 200.</p>	

Test Cases

Test Cases and the corresponding results are detailed in Appendix C of our main project report.