

Final exam

In the end, trainees will have an exercise to use all skills they learnt

A Web Application uses Bootstrap to provide the web-responsive ability, use JQuery to provide the enhancement UI, use KnockoutJS to interact with the data changes. The server side will use MVC to implement the business logic, web service/ web api. The connection to DB will use Entity Framework to provide an object mapping for business logic.

Besides, the web application should contain:

KnockoutJS with observableArray/compute/validation

KnockoutJS with data-binding/loop

Bootstrap, web responsive

Web service with GET/POST request and return the JSON object

Apply Scrum with 5 sprints within 5 weeks

Apply review CLEAN code

Final exercise: trainee (200h) – trainer (4h)

Content of final exam:

A small site manages purchasing orders with 3 main functions:

- 1) Purchase order list
- 2) Purchase order detail
- 3) Sending emails for purchase orders

Refer the below UI for example:

a. Purchase order list:

Not include “ETA date” and “Qty Open” column

Order No	Supplier	Stock Site	Stock Name	Ord Date	ETA Date	Last Update	Qty Open	Sent Email
955399	CANON	LW-MAN	M3 thagapol - Monkhesper Lekki ip	20/03/2019 00:00:00	27/03/2019 00:00:00	20/03/2019 00:00:00	3	<input type="checkbox"/>
955400	ADYOUNG	LW-DIR	tharekp pe Sape SeP erthers	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	1	<input type="checkbox"/>
955401	NUANCE	LW-DIR	tharekp pe Sape SeP erthers	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	1	<input type="checkbox"/>
955402	ADYOUNG	LW-DIR	tharekp pe Sape SeP erthers	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	1	<input type="checkbox"/>
955403	ADYOUNG	LW-DIR	tharekp pe Sape SeP erthers	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	1	<input type="checkbox"/>
955404	ADYOUNG	LW-DIR	Bobkekk	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	1	<input type="checkbox"/>
955405	Westcoast	LW-OUT	eipSeiRkEth Ptha	20/03/2019 00:00:00	21/03/2019 00:00:00	20/03/2019 00:00:00	5	<input type="checkbox"/>

PBI 1: Load Purchase Order (PO) List

Scenario 1: Load the list as screenshot

I can:

- See List PO with detail information.
- If a PO sent emails then “Sent Email” column would be ticked.

Scenario 2: navigate to PO Detail screen when click on the Order No

b. Purchase order detail:

Not include ETA Date column

Not include “Download Pdf”/ “Audit Changes” function

Order date: editable -> not greater than current date

“Re-send email” will redirect to Sending emails page (screen /c)

Purchase Order 955409

Supplier: CANON	Supplier Name: konen
Stock Site: LW-DIR	Stock Name: Bobkek
Order Date: 20-03-2019	ETA Date*: 27-03-2019
Note: Bobkek - Stephen Hemeweth	Address*: b
	Country*: b
	Post Code*: b

Part Number	Part Description	Manufacturer	Qty Ordered	Qty Delivered	Back Order	M2 Buy Price (€)	ETA Date	Memo	Total Price (€)
0484C002AA	C-EXV 51 TONER Y	Canon	1	0	Y	208.79	27-03-2019		208.79
IR Adv C5540I	Canon IR Adv C5540I	Canon	1	0	Y	2,830.16	27-03-2019		2,830.16

Purchase order price: (€) 3,038.95
[Add Purchase Order Line](#)

[Audit Changes](#) [Cancel PO](#) [Download Pdf](#) [Re-send email](#) [Save](#)

PO Title: Purchase Order XXXX

PO Head:

- **Supplier:**
- **Supplier Name:**
- **Stock Site*:** stock site number
- **Stock Name:** stock site name
- **Order Date*:** order date (format: DD-MM-YYYY)
- **Note:**
- **Address:**

PO Line:

- **Part Number:**
- **Part Description:**
- **Manufacturer:**
- **Qty Order:** Must > 0
- **Buy Price:** Must > 0
- **Order Date:** >= Order Date of POH
- **Memo:**

Total Price: sum of all POLs' total price

Buttons:

- **Cancel PO**
- **Save**

PBI 1. Edit Purchase Order (PO)

Scenario 1: Edit detail Purchase Order (PO) from PO Management screen

Given I am at detailed PO screen

I can:

- Edit information of a selected PO. I see that **Supplier, Supplier Name, Stock Site, Order Date** fields cannot be editable but **Note, Address, County, Post Code** fields can be editable. Then I update some editable fields
- Update **Qty Ordered, Buy Price, Ordered Date, Memo** fields for each PO line, then I click on "Save" button. Updated information is saved successfully.

Scenario 2: Cannot edit if the PO is cancelled

Given I am at detailed PO screen and the PO is already cancelled

I can:

- See warning message under the PO title saying that "**Warning: This PO cannot be modified because already cancelled.**"
- Not update the fields (POH and POL) as all the fields and buttons become disable and read-only

Scenario 3: Add more PO line

Given I am at detailed PO screen

I can:

- See option to add more POL to the current PO. And when I choose to add new PO line,

Then I see new line appears at end of lines table. Part Number drop down list just displays Part Numbers which have not been used in any other PO line. And when I choose to save current PO with added line(s) fulfilled required fields as **Part Number**, Required **Qty** and **Buy Price**

Then I see new line(s) are saved successfully.

Scenario 4: Remove PO line

Given I am at detailed PO screen

I can:

- Select one PO line then I would like to remove this PO line by clicking on [-] icon at each PO line. Then I see that this PO line is removed

Note: The PO must have at least one PO line (Warning: "The PO must have at least one PO line")

PBI 2: View PO

Scenario 1: View detail Purchase Order (PO) from PO Management screen

Given I am at view detailed PO screen

I can:

- See detailed information of a selected PO (POH)
- See List PO Lines with detail information

Scenario 2: Verify duplicate PO lines on each PO

Given I am at view detailed PO screen

I can:

- See there are no duplicated Part Number

PBI 3: Cancel PO

Scenario 1: Cancel PO

Given I am at detailed PO screen. I would like to cancel my PO because my order is no longer required.

I can:

- Click on "Cancel" button. System will display a confirmation message: "Do you want to cancel this PO?" Yes - No.
 - o If user clicks on Yes button, system will have below actions:
 - * **Qty Ordered** of all POLs are to be zero
 - * **Buy Price** of all POLs are to be zero
 - o If user clicks on No button, nothing happens

c. Sending emails for purchase orders:

Not include "Reset default template" button

Not include the "Attachment" button

The body of email doesn't require to use rich text box (WYSIWYG)

"Send email later, go to PO tab" will redirect to the Purchase order list page (screen /a)

Email addresses have to be validated

Provide the ability that let user navigate to PO Detail

Email purchase order(s) to supplier(s) for deal ref. 108890

	PO Num	Supplier	Stock Site	Post Code	Type	Pricing Code	
<input checked="" type="checkbox"/>	955409	CANON	LW-DIR	b	hardware		

Purchase Order 955409 Reset default template

From: test_from_customer@m2.uk.com

To: testto_customerAi@scc.com

Cc: testcc_email@m2.uk.com

Subject: Order [108890 - Bobkekki]

Attachment: PO_955409

Choose file No file chosen

B **I** **S** **I**

Hi,

Please process the attached order directly into our customer as stipulated on the attached PO.
PO number: 955409

Kind Regards,

Send 1 email(s)

Send email later, go to PO tab

PBI 1: View default email

Scenario 1: Load default values

From address: depends on StockSite

- StockSite: LW-DIR: lw-dir@abc.com
- StockSite: LW-OUT: lw-out@abc.com
- StockSite: LW-MAN: lw-man@abc.com

To address: depends on Supplier

- Supplier: CANON: canon@abc.com
- Supplier: RICOH: ricoh@abc.com
- Supplier: EPSON: epson@abc.com

Subject: text with format Order - <Order Number> <Stock Name>

Contain: text with following information

- First section is as the screenshot
- Second section contains the list of PO Lines in rows whose format is <Part Name> <Quantity> <Price>

I can:

- See "From", "To", "Subject", "Contain" are fill correctly and follow format (FROM depend on Stock site Email, TO depend on Supplier Email, Subject with format Order - <Order Number> <Stock Name>,Contain).

PBI 2: Edit email's content

Given I am at detailed Email screen

I can:

- I see a text area and I can modify email content.
- To/Cc to multiple addresses, split by comma(,')

Scenario 1: From address is not editable, the rest is editable

Scenario 2: To/Cc addresses support multiple addresses, split by comma (',')

PBI 3: Send or not send email

Given I am at detailed Email screen

I can:

- Click button send and then email will be send/cc to addresses.
- When I click send email later button I will be redirect to PO List.

Scenario 1: Send email to addresses and mark the PO as Sent (showed on PO List). Validation is applied to email address (correct format), subject (required), content (required)

Scenario 2: Send email later and redirect to PO List

d. Database schemas:

PurchaseOrder table

PurchaseOrderLine table

Part table

Supplier table

StockSite table