


Fullstack [Pricing]

 **Hello**, if you're reading this, then we think you could be a good fit for team FOB OH. Thank you for taking the time to complete this challenge and we hope to talk with you soon!

About the challenge 🎯

We designed this take-home exercise to give you a feel for the challenges you may encounter in the role, and to understand what it would be like to work together. Rather than assess you on algorithmic knowledge or ask you to complete esoteric coding puzzles, we've designed this exercise to resemble the work you would do as a software engineer working with team FOB OH and get a sense of how you build great software.

Guidelines 📄

- We also know you're busy, and that's why this exercise should take no more than **3-4 hours** of dedicated, focus work to complete.
- Think of this like an open source project. Create a repo on Github, use git for source control, and use README.md to document what you built for the newcomer to your project.
- Think out loud in your submission's documentation. Document tradeoffs, the rationale behind your technical choices, or things you would do or do differently if you were able to spend more time on the project or do it again.

The CHALLENGE (if you choose to accept) 🚀

You will develop a feature within the pricing module that allows suppliers to add and remove products from the profile and adjust the price.

Your task for this challenge is to create a pricing feature comprising of two parts, a browser-based user interface in React that makes requests to node.js backend.

Your submission will be evaluated for conforming to the specifications outlined below as well as code quality (maintainability, scalability, performance, responsiveness etc.) and overall usability.

Requirements

As a supplier using FOB OH, I want to offer bespoke product prices to different customers, so that I can tailor my offer and maximise margin for customers.

Prerequisites

- user is logged into FOB OH
- user has completed onboarding and setup their product range and customer base (can be modified later)
- user has the requirement to offer customer(s) products pricing which differs to the global list price
- user has completed step 1. create basic profile info

Select products from range and adjust prices

As a supplier, I want to be able to add products to a pricing profile by filtering them based on category, subcategory, segment, or brands, so that I can adjust their prices by either a percentage or dollar amount or a custom change.

✓ Detailed requirements

Steps:

1. **Identify products** user can create a price profile for one, many, or all products

a. For one or many products, user can either:

Search: ability to search by Product Title, SKU or;

- fuzzy matching
- query parsing
- wildcard

Filter: ability to filter by Category, Sub-Category, Segment, Style (wine-specific only where a supplier has wine products in their range), Brand.

b. Or the user can build the pricing profile for all products in their range.

i where a product has NOT been selected for the pricing profile the default wholesale global price will be used. This should be clear to the user.

2. **Select product** user can then select the relevant products they want to modify the prices for.

a. For one or many products, user can select (and unselected) the products they want to build the profile for.



b. For all products, the user will simply select all (and unselected all as required).

3. **Apply new pricing**

Based on....

User can first select the price profile that they want to base the new pricing off if they want the new price profile to inherit pricing from the “Based on” profile. This will default to the global wholesale price and would then include any other pricing profiles the user has already created.

Next, the user will indicate whether the price adjustment will be:

- fixed (\$) or dynamic (%) and;
- an increase  or decrease 

The adjusted price will be calculated from the “Based on” profile selected above.

Examples:

if the newly created “tenure discount” pricing profile is based on the “global wholesale price” and discounted by 10% across all products, the product prices in your pricing profile will be 10% cheaper than the “global wholesale price”

| Adjustment type | Fixed or dynamic | Value | “Based on” profile price | New profile price |
|-----------------|------------------|-------|--------------------------|-------------------|
| Decrease | Dynamic | 10% | \$45.00 | \$40.50 |
| Increase | Fixed | \$2 | \$45.00 | \$47.00 |

Recalculate prices interaction which will apply the changes to the selected product range and showcase the Based on and new prices.

User Interface

The user interface should be a browser-based application using React. Feel free to leverage a CSS framework to build a simple and functional user interface.

User should be able to:

- search and filter products based on various criteria such as title, SKU, category, subcategory, etc. > integrate with backend API to fetch product info
- select/unselect products for a pricing profile, including the ability to select all products
- choose adjustment types (fixed/dynamic), and specifying adjustment values
- view the "Based on" price
- apply new pricing adjustments and display the calculated prices before applying changes

Dashboard

Orders

Customers

Products

Pricing

Freight

Integrations

Settings

FOBOH

Hi, Ekemini

Tue, 13 February 2024

Ekemini Mark

Heaps Normal

Pricing Profile > Setup a Profile

Cancel

Save as Draft

Setup your pricing profile, select products and assign customers

Basic Pricing Profile

Cheeky little description goes in here

Completed

Make Changes

Select Product Pricing

Set details

You are creating a Pricing Profile for

One Product

Multiple Products

All Products

Search for Products

Search

Product / SKU

Category

Segment

Brand

Showing (6 Result) for (Product Name or SKU Code) (Brand) (Brand)

Deselect All

Select all

HN Half Day Hazy

SKU 903222100XT 12 x 375ML Can Case

Crumbli Cookies

SKU 903222100XT 12 x 375ML Can Case

Crumbli Cookies

SKU 903222100XT 12 x 375ML Can Case

HN Half Day Hazy

SKU 903222100XT 12 x 375ML Can Case

Necessaire

SKU 903222100XT 12 x 375ML Can Case

You've selected 3 Products, these will be added (Profile Name)

Based on

Global Wholesale Price

Set Price Adjustment Mode

Fixed (\$)

Dynamic (%)

Set Price Adjustment Increment Mode

Increase +

Decrease -

The adjusted price will be calculated from Global Wholesale Price selected above

Refresh New Price Table

Product Title

SKU Code

Category

Global Wholesale Price

Adjustment

New Price

HN Half Day Hazy

SKU or UOM

Wine

\$45.00

-\$ 5.00

\$40.00

Crumb Cookies

SKU or UOM

Wine

\$45.00

-\$ 5.00

\$40.00

Necessaire

SKU or UOM

Wine

\$45.00

-\$ 5.00

\$40.00

Your entries are saved automatically

Back

Next

Assign Customers to Pricing Profile

Choose which customers this profile will be applied to

Not Started

| Field name | Description | UI Element | Options |
|--|------------------------|--------------|--|
| You are creating a pricing profile for | Product selection type | Radio button | One Product Multiple Products All Products |

| | | | |
|--|--|--------------|--|
| Search for Products | Ability to search by Product Name or SKU code | Search bar | |
| Filter: category > sub-category | Ability to select products based on their Sub-category | Dropdown | Sub-category: Wine Beer Liquor & Spirits Cider Premixed & Ready-to-Drink Other |
| Filter: segment | Ability to select products based on their Segment | Dropdown | Red White Rose Orange Sparkling Port/Dessert |
| Filter: brand | Ability to select products based on their Brand | Dropdown | High Garden Koyama Wines Lacourte-Godbillon |
| Return product results based on search or filter options | | | |
| Based on | This determines what the “Base On Price” will be. | Dropdown | Global wholesale price |
| Set Price Adjustment Mode | Determines “Adjustment” column. IF Fixed, then make Adjustment: \$ ____ | Radio button | Fixed (\$) Dynamic (%) |

| | | | |
|--------------------------------------|---|--------------|--------------------------|
| | IF Dynamic, then make Adjustment: _____ % | | |
| Set Price Adjustment Increment | Determines calculation of “New Price” IF Increase, use “+” as operator IF Decrease, use “-” as operator | Radio button | Increase + Decrease - |

Calculation of New Price

We need to make sure that the resulting price changes brought about by setting up of the Price Profile is accurate. Here are the formulas for calculating the New Price depending on the selected options:

Given the following data

Based On Price: AUD 500.00

Adjustment: 20

Price Adjustment: Fixed

[Based On Price] [Operator] [Adjustment] = [New Price]

1. Increment is Increase

$$\text{\$ } 500.00 + \text{\$ } 20.00 = \text{\$ } 520.00$$

2. Increment is Decrease

$$\text{\$ } 500.00 - \text{\$ } 20.00 = \text{\$ } 480.00$$

Price Adjustment: Dynamic

[Based On Price] [Operator] [[Adjustment]*[Based On Price]] = [New Price]

1. Increment is Increase

$$\text{\$ } 500.00 + (20\% \text{ of } \text{\$ } 500.00) = \text{\$ } 600.00$$

2. Increment is Decrease

\$ 500.00 - (20% of \$ 500.00) = \$ 400.00

⚠ Keep in mind that we are calculating for price so make sure that it will not result in negative numbers.

Product results table

| Product Title | SKU Code | Category | Based On Price | Adjustment | New Price |
|---------------|----------|----------|----------------|------------|-----------|
| | | | | | |
| | | | | | |

Backend

- no need to create actual database, can be as simple as in-memory database or in-memory objects as long as proper types and validation in place somewhere.
- business logic to apply pricing adjustments based on the selected pricing profile - calculate adjusted prices based on percentage or fixed amount changes from the “based on” price
- CRUD endpoints for managing pricing profiles, and pricing adjustments
- CRUD endpoints for managing products is optional (you can start by a seed of products)
- api needs to be exposed using swagger/openapi

Sample data

| title | skUcode | brand | categoryID | subCategoryId | segmentId | Global wholesale price |
|-----------------------------|-----------|--------------|--------------------|---------------|-----------|------------------------|
| High Garden Pinot Noir 2021 | HGVPIN216 | High Garden | Alcoholic Beverage | Wine | Red | 279.06 |
| Koyama Methode | KOYBRUNV6 | Koyama Wines | Alcoholic Beverage | Wine | Sparkling | 120 |

| | | | | | | |
|--|----------------|------------------------|-----------------------|------|--------------|--------|
| Brut Nature NV | | | | | | |
| Koyama Riesling 2018 | KOYNR183 7 | Koyama Wines | Alcoholic Beverage | Wine | Port/Dessert | 215.04 |
| Koyama Tussock Riesling 2019 | KOYRIE19 | Koyama Wines | Alcoholic Beverage | Wine | White | 215.04 |
| Lacourte- Godbillon Brut Cru NV | LACBNAT NV6 | Lacourte- Godbillon | Alcoholic Beverage | Wine | Sparkling | 409.32 |

Deliverables

Submit your challenge to info@foboh.com.au, provide a link to the git repo and the URL to the application within 3 business days.

You should also include a README with any instructions. Tests are not mandatory but will be considered bonus points if you provide them.

It is not expected to be a production ready application and will not be evaluated in such a context.