

Frontend Angular/React Exercise: Currency Exchanger!

What is Currency Exchanger?

Currency Exchanger is an app that helps customers to handle different currency conversions.

Technology constraints

At the digital factory, we currently have a JavaScript web application. We would like you to develop this application in Angular or React. We do *not* expect you to build the API – rather we would like you to use the below provided API.

What are we looking to test?

- The overall software architecture of the application
- The structure and **quality of the code itself**
- The use of well-known patterns for JavaScript frameworks

What are we *not* looking to test?

- We don't expect you to be a designer. Something simple and intuitive is all we need

External Resources

- [Fixer API](#)
- Hint: Only utilize available free APIs to work around paid APIs limitations and achieve same application functionality

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Please consider the following:

- Git
 - Push your code to a Git repository using (Github/GitLab/Bitbucket/AzureDevOps Repos) only.
 - Keep your development history intact and in multiple commits as you see fit.
- Structure
 - Utilize modularity and clean patterns.
- Style
 - Utilize your own CSS or Sass for styles as much as possible instead of relying totally on UI Frameworks (ex. Bootstrap, etc.).
 - Application should be responsive (mobile/Desktop)
- Typescript
 - Utilize Typescript features such as Interfaces/Types in you code when feasible.
- Rxjs
 - Utilize operators when feasible.
- Formatting/Linting
 - Make sure that you code is formatted and free of linting issues.
- Unit Tests (Bonus)
 - Include simple unit test when feasible

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The team is trying to ease the issues that customers face while handling different currency conversions. So they are planning to build a feature rich currency converter, Please find the stories backlog given below:

Sprint 1:

FF-1

As a user I want to be able to convert currencies, for that we need a “Home” page with following features:

ACCEPTANCE CRITERIA

- ☐ I should see a sticky header with a Logo (left) and Nav links (right) as “EUR-USD Details” and “EUR-GBP Details” to go to respective “Details” page (see FF-3)
- ☐ I should see a converter sticky panel (use 1 EUR to USD as defaults) (see FF-2)
- ☐ I should see 3x3 cards grid with converted value of the entered amount to the 9 most popular currencies (Duplication of “From” and “To” currencies in cards grid are allowed)

FF-2

As a user I want to be able to convert currencies for that we need a converter panel with following features:

ACCEPTANCE CRITERIA

- ☐ I should see a sticky panel with below elements:
 - ☐ An amount input (numbers only), all other elements should be disabled until a valid value entered
 - ☐ Dropdowns showing all the available currencies in a FROM and TO lists
 - ☐ Button to swap the currencies in FROM and TO, Button to convert, and button to redirect to details page for the selected FROM and TO.
 - ☐ Converted result displayed

Sprint 2:

FF-3

As a user, I want to see a “Details” page of the ‘From’ and ‘To’ currencies with the following features:

ACCEPTANCE CRITERIA

- ☐ I should see the full name of the “From” currency
- ☐ I should see a button to go back to Home page (see FF-1)
- ☐ I should see a sticky converter panel (see FF-2) with chosen currencies pre-selected, entered amount, details button hidden and ‘From’ dropdown disabled
- ☐ I should be able to change the “To” dropdown then click convert and it reflects on all details
- ☐ I should see a chart showing historical data for selected currencies (see FF-4)

FF-4

As a user, I want to see a simple chart of historical data for selected currencies:

ACCEPTANCE CRITERIA

- ☐ I should see the monthly historical rates for the selected currencies for past year.
- ☐ I should see months on horizontal axis and Rates on vertical axis
- ☐ Monthly rate is calculated based on rate in last day of that month

TIP: focus on doing fewer stories but doing them right!

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Design Wireframes: (use this as a reference but feel free to be creative)

Home Page Wireframe

The Home Page Wireframe features a dark theme with a grid layout. At the top left is a blue shield logo. To its right are two buttons: "EUR-USD Details" and "EUR-GBP Details". Below the logo is the title "Currency Exchanger". The main content area contains a form with three input fields: "Amount" (containing "25"), "From" (containing "EUR" with a dropdown arrow), and "To" (containing "USD" with a dropdown arrow). A double-headed arrow icon is positioned between the "From" and "To" fields. Below these fields is a blue "Convert" button. Underneath the "Convert" button are two more elements: a box showing "1.00 EUR= XX.XX USD" and a box showing "XX.XX USD". To the right of the "XX.XX USD" box is a blue "More Details" button. At the bottom of the page is a 3x3 grid of nine empty rectangular boxes.

Details Page Wireframe

The Details Page Wireframe has a dark theme. At the top left is a blue shield logo. To its right are two buttons: "EUR-USD Details" and "EUR-GBP Details". Below the logo is the title "EUR - European Union Euro". To the right of the title is a blue "Back to Home" button. The main content area contains a form with three input fields: "Amount" (containing "25"), "From" (containing "EUR" with a dropdown arrow), and "To" (containing "USD" with a dropdown arrow). A double-headed arrow icon is positioned between the "From" and "To" fields. Below these fields is a blue "Convert" button. Underneath the "Convert" button are two more elements: a box showing "1.00 EUR= XX.XX USD" and a box showing "XX.XX USD". Below the form is a large rectangular area labeled "Historical Rates Chart".