

# Build an Interactive Economic Indicator Graph using World Bank API

## Objective:

Create a responsive and interactive dashboard that fetches and visualizes **macroeconomic indicators** for **ASEAN countries** using the **World Bank API**.

## Task Description:

### 1. Functionality Requirements:

- **User Inputs:**
  - ASEAN Country selector and comparison (multi-select to compare values across countries:
    - Include these countries: Malaysia, Indonesia, Vietnam, Philippines, Thailand, Cambodia, Singapore, Lao PDR, Myanmar, Brunei
  - Indicator Selector, include the following indicators to choose to view data from.
    - Foreign direct investment, net inflows (% of GDP)  
<https://data.worldbank.org/indicator/BX.KLT.DINV.WD.GD.ZS?view=chart>
    - Export of goods and services (% of GDP)  
<https://data.worldbank.org/indicator/NE.EXP.GNFS.ZS?view=chart>
    - Net trade in goods and services (BoP, current US\$)  
<https://data.worldbank.org/indicator/BN.GSR.GNFS.CD>
    - Electricity production from hydroelectric sources (% of total)  
<https://data.worldbank.org/indicator/EG.ELC.HYRO.ZS?view=chart>

You may include more indicators if you wish for the selected ASEAN countries, you can find the full list of indicators here:

<https://data.worldbank.org/indicator?tab=all>

- Time range selector between 2011-2021. User should be able to drag a slider to adjust the range.
- **Graph Output – 3 different views**
  - Line chart comparing selected countries for the chosen indicator
    - X-axis: Years; Y-axis: Value of selected indicator
    - Tooltip with country name, year, and value

- Legend to toggle countries on/off
- Bar chart comparing selected countries for the chosen indicator
  - X-axis: Value of selected indicator; Y-axis: Countries
  - Tooltip with country name, year, and value
  - Slider to adjust view for the time-range.
- Map View with heat map style visual.
  - Show only the ASEAN region on the map with a colour range depicting the indicator value.
  - Tooltip with country name, year, and value
  - Slider at the bottom to select single year view.

## 2. World Bank API Integration:

Use the [World Bank API](https://api.worldbank.org/) to fetch country metadata.

Economic indicators (e.g. BX.KLT.DINV.WD.GD.ZS for Foreign direct investment, net inflows (% of GDP))

Example Endpoint:

<https://api.worldbank.org/v2/country/MY;ID;VN;KH;LA;SG;TH;PH;BN;MM/indicator/BX.KLT.DINV.WD.GD.ZS?format=json&date=2014:2024>

Developer Information for The World Bank API:

<https://api.worldbank.org/v2/country/MY;ID;VN;KH;LA;SG;TH;PH;BN;MM/indicator/BX.KLT.DINV.WD.GD.ZS?format=json&date=2014:2024>

## 3. Technical Requirements:

- React + TypeScript
- Charting Library: D3.js, Recharts, Chart.js, or Plotly
- API Integration: Fetch World Bank data
- Responsive layout with clean UI
- Loading states and basic error handling
- Optimise Performance with no lagging and smooth transitions.

## 4. Other Requirements:

- Build the UI using dark mode principles.
- Allow the user to export each graph via PDF or PNG.