Centre for Skill Enhancement - Prerequisites & Setup Guide

Prerequisites

Here are the key prerequisites for developing the Centre for Skill Enhancement full-stack web application using Node.js, Express.js, MongoDB, React.js, and Vite:

Vite

Vite is a fast build tool that enhances the frontend development experience by providing lightning-fast startup and Hot Module Replacement (HMR). It bundles the frontend for production using Rollup.

To create your frontend using Vite:

npm create vite@latest

More info: https://vitejs.dev/

Node.js and npm

Node.js allows JavaScript to run on the server-side and is essential for backend logic. It comes bundled with npm, the package manager for Node.

Install Node.js & npm:
Download: https://nodejs.org/en/download/
Install guide: https://nodejs.org/en/download/package-manager/

Initialize your project:
npm init

Express.js

Express.js is a Node.js web framework used to build APIs and handle server-side routing efficiently.

Install Express:

npm install express

Official site: https://expressjs.com/

MongoDB

MongoDB is a NoSQL database used for storing data in JSON-like documents. It's flexible, fast, and integrates well with Node.js.

Download & Install MongoDB:

- Download: https://www.mongodb.com/try/download/community

- Installation Guide: https://docs.mongodb.com/manual/installation/

Use Mongoose for easier MongoDB interactions:

npm install mongoose

React.js

React.js is a JavaScript library for building interactive UIs with reusable components. It's widely used for frontend development.

Create the app with Vite as shown above, then install dependencies:

npm install

Guide: https://reactjs.org/docs/create-a-new-react-app.html

HTML, CSS, JavaScript

Basic understanding of HTML, CSS, and JS is essential for designing and scripting the frontend interface.

Database Connectivity

Use Mongoose to connect the Node.js backend with MongoDB and perform CRUD operations.

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Guide: https://www.section.io/engineering-education/nodejs-mongoosejs-mongodb/

Front-end Frameworks

Use React.js for UI components. For better design, include libraries like Material UI and Bootstrap.

Install:

npm install @mui/material bootstrap

Install Dependencies

- Navigate into the cloned repository directory:

cd centre-skill-enhancement

- Install dependencies:

cd frontend

npm install

cd ../backend

npm install

Start the Development Server

To start the development server, run:

npm start

The app will be accessible at http://localhost:5172

Setup Complete

You have successfully installed and set up the Centre for Skill Enhancement app on your local machine. You can now proceed with further development and testing.