Heroku

Introduction of Heroku

- **Heroku** is a cloud platform as a service (PaaS) supporting several programming languages.
- Heroku has been in development since June 2007, when it supported only the Ruby programming language, but now also supports Java, Node.js, Scala, Clojure, Python, PHP, and Go.
- Heroku's cloud platform manages all DevOps needs, such as continuous delivery and continuous integration (CI/CD).
- Heroku like all cloud-based containers that allows users to deploy applications by providing compute and memory resources.
- Heroku provides database management and web hosting services.

Intended Learning Objectives

This lesson will discuss following:

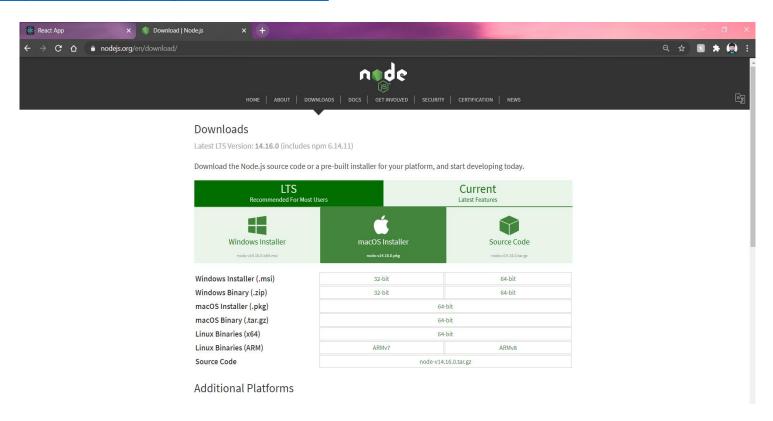
- a) Create your app (React.JS App)
- b) Create Heroku Account
- c) Deploy your app (Host your App on Heroku)

What is React.js?

- The React.js framework is an open-source JavaScript framework and library developed by Facebook.
- React has brought revolution in web development by providing a powerful and efficient way to build interactive user interfaces.
- It's used for building interactive user interfaces and web applications quickly and efficiently with significantly less code than you would with JavaScript.
- React lets you build user interfaces out of individual pieces called components. Create your own React components like Thumbnail, LikeButton, and Video. Then combine them into entire screens, pages, and apps.
 - In React, you develop your applications by creating reusable components that you can think of as independent Lego blocks.
- These components are individual pieces of a final interface, which, when assembled, form the application's entire user interface.
- For learn more : https://react.dev/learn

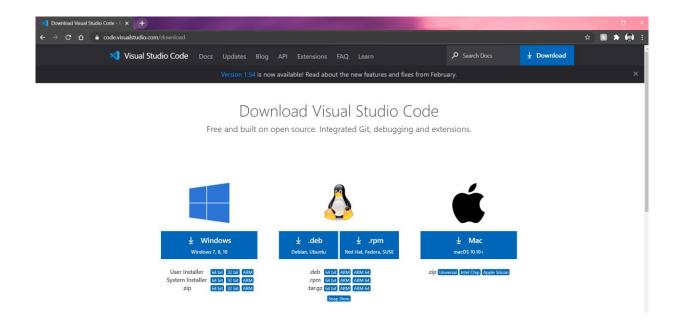
Create Your App (Javascript)

- Download and install Node.js
- https://nodejs.org/en/download



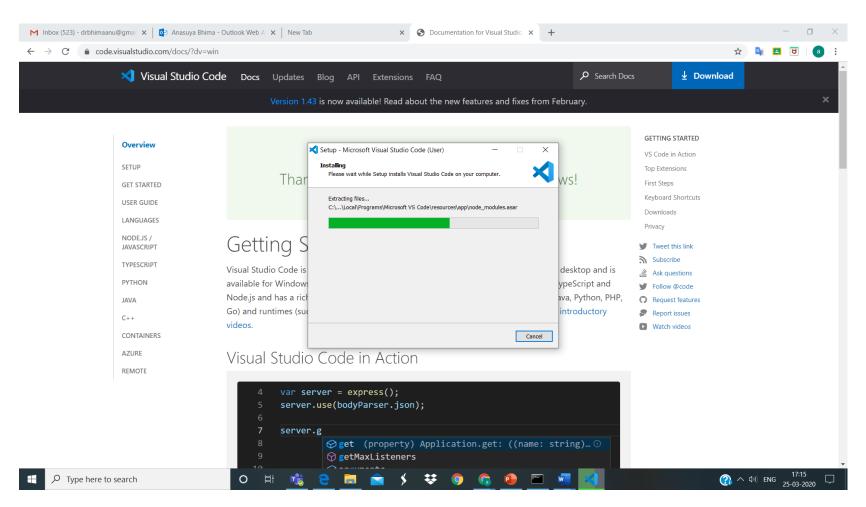
 Open source, cross-platform JavaScript runtime environment and library used for running web applications outside the client's browser.

- Download and Install Visual Studio Code
- https://code.visualstudio.com/download



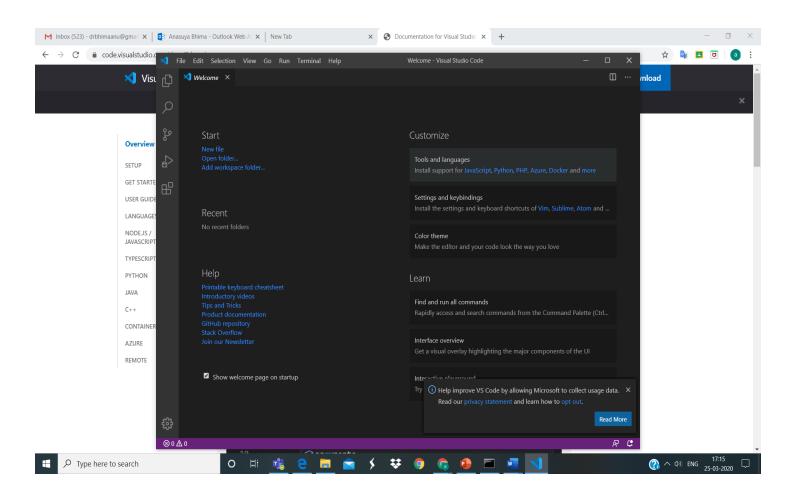
Visual Studio Code is a source-code editor that can be used with a variety of programming languages, including C, C#, C++, Fortran, Go, Java, JavaScript, Node

Installation Visual Studio Code

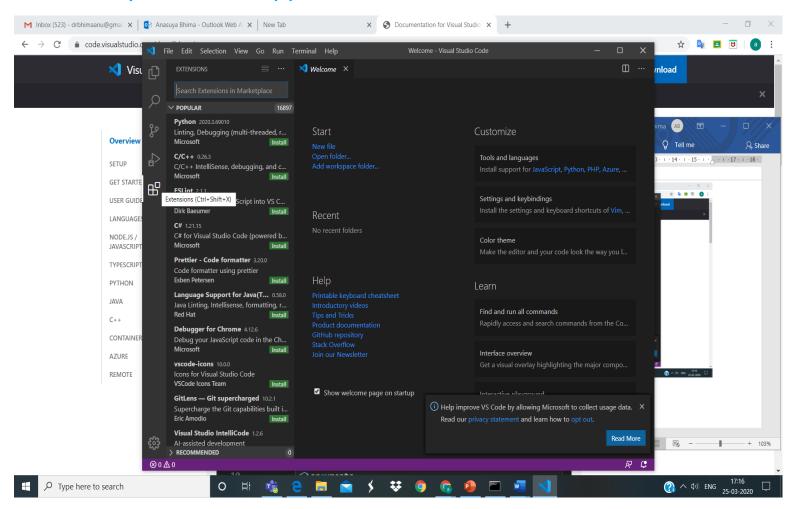


To Create a React- App we Need to Install two Extensions in Visual Studio Code:

- 1. React Snippets
- 2. Prettier- Code Formatter

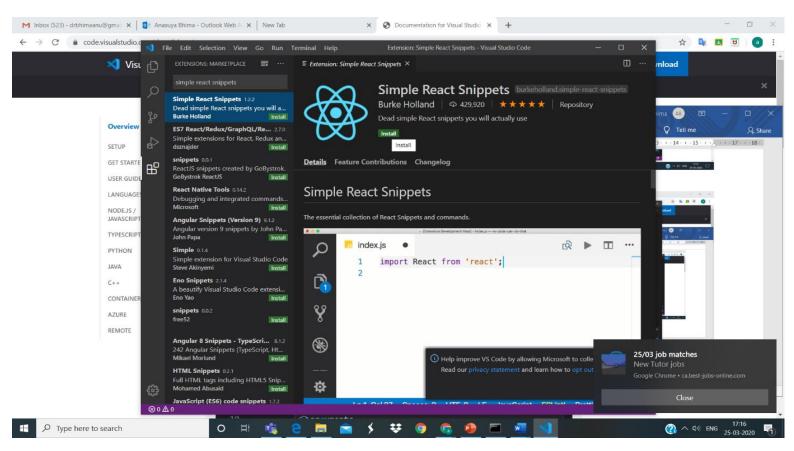


Search Simple React Snippets extension



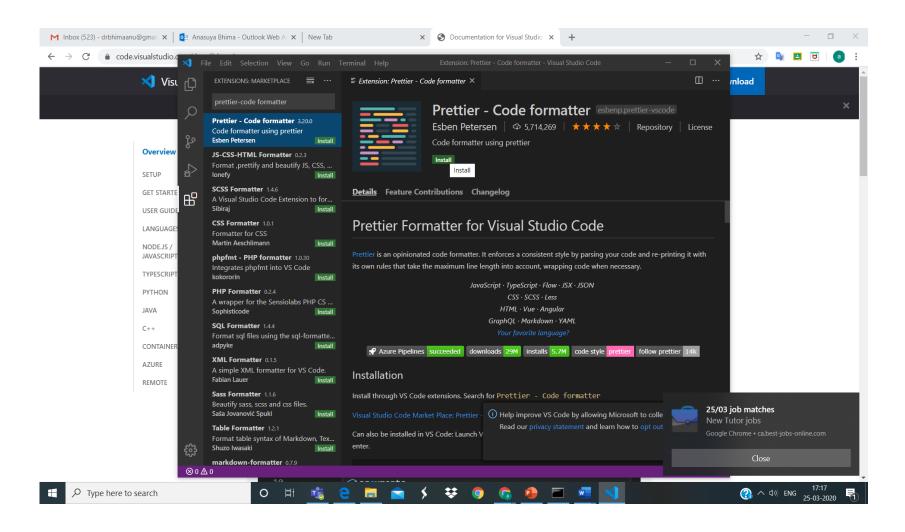
What is the Simple React Snippets?

- These snippets are used to speed up workflow.
- The snippets from this extension give us the ability to spend less time typing out the base code and
- spend more time focusing on the actual functionality.



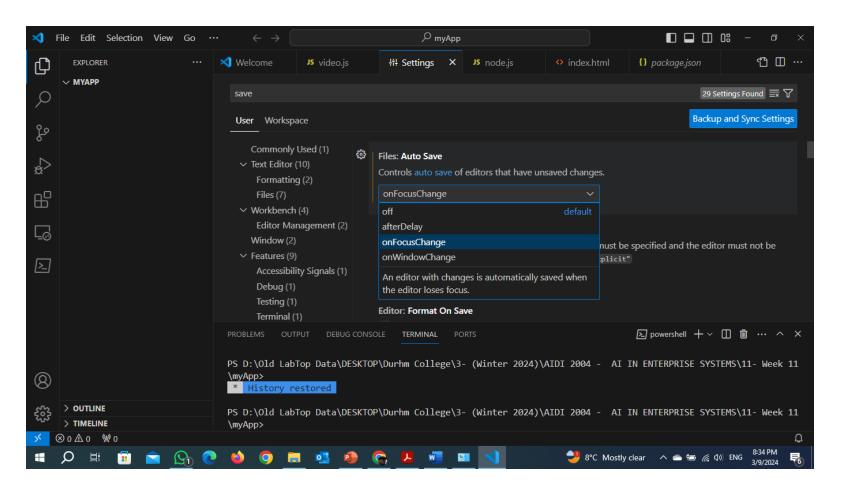
Prettier- Code Formatter Extension

It enforces a consistent style by parsing your code.



How to automatically save your works

- File -> Preferences -> Settings
- Search: Save
- Format on Save: onFocusChange



React App

- 1. npm install -g create-react-app
- 2. create-react-app my-app-name ai2021
- 3. cd my-app-name ai2021
- 4. npm start

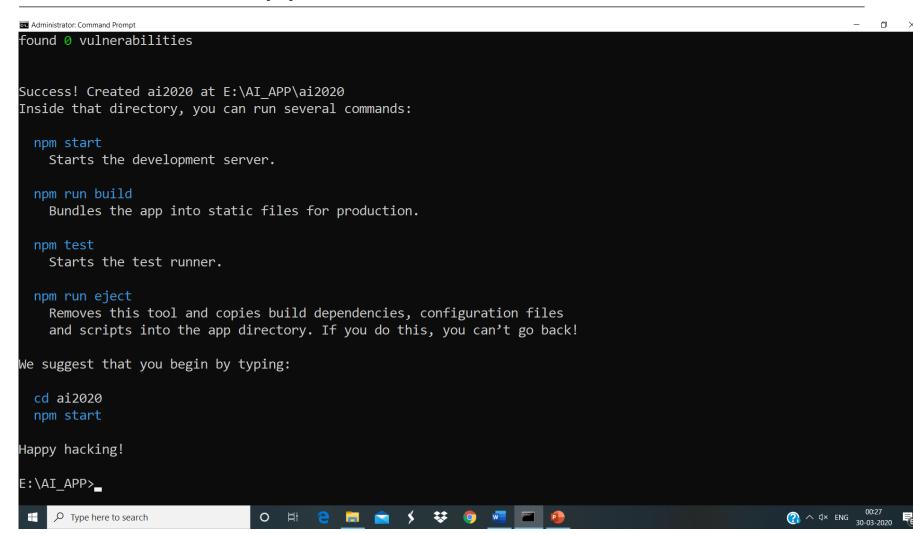
npm install -g create-react-app

```
C:\windows\system32>cd /
C:\>e:
E:\>cd AI APP
E:\AI APP>npm install -g create-react-app
npm <mark>WARN</mark> deprecated mkdirp@0.5.4: Legacy versions of mkdirp are no longer <u>supported. Please update to mkdirp 1.x. (Not</u>
e that the API surface has changed to use Promises in 1.x.)
C:\Users\Anasuya\AppData\Roaming\npm\create-react-app -> C:\Users\Anasuya\AppData\Roaming\npm\node modules\create-reac
t-app\index.js
+ create-react-app@3.4.1
updated 1 package in 14.552s
E:\AI APP>create-react-app ai2020
Creating a new React app in E:\AI APP\ai2020.
Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...
Type here to search
```

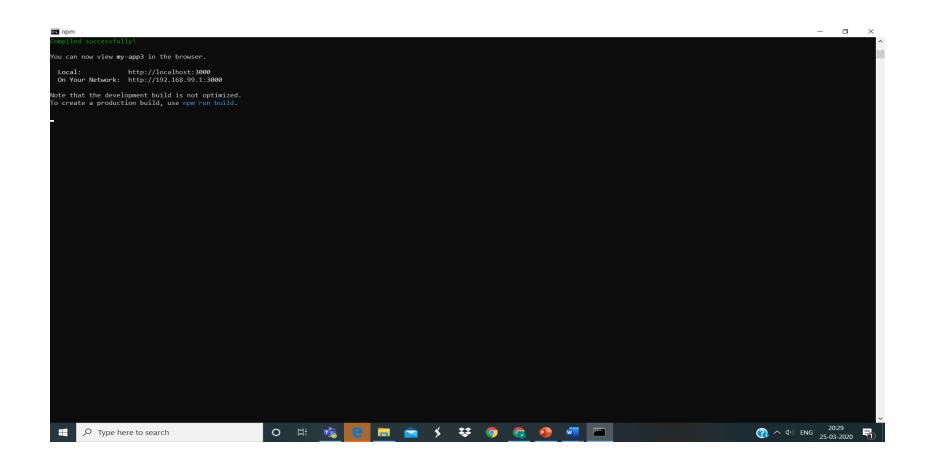
React (also known as React.js or ReactJS) is a free and open-source front-end JavaScript library for building user interfaces based on components

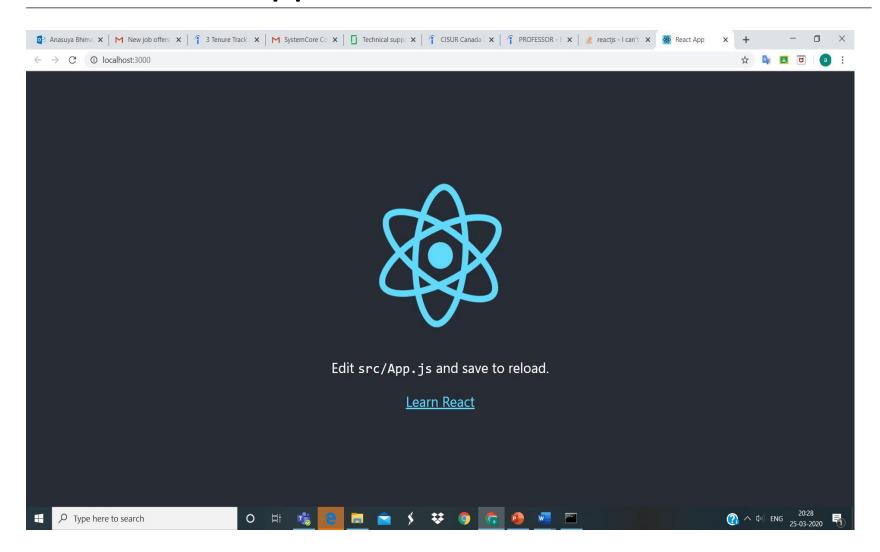
create-react-app my-app-name (ex: ai2021)

```
Administrator: Command Prompt
                                                                                                       E:\AI APP>create-react-app ai2020
Creating a new React app in E:\AI APP\ai2020.
Installing packages. This might take a couple of minutes.
Installing react, react-dom, and react-scripts with cra-template...
   ____core-js@2.6.11 postinstall E:\AI APP\ai2020\node modules\babel-runtime\node modules\core-js
> node -e "try{require('./postinstall')}catch(e){}"
 core-js@3.6.4 postinstall E:\AI APP\ai2020\node modules\core-js
> node -e "try{require('./postinstall')}catch(e){}"
> core-js-pure@3.6.4 postinstall E:\AI APP\ai2020\node modules\core-js-pure
 node -e "try{require('./postinstall')}catch(e){}"
 react-scripts@3.4.1
 react@16.13.1
 cra-template@1.0.3
+ react-dom@16.13.1
added 1579 packages from 749 contributors and audited 929858 packages in 163.105s
55 packages are looking for funding
                                                                                            Type here to search
```



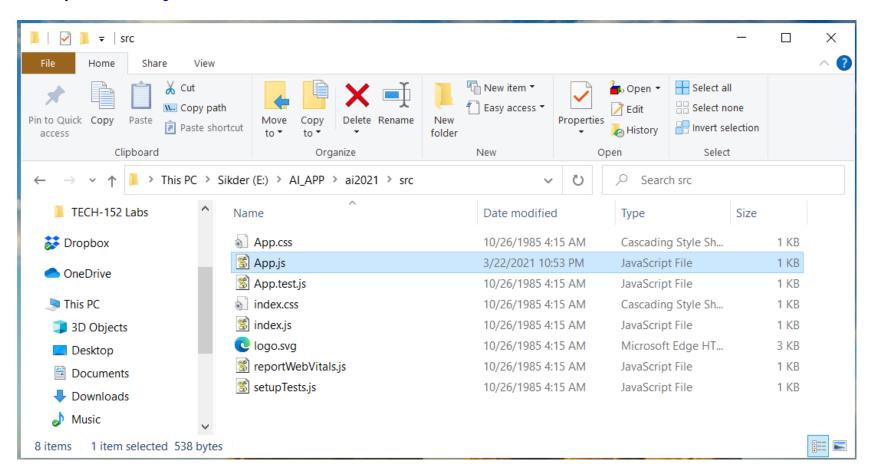
- cd ai2021
- npm start
- Ctrl + C





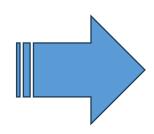
Modify the Content of the App

Open APP.js file with Visual Studio Code



Modify the Content of the App

Open APP.js file with Visual Studio Code



Modify the Content of the App (New Component to Rect App)

Step 1: Creating the Like Button Component

- After setting up a simple React project, we can now construct a new component for our "like" button. In the project's src directory, create a new file called **LikeButton.js**
- We are importing React and the useState hook from the react package into this code. We will add state to our component—in this case, the number of likes—using the useState hook. When the button is clicked, the initial state is set to 0, and the setLikes function is used to update the state and re-render the component with the revised amount of likes.
- A conditional style can be added to our button to show when it has been liked. To track whether the button has been liked or not, we will add a new state variable to our component. Once the button has been liked, we can use this state variable to give it a different class

```
// LikeButton.js
import React, { useState } from "react";
import "./App.css";
function LikeButton() {
   const [likes, setLikes] = useState(0);
  const [liked, setLiked] = useState(false);
   return (
      <button
         className={`like-button ${liked ? 'liked' : ''}`}
         onClick={() => {
            setLikes(likes + 1);
            setLiked(true);
         }}
         {likes} Likes
      </button>
  );
export default LikeButton;
```

Modify the Content of the App (New Component to Rect App)

Step 2: Styling the Like Button

Define new CSS in App.css, we can style our "like" button

```
.like-button-container {
  display: flex;
  justify-content: center;
  align-items: center;
  margin: 20px;
.like-button {
  border: none;
  outline: none;
  background-color: transparent;
  font-size: 18px;
  font-weight: bold;
  color: #333;
  cursor: pointer;
  transition: all 0.2s ease-in-out;
  padding: 10px 20px;
  border: 2px solid #333;
.like-button:hover {
  color: #fff;
  background-color: #333;
.like-button.liked {
  color: #ff69b4;
  border-color: #ff69b4;
/* For mobile screens */
@media (max-width: 768px) {
   .like-button-container {
     flex-direction: column;
  .like-button {
     font-size: 16px;
     margin-bottom: 10px;
     padding: 8px 16px;
     border-width: 1px;
```

Modify the Content of the App (New Component to Rect App)

Step 3: Adding the Like Button to the App

• Finally: We need to include our like button component in our app now that we have it

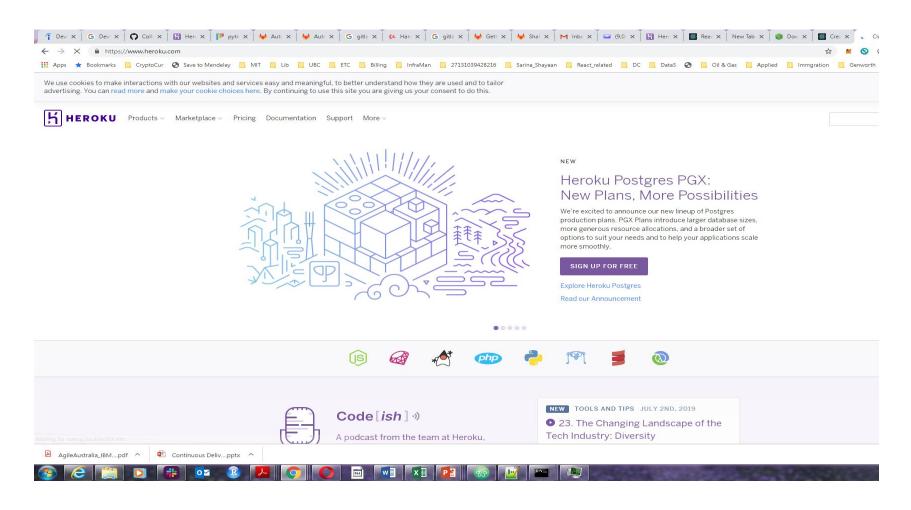
```
import React from 'react';
import LikeButton from './LikeButton';
function App() {
   return (
      <div>
         <LikeButton />
      </div>
   );
export default App;
```

.gitignore

- Note: .gitignore automatically created
- If you create a file in your repository named .gitignore, Git uses it to determine which files and directories to ignore before you make a commit (untracked files that Git should ignore), .
- A .gitignore file should be committed into your repository, in order to share the ignore rules with any other users that clone the repository.
- If you don't want to create a .gitignore file to share with others, you can create rules that are not committed with the repository
- You can ignore any specific folder and its content as well.
- https://git-scm.com/docs/gitignore

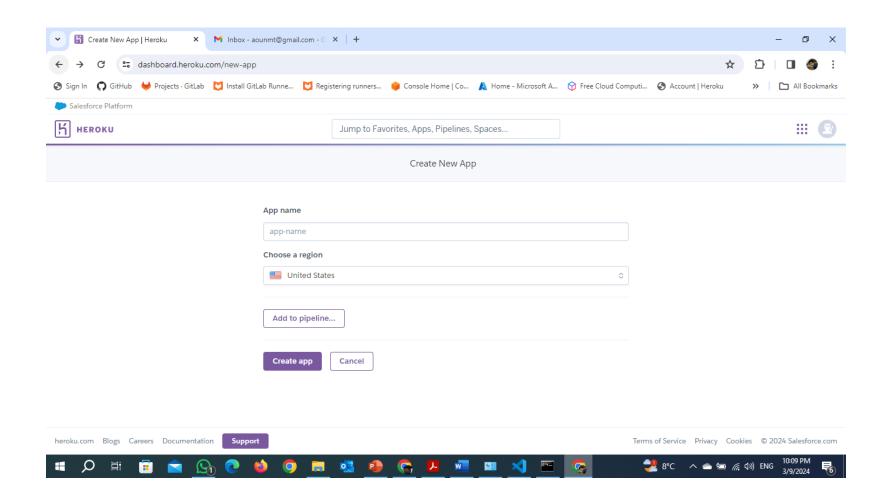
Create Heroku Account

https://id.heroku.com/login

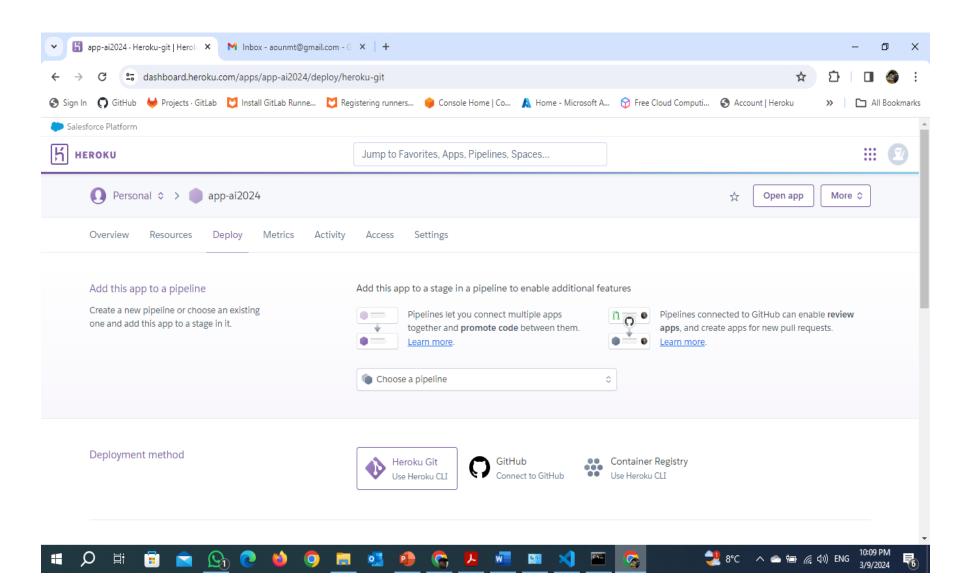


Create Heroku Account

Create App



Create Heroku Account



what is the heroku account?

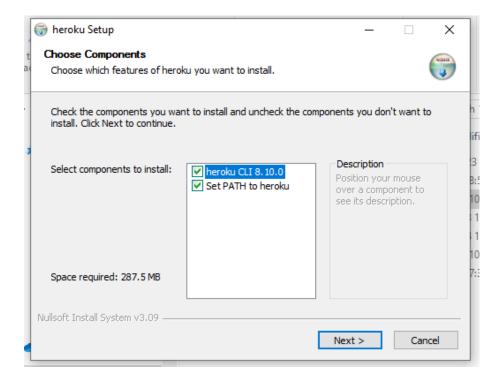
- Heroku is a cloud platform as a service (PaaS) supporting several programming languages.
- One of the first cloud platforms,
- Heroku has been in development since June 2007, when it supported only the Ruby programming language, but now supports Java, Node.js, Scala, Clojure, Python, PHP, and Go

https://www.youtube.com/watch?v=sP-CIDyQUSc

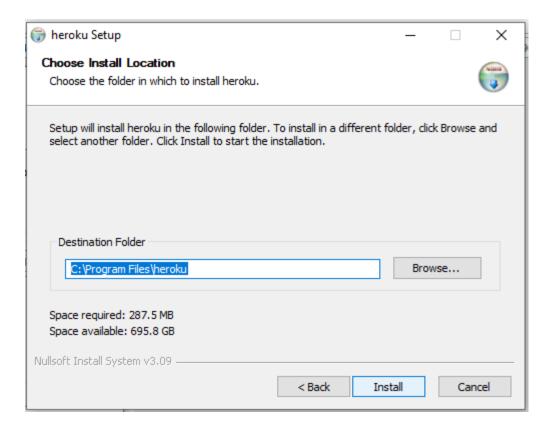
Steps: https://www.freecodecamp.org/news/how-to-deploy-an-application-to-heroku/

Install the Heroku CLI (https://devcenter.heroku.com/articles/heroku-cli#install-the-heroku-cli)

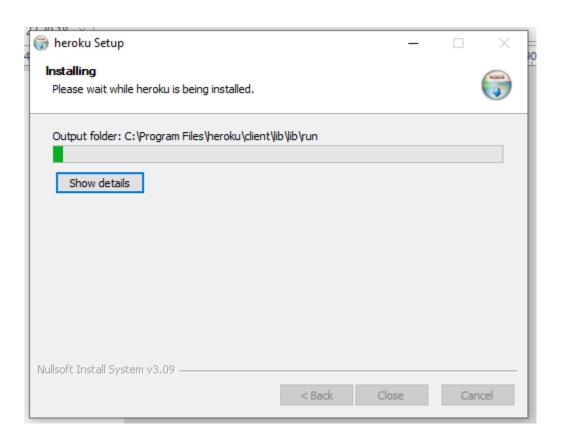
Download and install the Heroku CLI.



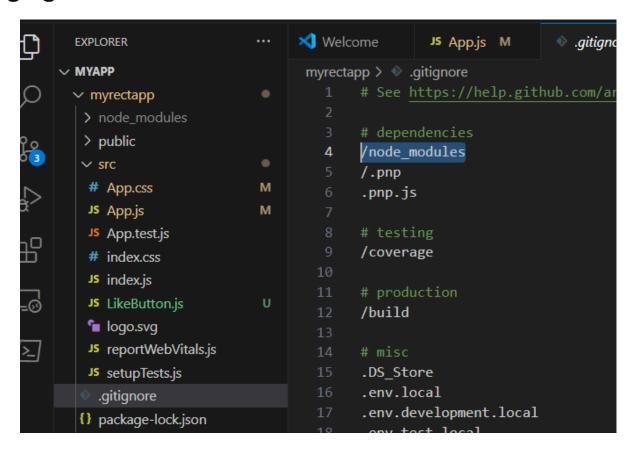
Download and install the Heroku CLI.



Download and install the Heroku CLI.



We must ignore some files. We want to upload to the repository only the code, without irrelevant files for example dependencies (the installed modules). For that, we need to write (/node_modules) inside the file .gitignore.



After Download and install the Heroku CLI.

- If you haven't already, log in to your Heroku account and follow the prompts to create a new SSH public key.
- Use git in the command line

Open Git-Bash \$ heroku login

 After login by browser close the page you are login now

```
MINGW64:/d/Old LabTop Data/DESKTOP/Durhm College/3- (Winter 2024)/AIDI 2004 - AI IN ENTERPRISE SYSTEMS/11- Week 11/myApp/myrectapp
                                                                                                                         OP-J43D5GN MINGW64 /d/Old LabTop Data/DESKTOP/Durhm College/3- (Winter 2024)/AIDI 2004 -  AI IN ENTERPRI:
 heroku login
    Warning: Our terms of service have changed: https://dashboard.heroku.com/terms-of-service
heroku: Press any key to open up the browser to login or q to exit: 🗕
```

Create a new Git repository

• Initialize a git repository in a new or existing directory

```
$ cd your-project-folder/
```

- \$ git init
- \$ heroku git:remote -a yourHerokuRepositoryName

Note: We will use a github to deploy our project

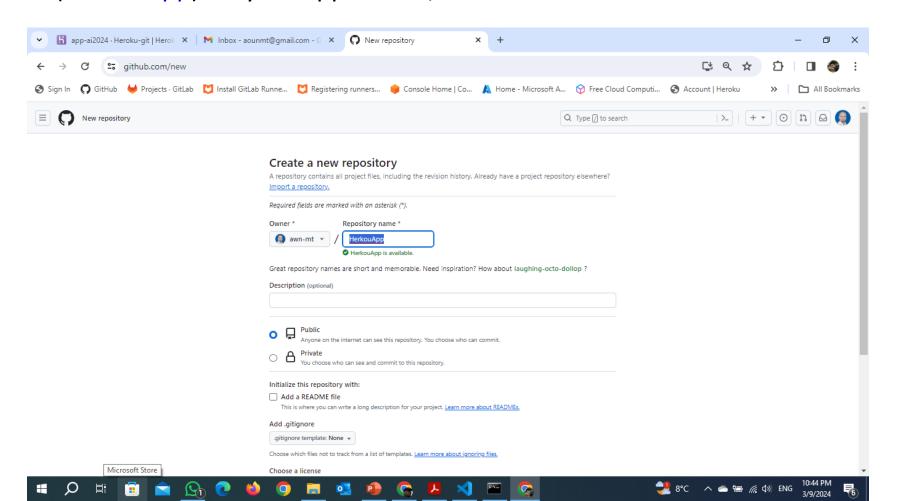
Deploy your application

- Commit your code to the repository and deploy it to Heroku using Git.
 - \$ git add.
 - \$ git commit -am "make it better"
 - \$ git push heroku master

Existing Git repository

- For existing repositories, simply add the heroku remote
 - \$ heroku git:remote -a yourHerokuRepositoryName

 The next step is place our code in a development platform in a repository, Like Github, On GitHub, we will create a new repository (HerkouApp) for your application, like this:

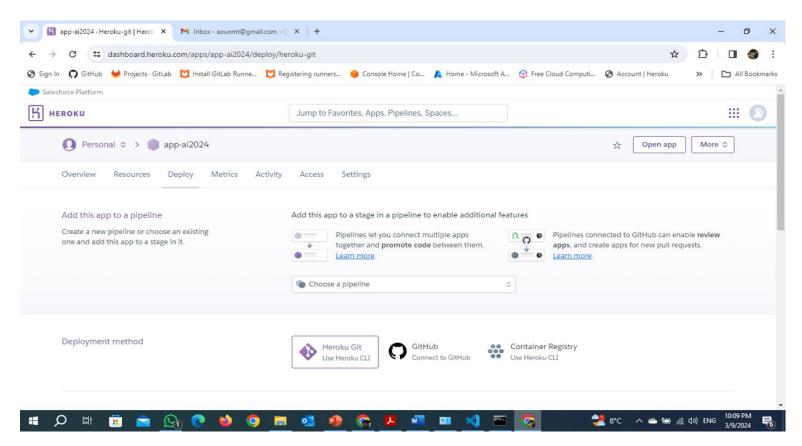


To upload your local code into a repository, you need to run the commands that are listed (below) on **Github** after you Creating repository:

```
git init
git config advice.addIgnoredFile false (because the git consider JS files unsafe)
git add *
git commit -m "first commit"
git branch -M master
git remote add origin https://github.com/YourAccount/YourProjectName.git
git push -u origin master
```

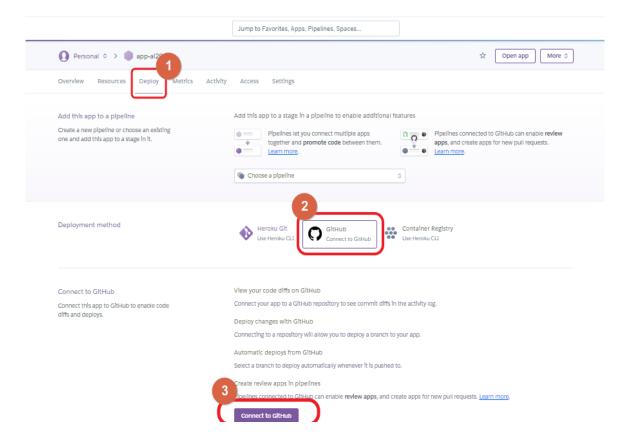
Link the repository with Heroku

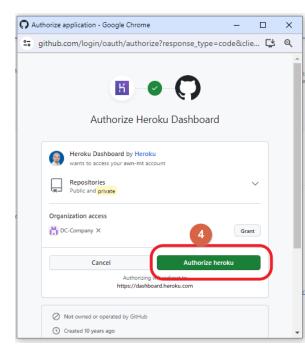
 At this step, we can link the repository from Github to our Heroku application. First, create a new application on Heroku and follow the steps listed on the platform. Once the application has been created, a window similar to this should appear:



Link the repository with Heroku

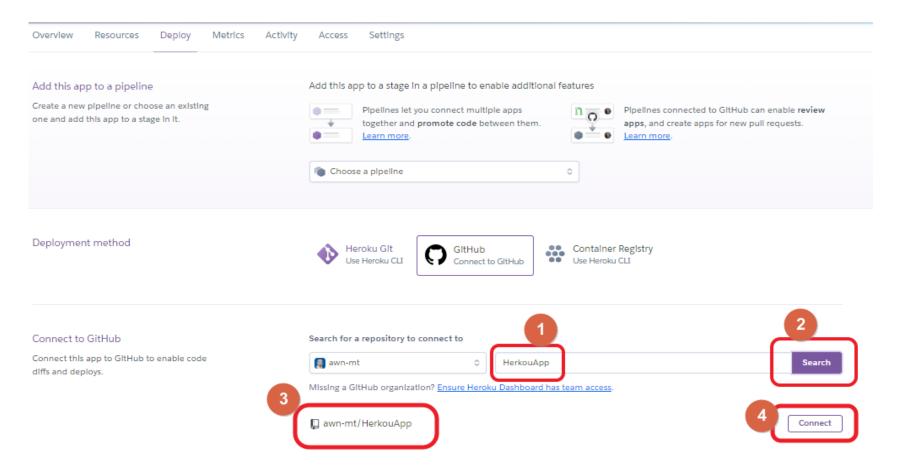
Now, if you look at the navigation at the top, you'll see Overview,
Resources, Deploy, Metrics and so on. Be sure that Deploy is selected.
Then on the second row, click on the GitHub icon, then Click connect
then press Authorize Heroku.





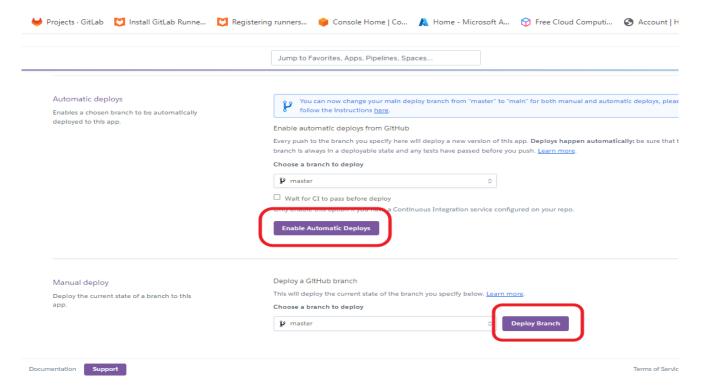
Link the repository with Heroku

 Search for the desired application, which is YourGitHubReperstory. Then click Connect.



Link the repository with Heroku

- Once the application is successfully connected with your Heroku account, you can click Deploy Branch to deploy your application.
- If you want, you can also select the option Enable Automatic Deploys which will automatically pull the code from your Github repository every time you make a push to that repository.
- Once the application has been deployed, you can click on View to open your application.



Link the repository with Heroku

• After clicking on View to open your application, you should see your project.

