Lab: Setting up GitHub the Environment

Estimated time needed: 15 minutes

What you will learn

In this lab, you will set up an online repository for the project and learn how to create folders and files in the **Skills Network Environment**. You will also understand how to view the output of your code.

Learning objectives

After completing this lab, you will be able to:

- Create an online repository.
- Create folders and files in **Skills Network Environment**.
- Create and run the react application.
- Perform Git operations.

Prerequisites

- You must have completed the prerequisite courses, especially the **Getting Started with Git and GitHub** course.
- You must have a GitHub account. If you want to set up a GitHub account, click **here** for the detailed steps.

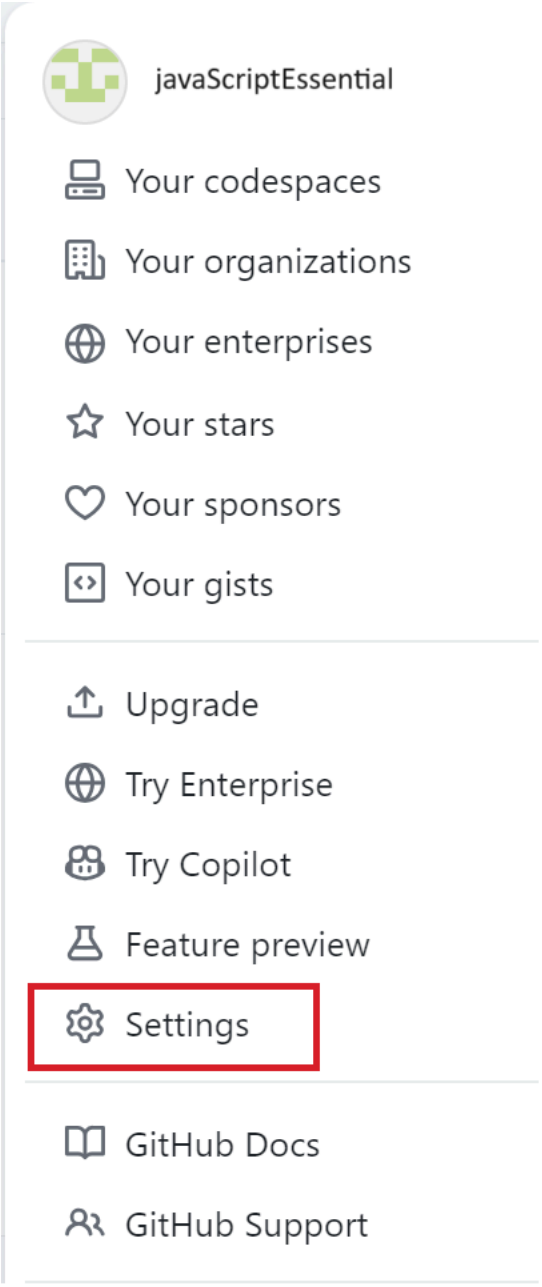
Need to perform Git commands

It is crucial to follow a few essential steps to ensure the proper management and persistence of your data in a GitHub repository:

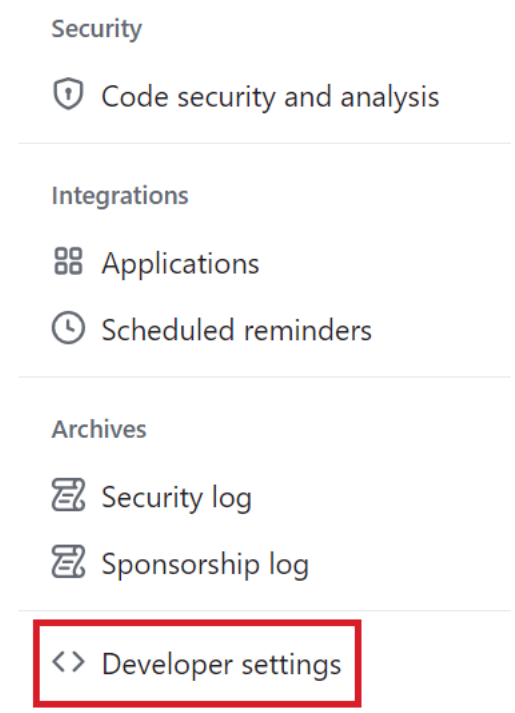
- **Regular updates:** Whenever you make changes or add new components to your project, adding, committing, and pushing the updates to your GitHub repository is essential. This process ensures that your latest work is safely stored and accessible to collaborators.
- **Session persistence:** During an active session, your data remains accessible. However, it's important to note that if your session expires or you log out, you will need to clone the repository again to resume work.

Task 1: Create your repository and generate a personal access token

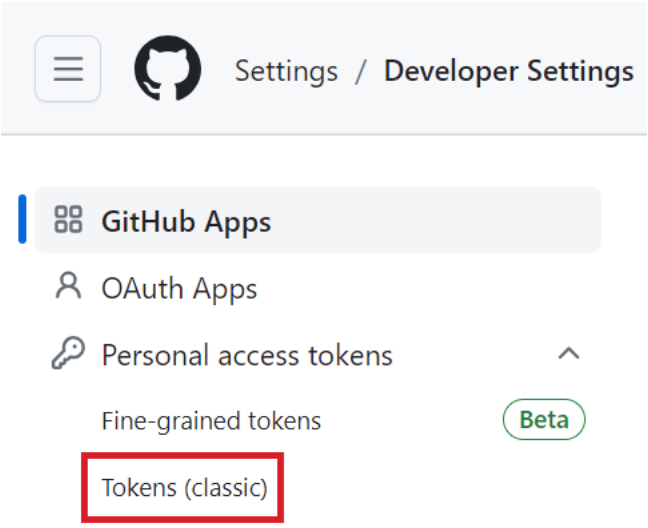
1. Create a blank public GitHub repository in your GitHub account without creating any README.md file for this. Make sure you set your repository to public and name it accordingly.
2. You can find more information in the GitHub Sign Up and Create Repo lab.
3. To push files to a GitHub repository, you must have a **Personal Access Token** to make sure your authentication is related to your GitHub account.
4. To create a **Personal Access Token**, go to your GitHub account and click on your profile icon located in the top-right corner. Then click on **Settings**.


javaScriptEssential
Your codespaces
Your organizations
Your enterprises
Your stars
Your sponsors
Your gists
Upgrade
Try Enterprise
Try Copilot
Feature preview
Settings
GitHub Docs
GitHub Support

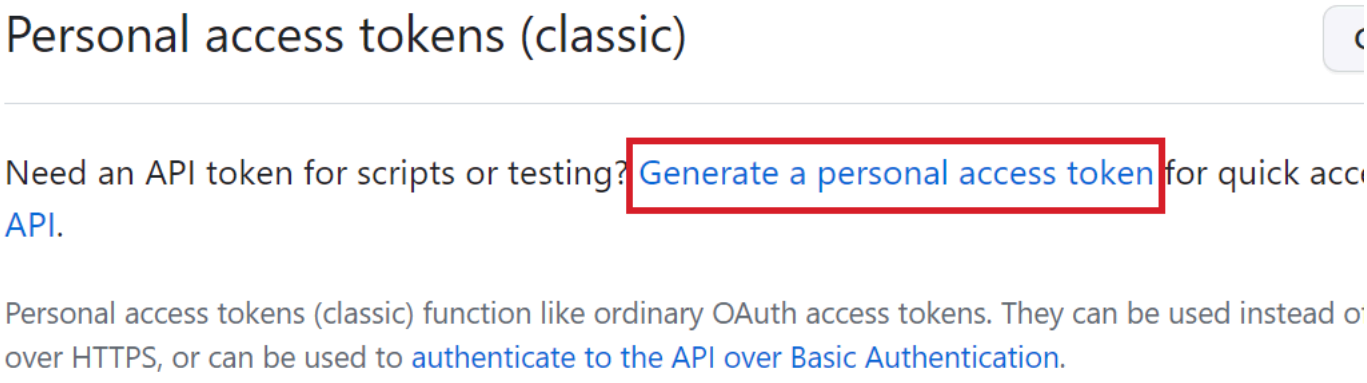
5. Next, select **Developer settings**. This option is typically available towards the bottom of the window.



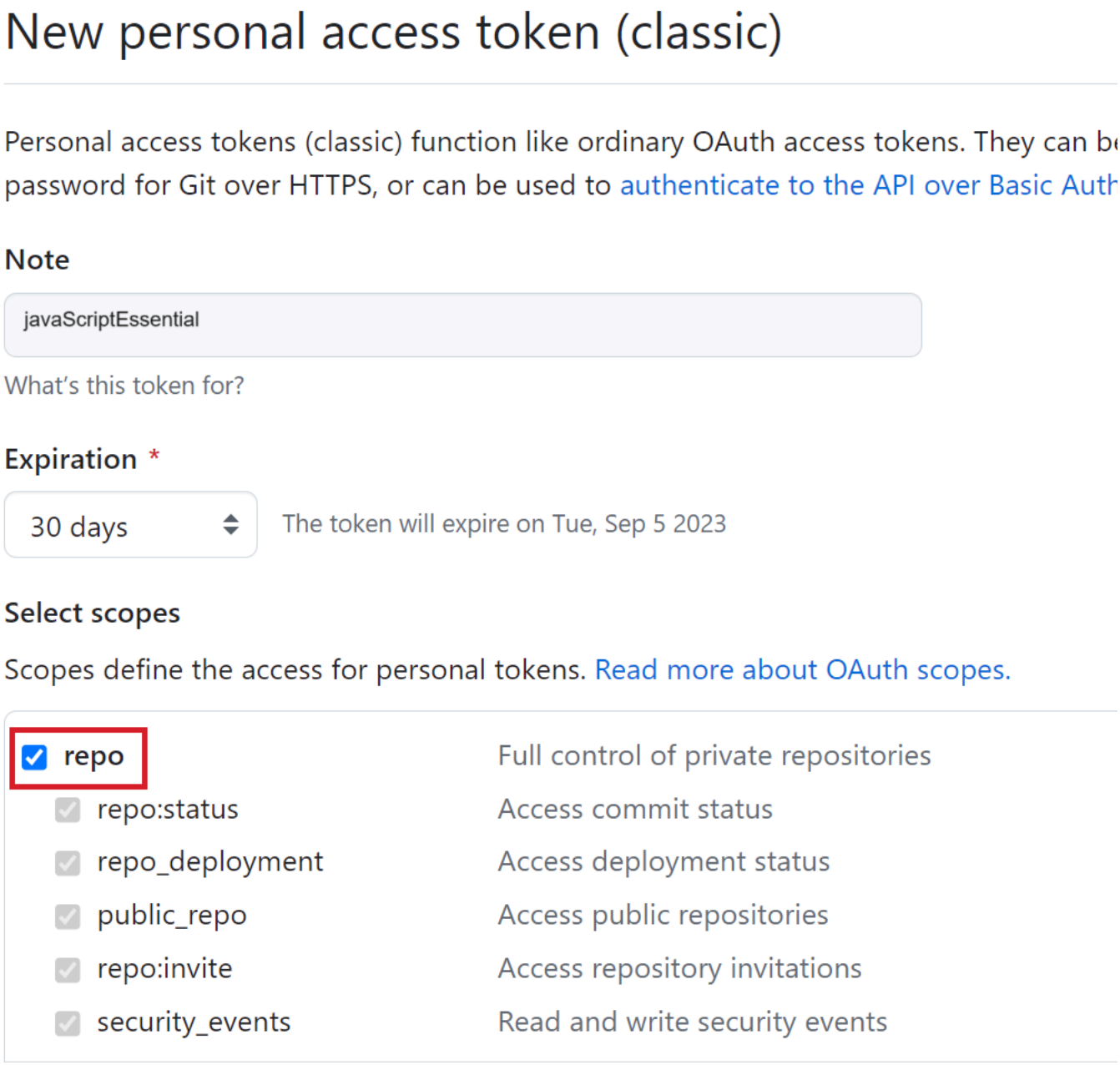
6. Navigate to **Tokens (classic)** under **Personal access tokens**.



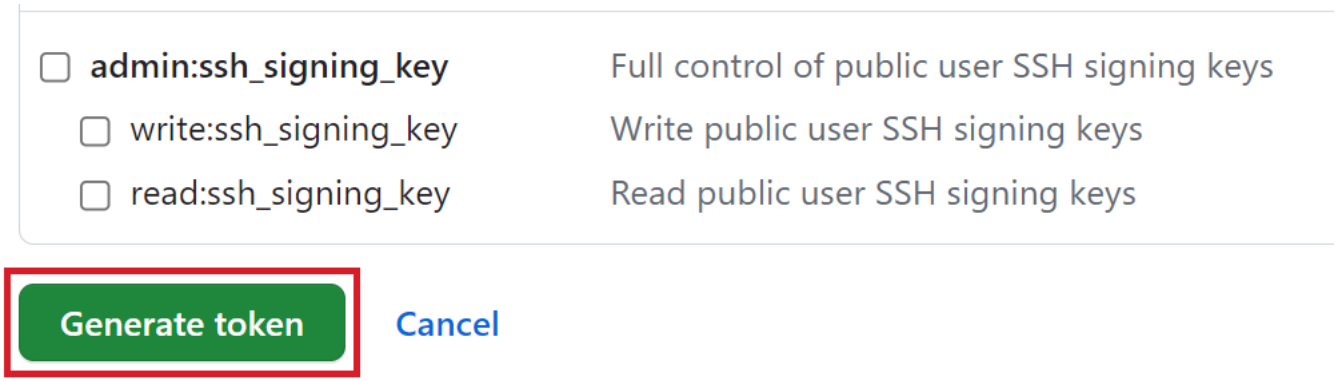
7. To generate an access token, click **Generate a personal access token**.



8. In the **Generate token** page, fill in the required details and click the **repo** checkbox to enable access for `git` commands.



9. Then, click **Generate token**.

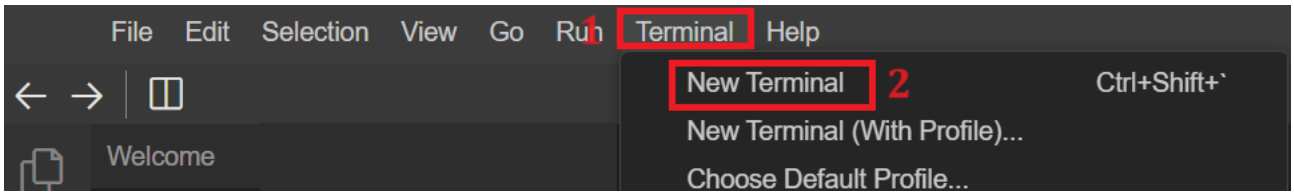


10. Your personal access token will be generated. The token is only valid for **30 days**. You will need to generate a new token once the current token expires.

REMEMBER: Make sure to copy your personal access token now. You won't be able to see it again! In case you forgot to save it or misplaced it, delete the already created token and generate new one.

Task 2: Create files in Skills Network Environment

1. If a terminal is not open in the Skills Network Environment, select the "Terminal" tab at the top-right of the window, then "New Terminal" from the dropdown. These are shown in the given screenshot.



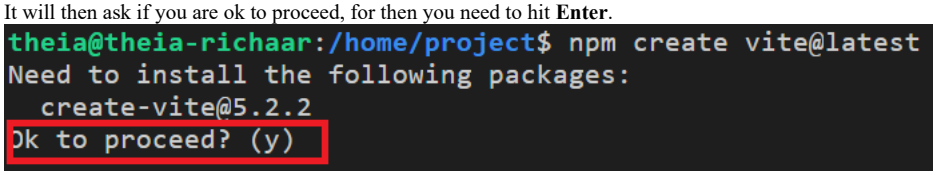
2. Follow the given steps to create react application:

- Write the given command in the terminal:

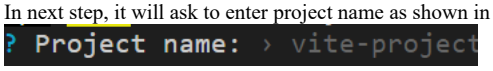
```
npm create vite@latest
```

- The terminal should look similar to the given screenshot.

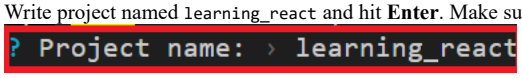
- It will then ask if you are ok to proceed, for then you need to hit **Enter**.



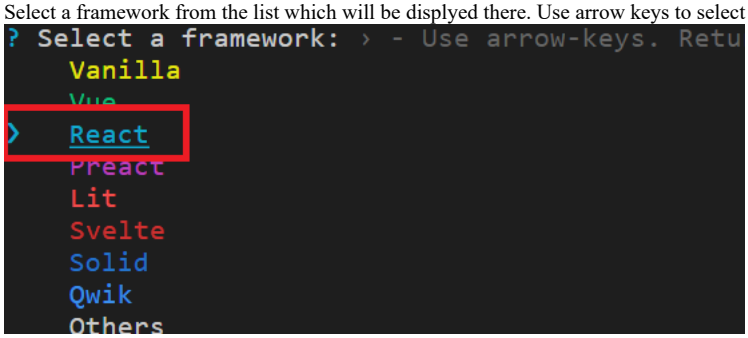
3. In next step, it will ask to enter project name as shown in the given screenshot.



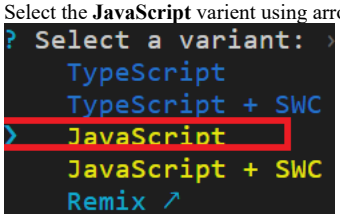
- Write project named `learning_react` and hit **Enter**. Make sure that project name should be in lowercase. You can see the given screenshot for reference.



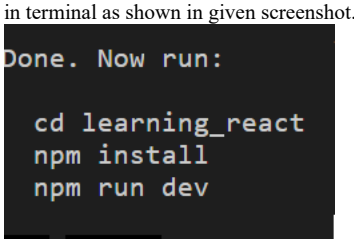
4. Select a framework from the list which will be displyed there. Use arrow keys to select **React** and hit **Enter**.



5. Select the **JavaScript** varient using arrow keys and then hit **Enter**.



- After completing above steps, it will create one folder with the application name `learning_react`. It will ask to run certain commands which will be displayed in terminal as shown in given screenshot.



6. Now you need to go inside the application folder which you have created using terminal. For this, perform given command.

```
cd learning_react
```

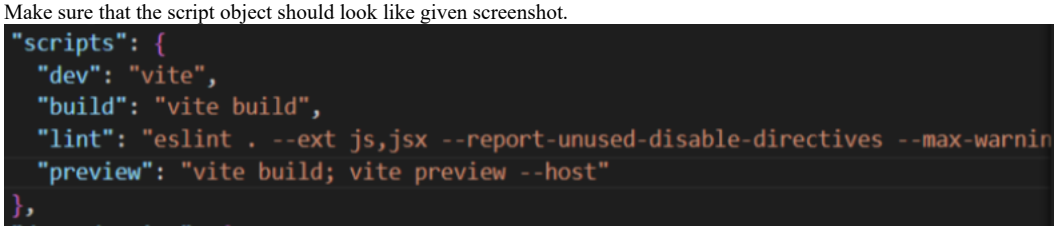
7. Perform the *npm install* command by writing it in the terminal. It will install all required files to run the React application.

```
npm install
```

8. Now go to `package.json` under `learning_react` folder. Include given code in **preview** key under **script** object.

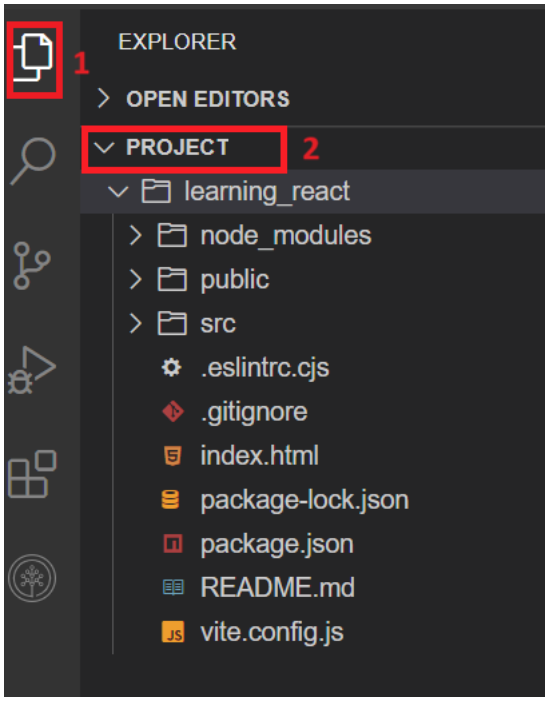
```
"preview": "vite build; vite preview --host"
```

- Make sure that the script object should look like given screenshot.



9. The next steps will allow you to run your React application.

   Now click on the **Explorer** icon shown at number 1 in given screenshot, then expand the **project** folder by clicking on the twisty arrow. You will see the entire folder structure for your React application.



10. After this, enter the `npm run preview` command in the terminal to run the application.

```
npm run preview
```

Your terminal will display a line beginning with the word `Local` followed by the localhost path and a port number.

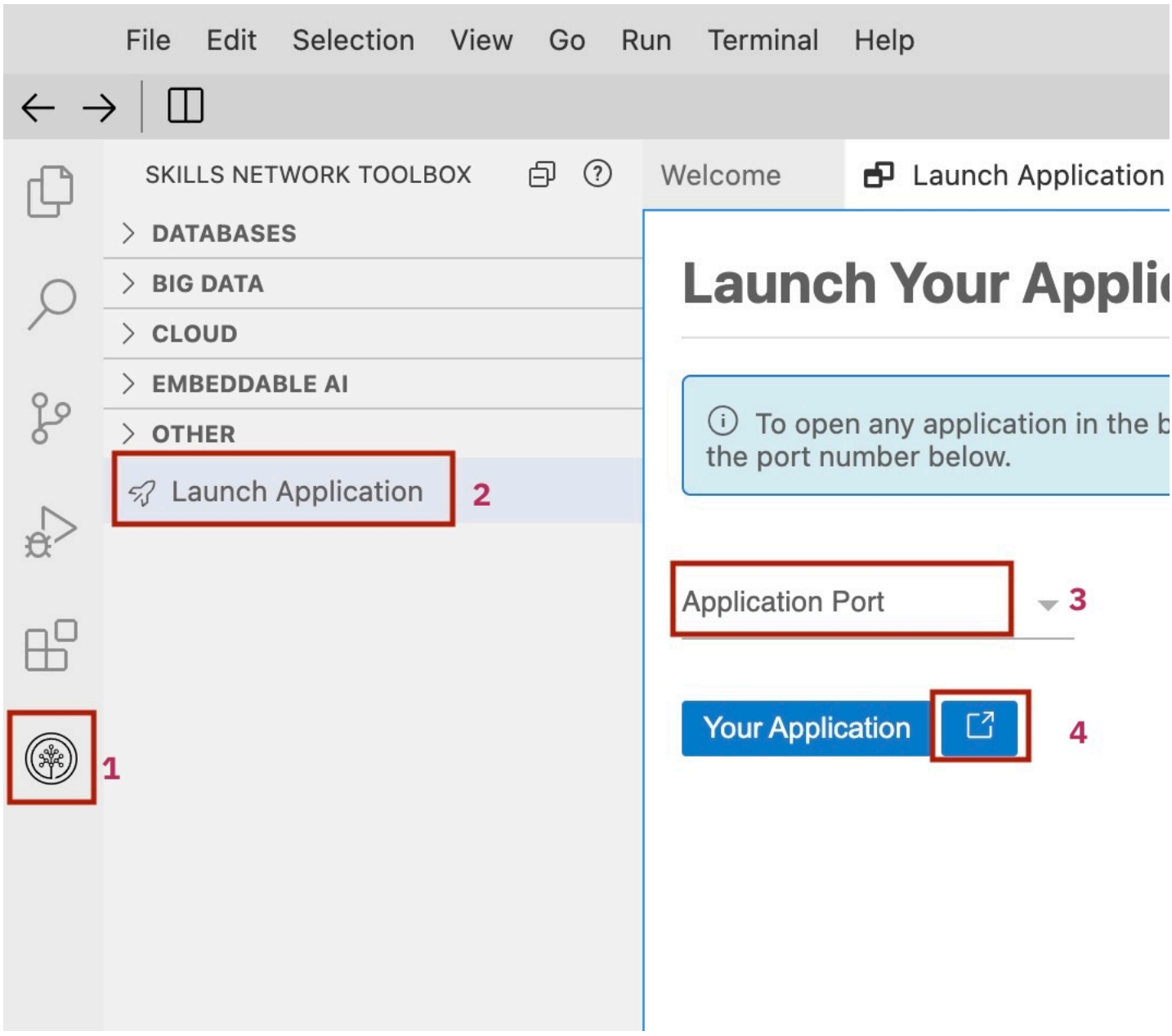
You can see a sample screen below, where the port number is 4173. This port will run your React application.

```
✓ built in 1.18s
  ➜ Local:   http://localhost:4173/
  ➜ Network: http://172.22.175.156:4173/
  ➜ press h + enter to show help
```

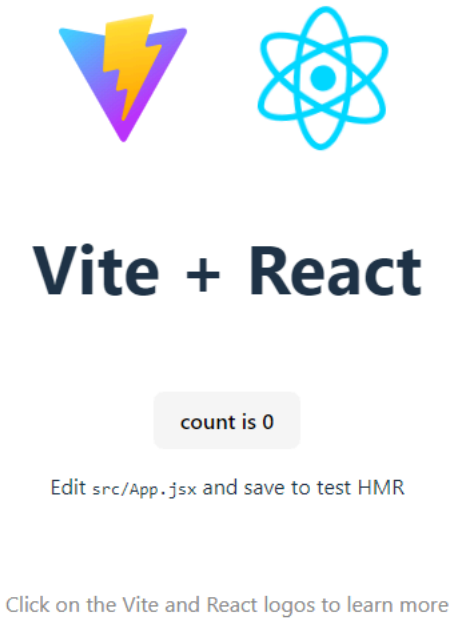
Task 3: Check your output

Next, you will take the required steps to view your output in a browser.

1. Select the **Skills Network** icon on the lower left of the IDE environment, shown at number one in the screenshot. This will open the "Skills Network Toolbox."
2. This action will open the **Skills Network Toolbox**. Next, click **Launch Application** (refer to number 2).
3. Enter port number **4173** in **Application Port** (refer to number 3) and click  .

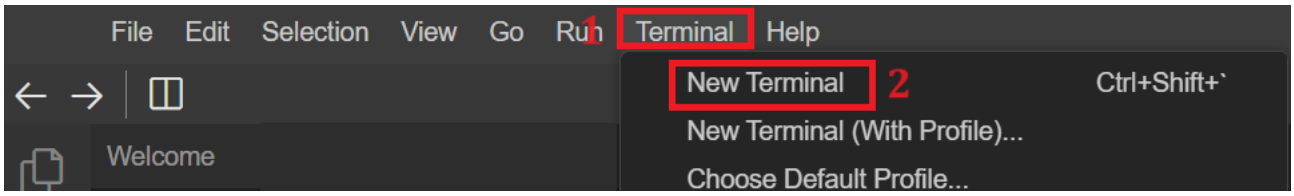


4. The React application will open your default browser, where you will see the output as given below.



Task 4: Perform Git commands in the terminal

1. Now, select the "Terminal" tab at the top-right of the window, and then "New Terminal" from the dropdown, as indicated in the screenshot.



Make sure that your terminal path reads `/home/project/ cd <learning_react>` where you should replace `<learning_react>` with your own project name.

2. Next, initialize the terminial to create a Git repository so you can perform all Git commands in this terminal. Use the provided command and press **Enter**.

```
git init
```

3. Then you need to conigure the terminal to perform necessary commands within the **Skills Network Environment**.

```
git config --global --add safe.directory /home/project
```

Press **Enter**

Important

The `git config` command will help you to work inside your project folder environment using git commands.

4. Next, you need to config git with your email address. Replace *you@example.com* with your email address. Be sure your email address is in double quotes.

```
git config --global user.email "you@example.com"
```

Press **Enter**.

Now you should use the `config` command to set your username. Replace *Your Name* with your name and be sure to use double quotes, as shown.

```
git config --global user.name "Your Name"
```

5. Next, perform `git add` and `git commit` to save the changes for GitHub repository. Run the following commands one after another:

```
git add --a
```

```
git commit -m "initial commit"
```

6. Perform `git push` commands to push the files into your GitHub repository. You need to set your main brach in your GitHub repository.

```
git branch -M main
```

7. Add your GitHub repository URL in an origin variable. Also replace `<git-repo-url>` with your GitHub repository URL.
   For example:

```
git remote add origin https://github.com/<youraccountname>/<yourrepositoryname>
```

```
git remote add origin <git-repo-url>
```

Press **Enter**

8. Then, push the content of your file to your GitHub repository:

```
git push -u origin main
```

Press **Enter**

Important

*The above command sets your first push command to upload **all** of your changes directly to the main branch. You only need to perform this once. After this `git push` will also do the same.*

9. While pushing the files in GitHub using `git push` command, it will ask you to enter your username and password for your GitHub account in the terminal.

- Enter your username and then press enter.
- For your password, you need to paste your **Personal Access Token** generated in step 1.

Important

Upon pasting your **Personal Access Token** into the terminal, it won't display for security reasons, but it's there. Simply hit enter, and it will push your files and folders to the GitHub repository.

10. All your files have been pushed to your GitHub directory.

Note: You can also refer to Hands-on Lab: Getting Started with Branches using Git Commands for more details on git commands.

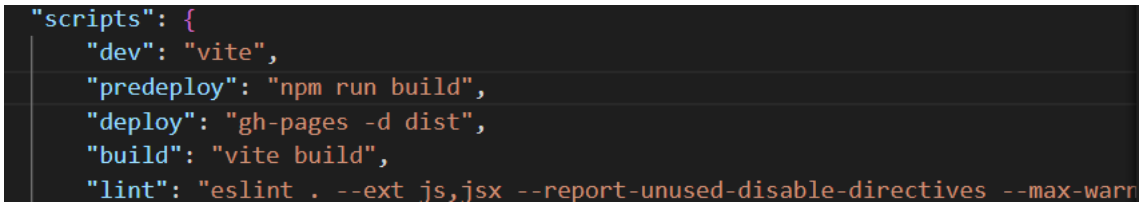
Task 5: Deploy using GitHub Pages

1. To deploy your react application in GitHub you need to install `gh-pages`. This allows you to use it as a tool for deploying your project to GitHub Pages. Perform given command in the terminal

```
npm install gh-pages --save-dev
```

2. Add given lines before `"build": "vite build"` in `package.json` file.

```
"predeploy": "npm run build",
"deploy": "gh-pages -d dist",
```



3. Then in the vite.config.js file add this line before plugins: `[react()]`

```
base: "/YOUR_REPOSITORY_NAME",
```

```
export default defineConfig({
    base: "/YOUR_REPOSITORY_NAME",
  plugins: [react()],
})
```

Note: Instead of <YOUR_REPOSITORY_NAME> write your own repository name such as assume if your github repository name is learning_react the it should look like `base: "/learning_react"`

4. Now perform deploy command in the terminal to executes the "deploy" script defined in the package.json file, deploying the project to GitHub Pages using the gh-pages tool.

    ```
    npm run deploy
    ```

```
theia@theia-ritikaj:/home/project/react$ npm run deploy

> react@0.0.0 predeploy
> npm run build


> react@0.0.0 build
> vite build

vite v5.3.1 building for production...
✓ 34 modules transformed.
dist/index.html                   0.49 kB │ gzip:  0.30 kB
dist/assets/react-CHdo91hT.svg    4.13 kB │ gzip:  2.14 kB
dist/assets/index-DiwrgTda.css    1.39 kB │ gzip:  0.72 kB
dist/assets/index-DQ9y_QkT.js   143.38 kB │ gzip: 46.06 kB
✓ built in 1.20s

> react@0.0.0 deploy
> gh-pages -d dist

Username for 'https://github.com':
Password for 'https://[redacted]@github.com':
Published
theia@theia-ritikaj:/home/project/react$
```

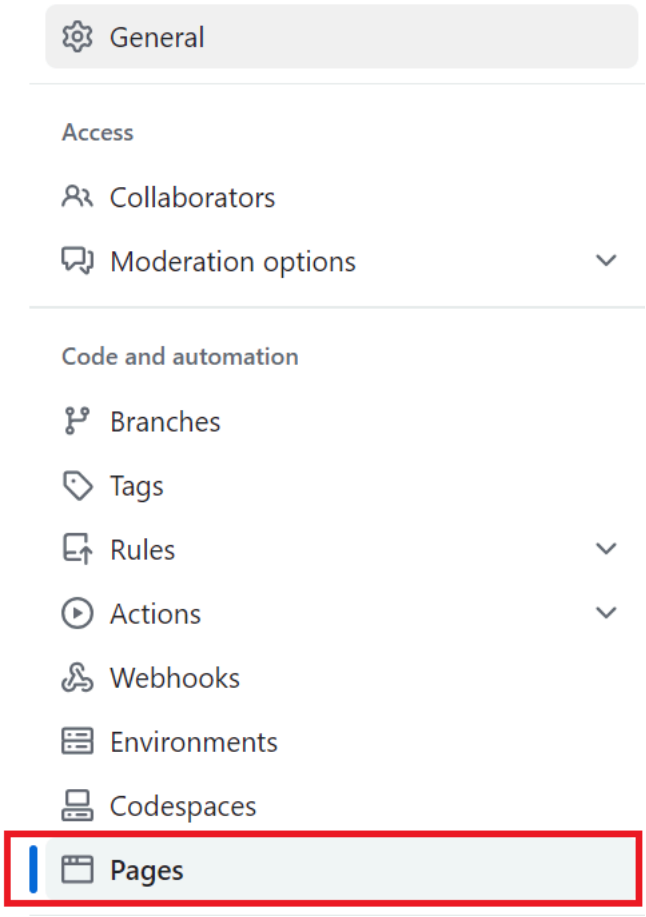
Note: Whenever you make any change to your code you need to save all your files and perform git commands for them.

5. Perform `git add` and `git commit` commands to update changes in your code. Then perform `git push` command to update your GitHub repository for proper code management.

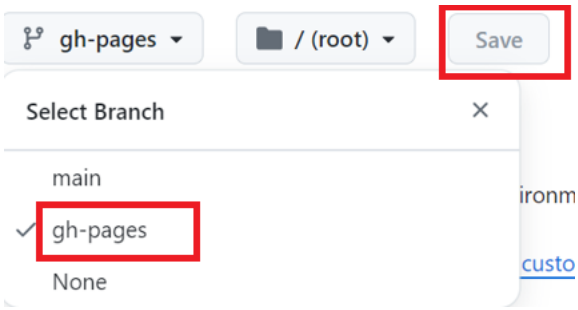
6. Go to your GitHub repository. Then, navigate to your site's repository that you created.

7. Under your repository name, click **Settings**.

8. Navigate to the left hand side navigation bar. In the **Code and Automation** section of the sidebar, click **Pages**.



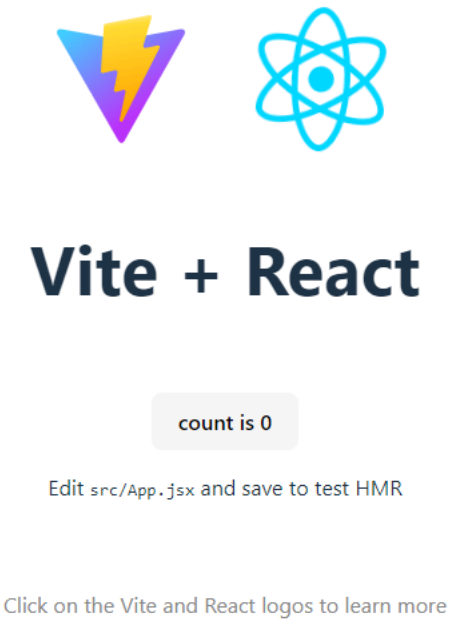
9. You will see the page shown below. Click the drop down menu where you see **None**, then click **gh-pages**, and then click the **Save** button.



10. Refresh your page again, and you will see the link, just as below. Instead of **shoppingreact**, you will see your github repository name.

Note: If you are not able to see the link, please wait for (1-2) minutes and refresh the page again.

11. Click above generated link to see your live website.



Note:
1. If you haven't made any changes to your default React application, you should see a similar output for task 3, step 6, as shown below.
2. After deploying on GitHub Pages, it may take some time for all contents and images to appear properly. Please wait a few extra minutes for the application to load completely.

By adhering to these guidelines, you can maintain a well-organized and efficient GitHub repository, ensuring your work is securely stored and easily accessible to you and your collaborators.

Author(s)

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