



GitHub Pages Deployment Guide (Vite + React)

Purpose: Yeh README isliye likhi gayi hai taaki ek baar mein **clear ho jaaye** ki **GitHub Pages** pe deploy karte waqt kya push hota hai, kyun hota hai, aur kaise hota hai.

Agar tum is file ko samajh gaye — to GitHub Pages ka 90% confusion khatam



MAIN CONFUSION (Most Important Question)

`gh-pages` branch mein kya push karna hota hai?

- Source code (React / Vite / TS / JSX)?
- Ya build / artifacts?

FINAL & CLEAR ANSWER (Yaad rakh lena)

Source code kabhi bhi `gh-pages` branch mein push **NAHI** karte

Sirf **BUILD** output (artifacts) push hota hai

Jo `vite build` command ke baad generate hota hai (`dist/` folder)



Kyun? (Simple Logic)

GitHub Pages kya samajhta hai?

GitHub Pages ek **static hosting service** hai.

Iska matlab:

Ye samajh **NAHI** paata: - React - Vite - JSX / TS - Node.js

Ye sirf **static files** samajhta hai: - `index.html` - `CSS` - `JavaScript`

Isliye pehle BUILD karna padta hai

```
npm run build
```

Ye command tumhare React/Vite code ko **plain static files** mein convert kar deti hai.

Build ke baad structure aisa hota hai:

```
dist/
├─ index.html
├─ assets/
│   └─ *.js
│   └─ *.css
└─ ...
```

 **Yahi exact cheez GitHub Pages ko chahiye**

Branch Strategy (Ye samajhna bahut zaroori hai)

`main` (ya `master`) **branch**

 **Yahan tumhara actual source code rahega**

```
main
├─ src/
├─ vite.config.ts
├─ package.json
├─ index.html
└─ ...
```

 **Ye branch developers ke liye hoti hai**

`gh-pages` **branch**

 **Sirf build ka output rakhti hai**

```
gh-pages
├─ index.html
├─ assets/
└─ ...
```

 **Ye branch GitHub Pages ke liye hoti hai, humans ke liye nahi** 

Ek Bahut Important Rule (Most Common Mistake)

✗ Tum **kabhi bhi manually**: - `gh-pages` branch checkout nahi karte - usme khud se files copy karke push nahi karte

✓ Ye kaam **automatically** karta hai:

```
gh-pages package
```

Step-by-Step Deployment Flow (Exact & Safe)

Step 1: `gh-pages` install karo

```
npm install -D gh-pages
```

📦 Ye sirf deploy ke time kaam aata hai, isliye **dev dependency** hai.

Step 2: `package.json` mein scripts add karo

```
"scripts": {  
  "build": "vite build",  
  "deploy": "gh-pages -d dist"  
}
```


Step 3: Project build karo

```
npm run build
```

Step 4: Deploy karo (**MAGIC STEP**)

```
npm run deploy
```

Ye command automatically: - `dist/` folder uthata hai - `gh-pages` branch create/update karta hai - **sirf build files** us branch mein push karta hai

 Tumhe manually branch change karne ki **koi zarurat nahi**

`vite.config.ts` (GitHub Pages ke liye Mandatory Setting)

```
base: '/Docker-Production-Mastery/',
```

✓ Ye bilkul **correct** hai

⚙️ Rules: - `base` = **GitHub repo ka exact naam** - Case-sensitive hota hai

✗ Agar ye galat hua: - Site blank dikhegi - Ya 404 error aayega

Agar galti se ye kiya to kya hoga?

✗ Source code `gh-pages` branch mein push kar diya

Result: - ✗ Blank page - ✗ 404 error - ✗ JS / CSS load nahi hoga

One-Line Golden Rule (Yaad rakh lo)

`main` branch = Source Code

`gh-pages` branch = Sirf Build (`dist/`)

Final Checklist

- [x] `gh-pages` installed
- [x] `base` set correctly in `vite.config.ts`
- [x] `npm run build` working
- [x] `npm run deploy` executed

!! **Done! Your site is live on GitHub Pages**

Happy Deploying 

If this README helped you, future-you will thank present-you. 