



# 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 ✅

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## MAIN CONFUSION (Most Important Question)

gh-pages branch mein kya push karna hota hai?

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

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## 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

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## 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**

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### 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

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### 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

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### One-Line Golden Rule (Yaad rakh lo)

`main branch = Source Code`

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

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### 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**

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Happy Deploying 

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