

To set up Firebase for your booking site and replace the placeholders in the code with your actual values, follow these step-by-step instructions. This assumes you're using Firebase Realtime Database (as in the provided code). If you don't have a Firebase account yet, sign up for free at (<https://firebase.google.com>) using a Google account.

### Step 1: Create a Firebase Project

1. Go to the <https://console.firebase.google.com/>
2. Click **Add project** (or "Create a project" if it's your first one).
3. Enter a project name (e.g., "YachtBookingSite").
4. Optionally, enable Google Analytics (it's free and useful, but not required for this setup).
5. Click **Continue** and then **Create project**. Wait for it to initialize.

### Step 2: Enable Realtime Database

1. In your new project's dashboard, click **Build > Realtime Database** in the left sidebar.
2. Click **Create Database**.
3. Choose a location (e.g., United States) for your database—pick one close to your users for better performance.
4. For security rules, start in Test mode (allows public read/write for 30 days—good for development). Later, you can lock it down (e.g., require authentication). Click **Enable**.
5. Your database is now live. Note the database URL shown (it'll look like `https://your-project-id-default-rtdb.firebaseio.com`).

### Step 3: Get Your Firebase Config

1. In the Firebase Console, go back to your project overview.
2. Click the **gear icon** (settings) next to "Project Overview" in the top left.
3. Select **Project settings**.
4. Scroll down to the "Your apps" section.
5. If no app is added, click the **Web** icon (`</>`) to add a web app.
  - Enter an app nickname (e.g., "BookingSite").
  - Check the box for "Also set up Firebase Hosting" if you plan to host the site later (optional).
  - Click **Register app**.
6. Firebase will display a code snippet with your config object. It looks like this:

```
const firebaseConfig = {  
  apiKey: "AlzaSy...your-api-key-here",  
  authDomain: "your-project-id.firebaseio.com",  
  databaseURL: "https://your-project-id-default-rtdb.firebaseio.com",  
  projectId: "your-project-id",  
  storageBucket: "your-project-id.appspot.com",  
  messagingSenderId: "123456789012",  
  appId: "1:123456789012:web:abcdef123456"  
};
```

7. Copy this entire object.

#### Step 4: Replace Placeholders in Your Code

In your HTML file (the one with the booking calendar code), find the `firebaseConfig`` object and replace the placeholders with the values from Step 3. For example:

- `YOUR_API_KEY`` → Your actual ``apiKey`` (starts with "AlzaSy...").
- `YOUR_PROJECT_ID`` → Your project ID (from the config).
- And so on for the rest.

Updated example:

```
const firebaseConfig = {  
  apiKey: "AlzaSy...your-actual-api-key",  
  authDomain: "your-project-id.firebaseio.com",  
  databaseURL: "https://your-project-id-default-rtdb.firebaseio.com",  
  projectId: "your-project-id",  
  storageBucket: "your-project-id.appspot.com",  
  messagingSenderId: "your-sender-id",  
  appId: "your-app-id"  
};
```

Save the file.

#### Step 5: Test the Setup

1. Open your HTML file in a browser (e.g., via a local server like Live Server in VS Code, or just double-click it).
2. The calendar should load. Try clicking a date to open the modal and make a test booking.
3. Bookings should appear on the calendar and in the "Upcoming Reservations" list in real-time (refresh another browser tab to simulate multiple users).
4. If nothing happens or you see errors in the browser console (right-click > Inspect > Console), common issues:
  - Check for typos in the config.
  - Ensure your Firebase database rules allow writes (in the console, go to Realtime Database > Rules, and set to ``true`` for read/write if in test mode).
  - Firewall/internet issues blocking Firebase.

## Step 6: Security and Next Steps

**Database Rules:** After testing, update rules in the Firebase Console (Realtime Database > Rules) to something secure, like requiring authentication:

```
{  
  "rules": {  
    ".read": "auth != null",  
    ".write": "auth != null"  
  }  
}
```

Add Firebase Authentication if needed (e.g., for user logins).

- **Add Authentication:** If you want only authorized users to book/cancel, integrate Firebase Auth (email/password or Google sign-in).
- **Hosting:** For production, host on Firebase Hosting: In console, Build > Hosting > Get started, then deploy your HTML file.
- **Costs:** Firebase is free for low usage; monitor in the console.

If you run into errors or need help with a specific part (e.g., share a screenshot of your config or console error), provide more details!