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: "AIzaSy...your-api-key-here",*

*authDomain: "your-project-id.firebaseapp.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 "AIzaSy...").
* YOUR\_PROJECT\_ID` → Your project ID (from the config).
* And so on for the rest.

Updated example:

*const firebaseConfig = {*

*apiKey: "AIzaSy...your-actual-api-key",*

*authDomain: "your-project-id.firebaseapp.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!