

Web Application Development for Industrial Engineers

การพัฒนาแอปพลิเคชันสำหรับวิศวกรอุตสาหกรรม

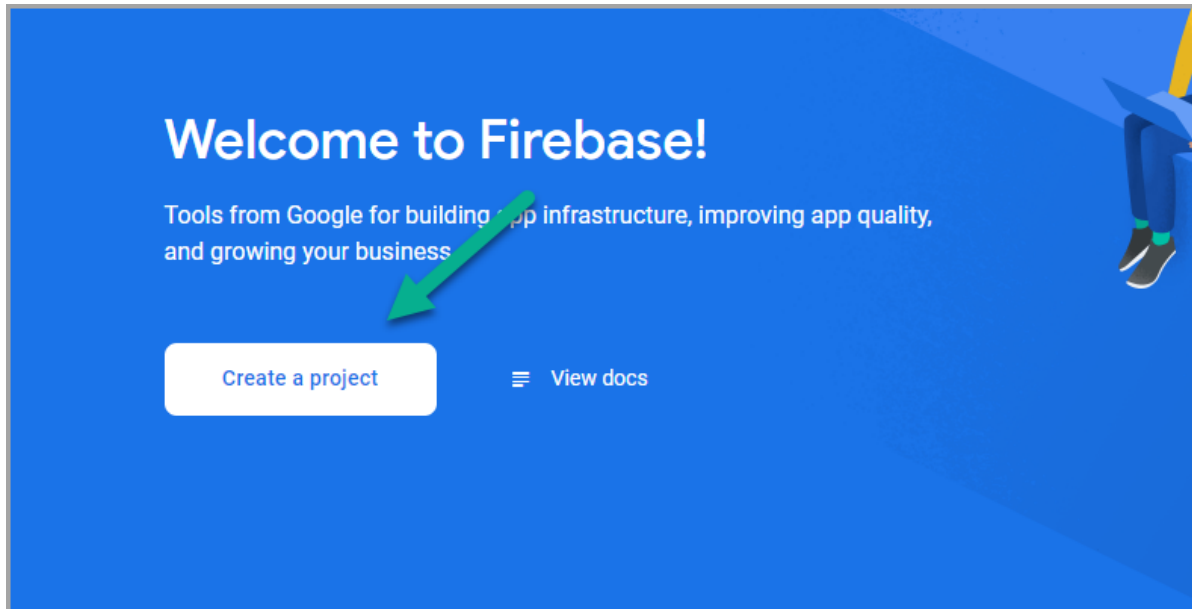
Firestore

What is Google Firebase?

- Google Firebase is a Google-backed application development software that enables developers to develop iOS, Android and Web apps.
- Services
 - **Database** (we will use this today.)
 - Cloud storage
 - Authentication
 - Cloud functions
 - And more...

Get started

- <https://firebase.google.com/>




- Create a new project

Let's start with a name for
your project[?]

Project name

software-dev-2564-2

 software-dev-2564-2

Continue

- Turn off analytics

Google Analytics for your Firebase project

Google Analytics is a free and unlimited analytics solution that enables targeting, reporting, and more in Firebase Crashlytics, Cloud Messaging, In-App Messaging, Remote Config, A/B Testing, Predictions, and Cloud Functions.

Google Analytics enables:

X

A/B testing ?

X

User segmentation & targeting across Firebase projects ?

X

Predicting user behavior ?

X

Crash-free users ?

X

Event-based Cloud Functions triggers ?

X

Free unlimited reporting ?

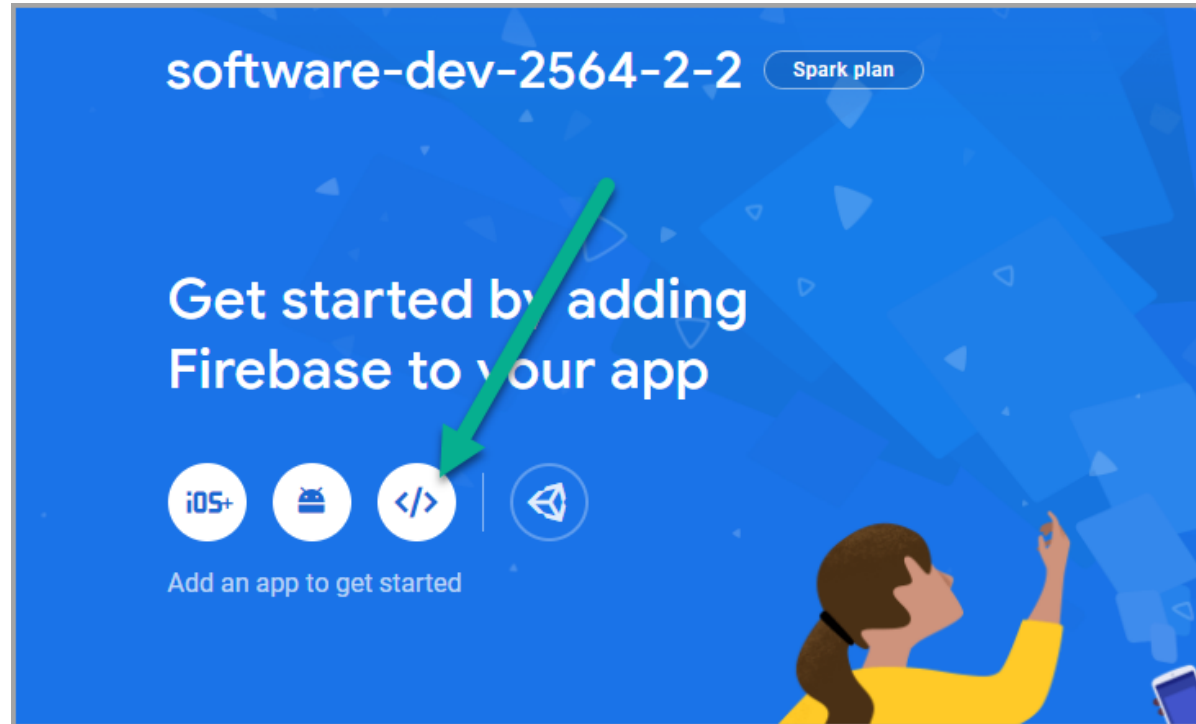
☐

Enable Google Analytics for this project
Recommended

[Previous](#)

Create project

- Create `app`



- Any name is ok.

× Add Firebase to your web app

1 Register app

App nickname ?

My Web App

☐ Also set up **Firebase Hosting** for this app. [Learn more](#) ↗

Hosting can also be set up later. It's free to get started anytime.

Register app

2 Add Firebase SDK

- Copy this information.

2

Add Firebase SDK

☒ Use npm ⓘ ☐ Use a <script> tag ⓘ

If you're already using [npm](#) and a module bundler such as [webpack](#) or [Rollup](#), you can run the following command to install the latest SDK:

```
$ npm install firebase
```

Then, initialize Firebase and begin using the SDKs for the products you'd like to use:

```
// Import the functions you need from the SDKs you need
import { initializeApp } from "firebase/app";
// TODO: Add SDKs for Firebase products that you want to use
// https://firebase.google.com/docs/web/setup#available-libraries

// Your web app's Firebase configuration
const firebaseConfig = {
  apiKey: "AIzaSyDE3DJ-zLdehBRsvGZVZMUxtI_0EnGEjEo",
  authDomain: "software-dev-2564-2-2.firebaseio.com",
  projectId: "software-dev-2564-2-2",
  storageBucket: "software-dev-2564-2-2.appspot.com",
  messagingSenderId: "377896847810",
  appId: "1:377896847810:web:36bbf3e36e70da3978ae5b"
};

// Initialize Firebase
const app = initializeApp(firebaseConfig);
```

Note: This option uses the [modular JavaScript SDK](#), which provides reduced SDK size.

Learn more about Firebase for web: [Get Started](#), [Web SDK API Reference](#), [Samples](#)

Setup Local Development Environment

- Use the starter template.
- Install the existing libraries in `package.json`.

```
npm install
```

Add **firebase** SDK.

```
npm install firebase
```

- Create `db.js`

```
import { initializeApp } from 'firebase/app';
import { getFirestore } from 'firebase/firestore';

const firebaseConfig = {
  // Your config here
};

// Initialize Firebase
const app = initializeApp(firebaseConfig);

// Database object
const db = getFirestore();

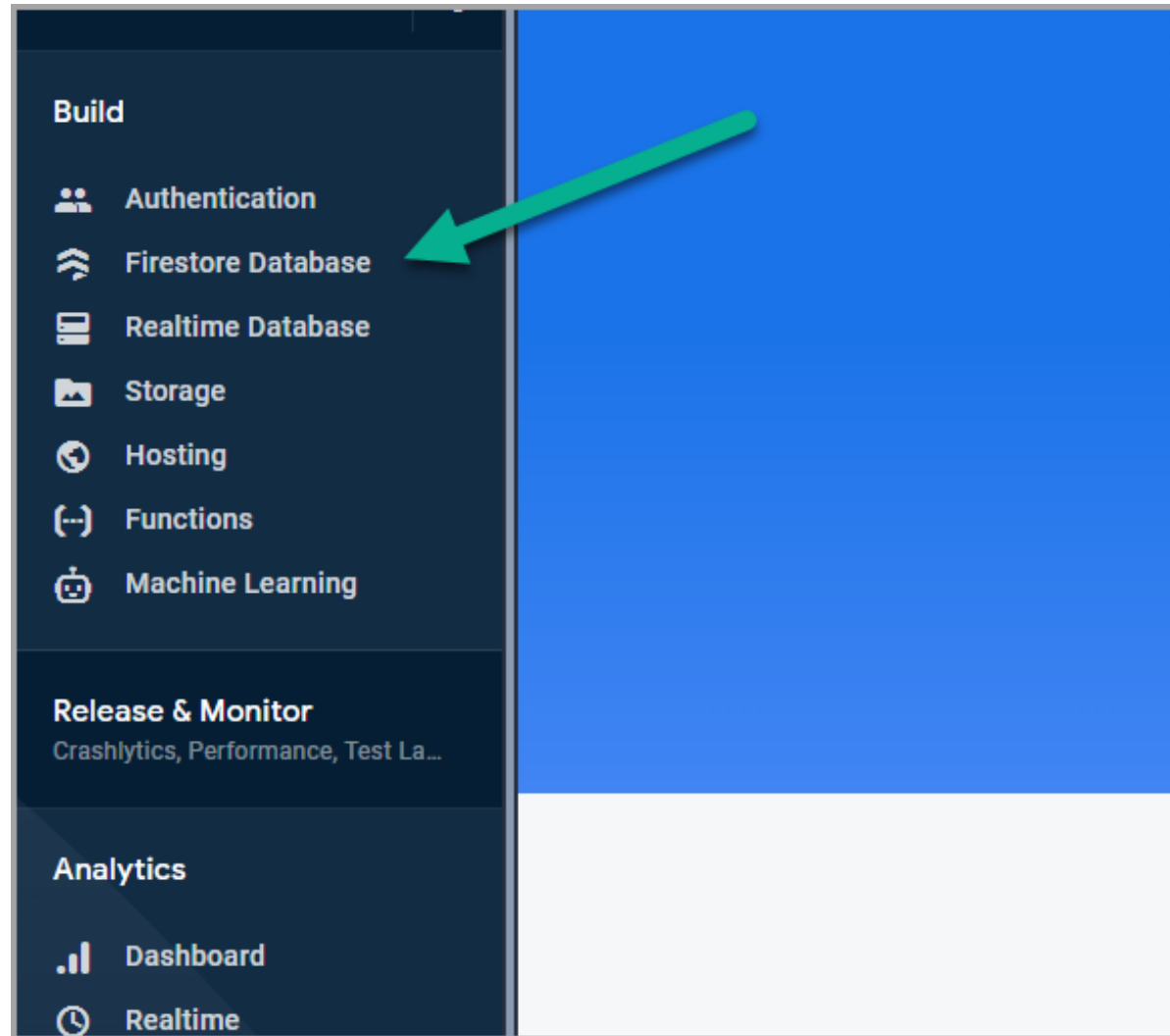
console.log({ app, db });

export { db };
```

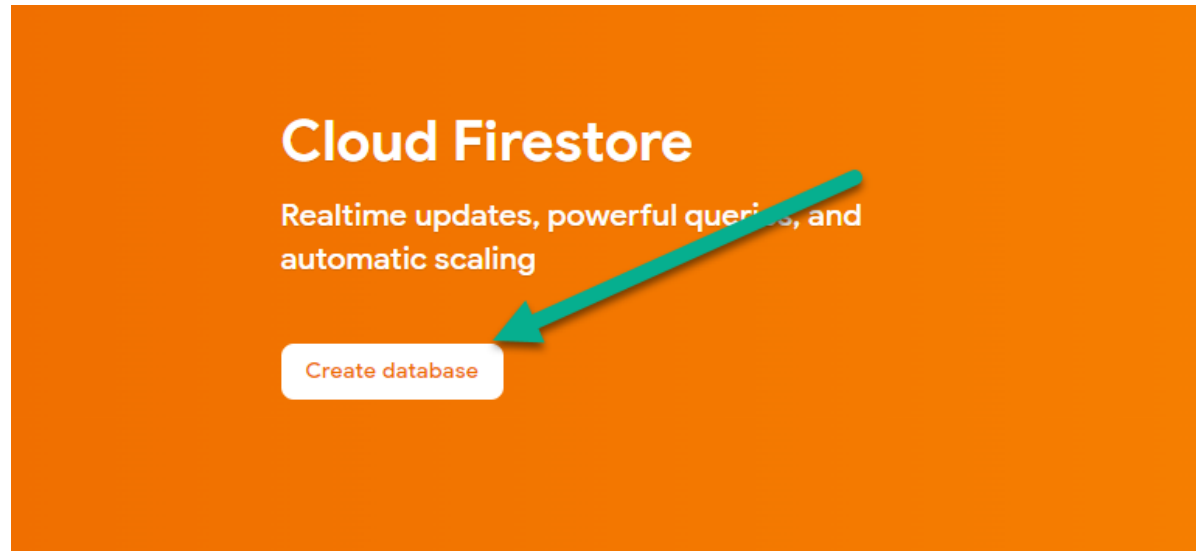
Data Structure

- We will be using `Cloud Firestore`.
- Cloud Firestore is a NoSQL, document-oriented database.
- Unlike a SQL database, there are no tables or rows. Instead, you store data in `documents`, which are organized into `collections`.
- Let create some data.







- Go to Cloud Firestore



- Copy this information.



- Create data

 > courses > 255114		
 software-dev-2564-2-1	 courses  	 255114
+ Start collection	+ Add document	+ Start collection
courses >	255114 >	+ Add field
	255499	name : "Thermodynamics" number : "255114"

Read from database

```
import { db } from './db';
import { collection, getDocs } from 'firebase/firestore';

getDocs(collection(db, 'courses')).then((querySnapshot) => {
  querySnapshot.forEach((doc) => {
    console.log(doc.id, doc.data());
  });
});
```

Add data (1)

- Add a new document with a *generated* id.

```
import { db } from './db';
import { addDoc } from 'firebase/firestore';

const data = ...

addDoc(collection(db, 'courses'), data).then((docRef) => {
  console.log(`Successfully add doc ${docRef.id}`);
});
```

Add data (2)

- Add a new document with a *specified* id.

```
import { db } from './db';
import { setDoc } from 'firebase/firestore';

const id = ...
const data = ...

setDoc(doc(db, 'courses', id), data).then(() => {
  console.log(`Successfully add doc ${id}`);
});
```

Update data

```
import { db } from './db';
import { setDoc, doc } from 'firebase/firestore';

const id = ...
const data = ...

setDoc(doc(db, 'courses', id), data, { merge: true }).then(() => {
  console.log(`Successfully update doc ${id}`);
});
```

Delete data

```
import { db } from './db';
import { doc, deleteDoc } from 'firebase/firestore';

const id = ...

deleteDoc(doc(db, 'courses', id)).then(() => {
  console.log(`Successfully delete doc ${id}`);
});
```