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Programming Boot Camp #3

3: User registration, user authentication and database integration (Firebase)

Tokyo Institute of Technology 2020/11/14

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Review previous sessions

- In the first session, we learned the basics of HTML, CSS, and Javascript.
  - Reference: 1st handout
- In the second session, we learned the basics of Vue.js (Nuxt.js).
  - Reference: 2nd edition

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Get your development environment ready

- If this is your first time participating in this event, set up an environment to develop on your own PC. The GuildWorks members will support you, so please ask them.
  - Reference: Environment building
- If you're ready, download the latest code from [remote repository on GitHub] (https://github.com/GuildWorks/titech-2020).
  - Open GitBash(Terminal) in the `titech-2020` directory and run the following command.

```
git pull
```

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Confirm the app we created

- To recap, let's run the app we created last time to see how it works.
  - Let's run the following command in GitBash (Terminal)

```
# Lines beginning with # are comments and will not be executed

# If your current location is in the titech-2020 directory, move
cd titech-nuxt-day2-answer

# Install the required modules
npm install

# Launch the app.
npm run dev
```

  - Then go to http://localhost:3000/.

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Top Screen

http://localhost:3000/

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members list

TOTAL SAMPLE PROJECT

メンバーリスト

氏名	Email	担当	
仁和 泰也	niwa@example.com	リーダー	Profile
川面 崇義	kawadura@example.com	メンバー	Profile
石北 俊寛	kitaishi@example.com	メンバー	Profile
岸 美貴	kishi@example.com	メンバー	Profile
大内田 結貴	ohdauchi@example.com	メンバー	Profile

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http://localhost:3000/list ...

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member details

http://localhost:3000/user/0001

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where I'm concerned.

- The content of the display does not change.
  - Displayed data is dummy.
    - We can't add a user.
    - We can't update our profile.
- Anyone can see the data without logging in.

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Overview of what we do today

The functions and screens to be developed are as follows

- User registration
- Signin
- Access control by sign-in status
- Signout
- Edit Profile
- Your Profile
- Member list
- Member Profile

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User registration

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Signin

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Access control by sign-in status, Signout

When you are logged in.

When you are not logged in

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Profile edit

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Your Profile

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Member list

TOTAL SAMPLE PROJECT

メンバーリスト　あなたのプロフィール　ユーザー登録　ログアウト

メンバーリスト

氏名	Email	担当	
今橋 陵	imahashi+3@guildworks.jp	メンバー	Profile
上野 潤一郎	ueno@guildworks.jp	リーダー	Profile
金 翔海	kim@guildworks.jp	メンバー	Profile
京極 直丈	kyogoku@guildworks.jp	メンバー	Profile

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Member profile

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- Check the current state of the app that we will be modifying.
  - In GitBash(Terminal) that we used earlier, press [Ctrl]+[C] to stop the app.
  - Let's run the following command.

```
pwd # Check current position
cd ...   # One level up
pwd # Again, check the current position.
cd titech-nuxt-firebase-tutorial # Move to the directory of the application we will modify this time
npm install # Install the required modules
npm run dev # Start the app
```

  - Then go to http://localhost:3000/.
    - You'll see each pages we modify today.

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- Let's make it possible to use the backend process of the application, which is necessary for the function we will develop in this article.
  - What we created in the first and second part of this article is the front end (application). It works on the browser side.
  - The backend (the application) runs on the end of the Internet and returns the data you need. It is also called the server side (application).
  - It is often talked about in terms of the contrast between front-end and back-end, or the contrast between client-side and server-side.

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- In this bootcamp, we won't be developing a backend from scratch, but instead will use a service called Firebase.

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What is Firebase?

- Firebase is a mobile and web application backend service from Google that allows developers to focus on developing their applications, without having to create and manage a service to run on the backend.
- No servers or deployments are required, making it easy to use the backend process.
- There are free plans available that do not require registration of payment information, so let's use them.

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Get ready to use Firebase!

- Go to the following link.
  - https://console.firebase.google.com/?hl=ja&pli=1
- If you are asked to sign in to your Google account
  - If you already have a Google account, log in.
  - If you don't have a Google account, click the "Create Account" link at the bottom left to create an account.

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- If you see a screen like this, you're good to go.

- Click on "Create Project

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- Give your project a name and click "Continue".
  - You can use any name.

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- Disable Google Analytics and click on "Create Project".

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- Once you have created your project, click "Continue".

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- This is the screenshot of the project that was created. We will use this project to develop it.

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Let's set up the initial setup of Firebase in this app we're developing.

- Click on the gear icon in the top left corner of the screen and select "Set up your project".

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- Click on the "</>" icon in the My Apps section at the bottom of the screen to create a web app for your project.

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- Enter a nickname for your app and click "Register App".
  - You can use any nickname.

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- Copy the selection (the line from apiKey to appId).

2 Firebase SDK の追加

これらのスクリプトをコピーして <body> タグの下部に貼り付けます。この作業は Firebase サービスを使用する前に行ってください。

```
<!-- The core Firebase JS SDK is always required and must be listed first -->
<script src="https://www.gstatic.com/firebasejs/8.0.1/firebase-app.js"></script

<!-- TODO: Add SDKs for Firebase products that you want to use
     https://firebase.google.com/docs/web/setup#available-libraries -->

<script>
  // Your web app's Firebase configuration
  var firebaseConfig = {
    apiKey: "AIzaSyAZk4BIcu84kIK72SEkHSnafuZTP-7TCS8",
    authDomain: "titech-2020-imahashi.firebaseapp.com",
    databaseURL: "https://titech-2020-imahashi.firebaseio.com",
    projectId: "titech-2020-imahashi",
    storageBucket: "titech-2020-imahashi.appspot.com",
    messagingSenderId: "454271650",
    appId: "1:454271650:web:2252a5355e5f24d6052dfb"
  };
  // Initialize Firebase
  firebase.initializeApp(firebaseConfig);
</script>
```

ウェブ向け Firebase の詳細については、こちらをご覧ください: 使ってみる、

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- Open Visual Studio Code and paste the copied settings into `/titech-nuxt-firebase-tutorial/plugins/firebase.ts`.

```
1   import firebase from 'firebase/app'
2   import 'firebase/auth'
3   import 'firebase/firestore'
4   import 'firebase/storage'
5
6   if (!firebase.apps.length) {
7     firebase.initializeApp({
8       apiKey: "AIzaSyAZk4BIcu84kIK72SEkHSnafuZTP-7TCS8",
9       authDomain: "titech-2020-imahashi.firebaseapp.com",
10      databaseURL: "https://titech-2020-imahashi.firebaseio.com",
11      projectId: "titech-2020-imahashi",
12      storageBucket: "titech-2020-imahashi.appspot.com",
13      messagingSenderId: "454271650",
14      appId: "1:454271650:web:2252a5355e5f24d6052dfb"
15    })
16  }
17
18  export default firebase
```

- Now you're done with the initial setup of Firebase.

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User Registration

- We use Firebase Authentication.
  - It is a service that provides authentication capabilities.
  - It supports various methods of authentication.
    - Email address and password
    - Google Account
    - Facebook account
    - Twitter account

    etc.

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Configuring the Firebase side

- Select "Authentication" in the menu on the left side and click "Get Started".

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- In this case, click on "Email/Password" to use email and password authentication.

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- Click on the first slider to activate it and click "Save".

- This will allow you to use the email and password authentication feature.

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Editing the program

- Open `/pages/signup.vue`. This is the file of the user registration page.
- It shows the empty contents of the `submit()` function, which is executed when you click the "register" button.

```
function submit() {
  // TODO
}
```

  - In this function, we call the user registration process provided by Firebase Authentication by email address and password to allow users to register.

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- Let's import firebase so that we can handle it in `/pages/signup.vue`.

```
<script lang="ts">
import { defineComponent, reactive } from 'nuxt-composition-api'
import PageHeading from '@/components/page-heading.vue'
import firebase from '@/plugins/firebase.ts' // Add this line
```

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- Please open the following link. https://firebase.google.com/docs/auth/web/password-auth#create_a_password-based_account
  - It contains the code to invoke the user registration process by email address and password.
- Click on the "Copy code sample" icon in the upper right corner of the code block to copy it.

パスワード ベースのアカウントを作成する

パスワードを使用して新しいユーザー アカウントを作成するには、アプリのログインページで次の手順に沿って操作します。

1. 新しいユーザーがアプリの登録フォームを使用して登録したら、アプリで必要な新しいアカウントの検証手順（新しいアカウントのパスワードが正しく入力されていることや、パスワードの複雑さの要件を満たしているかの確認など）を行います。
2. 新しいユーザーのメールアドレスとパスワードを `createUserWithEmailAndPassword` に渡して、新しいアカウントを作成します。

```
firebase.auth().createUserWithEmailAndPassword(email, password).catch(function(error) {
  // Handle Errors here.
  var errorCode = error.code;
  var errorMessage = error.message;
  // ...
});
```

Copy code sample

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- Paste the copied code into the `submit()` function.

```
const state = reactive({
  email: '',
  password: ''
})
function submit() {
  firebase.auth().createUserWithEmailAndPassword(email, password).catch(function(error) {
    // Handle Errors here.
    var errorCode = error.code;
    var errorMessage = error.message;
    // ...
  });
}
```

  - Note: If you have a broken indent after pasting a code, you can add indentation to all selected lines by selecting multiple lines and pressing [Tab]. You can also press [Shift] + [Tab] to delete indentation.

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- Change the argument `email` to `state.email` and `password` to `state.password` of `createUserWithEmailAndPassword()` since it doesn't work as is.

```
const state = reactive({
  email: '',
  password: ''
})
function submit() {
  firebase.auth().createUserWithEmailAndPassword(state.email, state.password).catch(function(error) {
    // Handle Errors here.
    var errorCode = error.code;
    var errorMessage = error.message;
    // ...
  });
}
```

- The `email` and `password` entered into the screen is passed to `createUserWithEmailAndPassword()`, and the user registration request including them is executed.

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- After completing the user registration, you should be taken to the edit profile page.

```
const state = reactive({
  email: '',
  password: ''
})
function submit() {
  firebase.auth().createUserWithEmailAndPassword(state.email, state.password)
  .then(() => (location.href = '/profile/edit')) // Add this line with a new line
  .catch(function(error) {
    // Handle Errors here.
    var errorCode = error.code;
    var errorMessage = error.message;
    // ...
  });
}
```

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- Use the screen to actually register a user.
  - Enter your email address and password and press the register button.

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- Firebase Authentication verifies that the user has been registered.

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- Open the developer tools in your browser (in Chrome, right click and select "Verify").
- Select the Network tab from the tab at the top.

- Now, let's register again with the same email address as before.

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- There is an error with the message `EMAIL_EXISTS`.

  - This is because the default setting of Firebase Authentication restricts the ability of multiple users to register with the same email address.

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- If an error occurs, let's make sure we know about it. Please modify the `catch()` as follows.

```
        .catch(function(error) {
          // Handle Errors here.
          alert('User registration failed. errorCode: ' + error.code + ', errorMessage:' + error.message)
        });
```

- If you get an error, you will get the following pop-up Please try to register as a user again with the same email address.

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User Authentication

- Again, we'll use Firebase Authentication.
- Let's open `/pages/signin.vue`, which is the login screen file. This is the login screen file.
- The `submit()` function, which is executed when you click the "login" button, is empty.

```
function submit() {
  // TODO
}
```

  - In this function, we need to call the login process with your email address and password to enable the login.

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- Let's import firebase so that we can handle it in `/pages/signin.vue`.

```
<script lang="ts">
import { defineComponent, reactive } from 'nuxt-composition-api'
import PageHeading from '@/components/page-heading.vue'
import firebase from '@/plugins/firebase.ts' // Add this line
```

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- Please open the following link. https://firebase.google.com/docs/auth/web/password-auth#sign_in_a_user_with_an_email_address_and_password
  - It contains the code to invoke the login process by email address and password.
- Click on the "Copy code sample" icon in the upper right corner of the code block to copy it.

メールアドレスとパスワードを使用してユーザーのログインを行う

パスワードを使用したユーザーのログイン手順は、新しいアカウントの作成手順と似ています。アプリのログインページで、次の手順に沿って操作します。

1. ユーザーがアプリにログインしたら、そのユーザーのメールアドレスとパスワードを `signInWithEmailAndPassword` に渡します。

```
firebase.auth().signInWithEmailAndPassword(email, password).catch(function(error) {
  // Handle Errors here.
  var errorCode = error.code;
  var errorMessage = error.message;
  // ...
});
```

ログインしたユーザーの詳細情報を取得する方法については、下記の「次のステップ」をご覧ください。

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- Paste the copied code into the `submit()` function.

```
const state = reactive({
  email: '',
  password: ''
})
function submit() {
  firebase.auth().signInWithEmailAndPassword(email, password).catch(function(error) {
    // Handle Errors here.
    var errorCode = error.code;
    var errorMessage = error.message;
    // ...
  });
}
```

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- Let's change the code as follows

```
const state = reactive({
  email: '',
  password: ''
})
function submit() {
  firebase.auth().signInWithEmailAndPassword(state.email, state.password)
  .then(() => (location.href = '/users')) // takes us to the user list after login is complete
  .catch(function(error) {
    // Handle Errors here.
    alert('login failed. errorCode: ' + error.code + ', errorMessage:' + error.message)
  });
}
```

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- Changed the argument `email` to `state.email` and `password` to `state.password` of `signInWithEmailAndPassword()`.
- Changed `email` and `password` to `state.email` and `state.password` to `state.password` when login succeeds.
- Added an alert on login failure.

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- Use the screen to actually log in.
  - Enter your email address and password and press the login button.
    - If the user's email address and password are the same as the one you just created, you will be taken to the user list screen.
    - If the email address is different from the user's email address, an `auth/user-not-found` error will occur.
    - If the email address is the same as the user we just created and the password is different, the `auth/wrong-password` error will occur.

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Access control by sign-in status

- Let's control whether or not to display each screen according to the login status.
- We'll use the middleware mechanism in Nuxt.js to determine the login status. https://ja.nuxtjs.org/docs/2.x/directory-structure/middleware/ ...
  - In the middleware section, describe what you want to do before the screen is drawn.

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- Open `/middleware/Auth.js`.
  - Open `/middleware/Auth.js`, which has no processing written in it yet.

```
export default function () {

}
```

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- Let's change `/middleware/Auth.js` as follows.

```
import firebase from '@/plugins/firebase.ts'
export const skipAuthPaths = ['/signin', '/signup']

export default function ({ redirect, route, store }) {
  firebase.auth().onAuthStateChanged(function (user) {
    if (user) {
      // User is signed in.
      store.commit('signedIn', true);
    } else { { // User is signed in.
      // No user is signed in. store.commit('signedIn', false;)
      store.commit('signedIn', false);
      if (!skipAuthPaths.includes(route.path)) {
        redirect('/signin')
      }
    }
  })
}
```

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- The `firebase.auth().onAuthStateChanged()` fetches the currently logged in user, and then branches off the rest of the process depending on whether the user is retrieved (= logged in or not). https://firebase.google.com/docs/auth/web/manage-users#get_the_currently_signed-in_user ...
- Store.commit()` stores the login state into the container named "store" to manage the state of the application.
  - We'll implement store later.
- If a user wants to show a screen for authentication without login, the function redirects the user to the login screen with `redirect('/signin')`.

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- Open `/store/index.ts` and change it to look like this.

```
interface State {
  signedIn: boolean
}

export const state = () : State => ({
  signedIn: false
})

export const mutations = {
  signedIn(state: State, signedIn: boolean) {
    state.signedIn = signedIn
  }
}
```

  - The `store.commit('signedIn', true)` described in `/middleware/Auth.js` allows you to save the login status.

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- Add a line to your `/layouts/default.vue` to run the `middleware/Auth.js` before the default layout is drawn.

```
<script lang='ts'>
import { defineComponent } from 'nuxt-composition-api'
export default defineComponent({
  middleware: ['Auth'], // Add this line and load Auth.js
  setup(_, { root: { $store } }) {
  }
})
</script>
```

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- Open your browser in a secret window.

  - If you don't, your browser will remember that you have just logged in, so this will reopen the screen as it was before you logged in.

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- Check the following in your secret window.
  - That when you go to http://localhost:3000 (top), you will be redirected to the login screen.
  - That you will be redirected to the login screen when you try to transition to the member list or your profile.
  - When you log in, you should be able to go to the top, the member list, and your profile.

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Menu display control

- Open `/layouts/default.vue`.
- Nuxt.js makes sure that the content in this file is reflected in each page as the default layout.
  https://ja.nuxtjs.org/docs/2.x/concepts/views/#default-layout

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- Let's change the menu to be displayed according to the login status.
- Let's modify `setup()` as follows.

```
setup(_, { root: { $store } }) {
  const isSignedIn = (): boolean => {
    return $store.state.signedIn
  }
  return {
    isSignedIn
  }
}
```

  - You can determine the login status from `isSignedIn`.
- Follow the code on the next page and add a branch to determine the login status by `v-if` in the `<template>` tag.

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```
<a
  v-if="isSignedIn()"
  href="/users"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  Member List
</a>
<a
  v-if="isSignedIn()"
  href="/profile"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  Your Profile
</a>
<a
  href="/signup"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  user registration
</a>
<a
  v-if="!isSignedIn()"
  href="/signin"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  login
</a>
<a
  v-if="isSignedIn()"
  href="#"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  logout
</a>
```

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Log out

- Change the `<script>` in `/layouts/default.vue` as follows. The changes are as follows.
  - importing firebase.
  - Add `signOut` in `setup()` and return it to call it from `template`.
  - In `firebase.auth().signOut()`, the logout process is executed. https://firebase.google.com/docs/auth/web/password-auth#next_steps

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```
import { defineComponent } from 'nuxt-composition-api'
import firebase from '@/plugins/firebase.ts'
export default defineComponent({
  middleware: ['Auth'],
  setup(_, { root: { $store } }) {
    const isSignedIn = (): boolean => {
      return $store.state.signedIn
    }
    const signOut = (): void => {
      firebase.auth().signOut()
    }
    return {
      isSignedIn,
      signOut
    }
  }
})
```

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- Let's add an `@click="signOut"` to the `<a>` tag of the logout.

```
<a
  v-if="isSignedIn()"
  href="#"
  @click="signOut"
  class="text-blue-900 hover:text-blue-600 py-3 px-6 text-sm font-bold"
>
  logout
</a>
```

  - Click Logout to start the logout process.

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- Make sure that the menu changes as follows
  - When you are logged in.

  - When I logged out.

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Database linkage.

- Use Cloud Firestore.
  https://firebase.google.com/docs/firestore
  - It provides a database for storing data and the basic operations for handling data.
  - Data is stored in a hierarchical structure.

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- Data Storage Image

titech-nuxt-sample

+ コレクションを開始

users

users

+ ドキュメントを追加

BOT6hdi032fe0pmzaTFrzyxEAVS2

H8oRz6Grl3doFbPHM2Rec4oynwm2

lrIjMpbbLSN3XQXEjvx1du86gAr2

xEEXCZWElwf6kK03p84zqQ17ppw1

BOT6hdi032fe0pmzaTFrzyxEAVS2

+ コレクションを開始

+ フィールドを追加

```
comment: "こんにちは。ギルドワークスの今橋です。 今日はみんなで楽しくプロ
         グラミングをしましょう。 "
email: "imahashi@guildworks.jp"
iconUrl: "https://firebasestorage.googleapis.com/v0/b/titech-nuxt-
         sample.appspot.com/o/images%2Fprofile%2FBOT6hdi032fe0pmzaTFrzyx
         alt=media&token=338464db-b6a7-4fff-bbf9-fe69a4f07ef7"
name: "今橋 陵"
▾ profile
    belongs: "ギルドワークス"
    birthday: "1992年7月24日"
    birthplace: "山口"
    bloodType: "O型"
    hobby: "猫と遊ぶ・料理"
    nickname: "いまはし"
    sign: "獅子座"
role: "member"
```

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Configuring the Firebase side

- Select "Cloud Firestore" in the menu on the left side and click on "Create Database".

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- Select "Start in Test Mode" and click "Next".

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- Select "asia-northeast1" (Tokyo) and click "Enable".

https://firebase.google.com/docs/firestore/locations#location-r

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- The database is ready to go.

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Edit your profile (except for the icon image)

- Create a profile editor to register your own profile.
- Go to http://localhost:3000/profile/edit.
- Open `/pages/profile/edit.vue`, which is your profile's editing file. This is the file for your profile's edit screen.

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- First, let's import the firebase.

```
import firebase from '@/plugins/firebase.ts'
```

- The next step is to get your user ID, which is needed to register your profile.

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- Remove the comment `// TODO: get user ID, email address` and paste the following code into it.

```
firebase.auth().onAuthStateChanged(function (user) {
  if (user) {
    // User is signed in.
    userData.id = user.uid
    userData.email = user.email
    getUserData(user)
  } else { }
    // No user is signed in.
  }
})
```

  - The same `onAuthStateChanged()` as used in `/middleware/Auth.js` is used to get the user ID and email address and set them where needed.

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- Change the `setProfile` as follows.

```
const setProfile = (): void => {
  const data = {
    name: userData.name,
    email: userData.email,
    role: userData.role,
    iconUrl: userData.iconUrl,
    comment: userData.comment,
    profile: userData.profile,
  }
  firebase
    .firestore()
    .collection('users') // The users collection, in
    .doc(userData.id) // In a document called <user ID>.
    .set(data) // Set the data
    .then(()) => {
      window.location.href = '/profile' // After completion, the user is taken to the profile screen
    })
}
```

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- You can actually fill out your profile and press the "Register" button.

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- Make sure your data is registered in Cloud Firestore.

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- Let's show the registered data on the profile edit screen.
  - Change the `getUserData` as follows.

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```
const getUserData = (user) => {
  firebase
    .firestore()
    .collection('users') // From the users collection, the
    .doc(user.uid) // The document with the specified uid is
    .get() // Get
    .then((doc) => {
      if (doc.exists) {
        userData.name = doc.data().name
        userData.role = doc.data().role
        userData.iconUrl = doc.data().iconUrl
        userData.profile = doc.data().profile
        userData.comment = doc.data().comment
      }
    })
    .catch((err) => {
      console.log('Error getting user document', err);
    })
}
```

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- When you go to the Edit Profile screen, you will see the data you have already registered.

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Display data on your profile screen

- Likewise, your profile page (http://localhost:3000/profile) should display the data you've already registered.
- The file for your profile page is `/pages/profile/index.vue`.
- You can modify the code on your own based on what you did in the profile edit screen.

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- Answer is here. https://github.com/GuildWorks/titech-2020/blob/master/titech-nuxt-firebase-day3-answer/pages/profile/index.vue

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Member list

- Let's make the member list page (http://localhost:3000/users) also show the registered data.
- The page file of the member list is `/pages/users/index.vue`.

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- Import firebase.

```
import firebase from '@/plugins/firebase.ts'
```

- Please modify `setup()` as follows.

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```
setup(_) {
  const userList = reactive<User[]>([])
  firebase
    .firestore()
    .collection('users') // From the users collection, the
    .get() // Get all the documents
    .then(function (querySnapshot) {
      querySnapshot.forEach(function (doc) { // For each element of the fetched document array
        userList.push({ // take the value of each field and add it to the userList array as an object
          id: doc.id,
          name: doc.data().name,
          email: doc.data().email,
          role: doc.data().role,
          iconUrl: doc.data().iconUrl,
          comment: doc.data().comment,
          profile: doc.data().profile,
        })
      })
    })
  const userLink = (userId: string): void => {
    window.location.href = '/users/' + userId
  }
  return {
    userList,
    userLink,
  }
},
```

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- Make sure you see the users you have registered.

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- Add users to see what it looks like if you have more than one user.
  - Log out and register a user with a different email address.
    - We don't check the existence of the email address, so you can register a user with an random email address.
    - However, it is preferable to use your own email address if possible because the email will be sent when you modify the app and add the email sending function in the future.

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Reference

- Gmail's alias feature makes it convenient to use multiple email addresses in one email address.
  - If you have a `imahashi@gmail.com` account, you can add `+` and any alphanumeric characters before `@`, such as `imahashi+2@gmail.com` or `imahashi+third@gmail.com`, and mail will be sent to the same address.

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- We can confirm that the added users are also shown.

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Member profile

- Make sure that the registered data is also displayed on the member profile screen.
  - The user ID is required in the `_id` part of the path (http://localhost:3000/users/_id), so you need to display it from the user list screen.
- The file for the member profile screen is `/pages/users/_id.vue`.

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- Import firebase.

```
import firebase from '@/plugins/firebase.ts'
```

- Please modify `setup()` as follows.

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```
setup(_, { root }: SetupContext) {
  const userData = reactive<User>({
    id: '',
    name: '',
    email: '',
    role: '',
    iconUrl: '',
    comment: '''',
    profile: {
      belongs: '''',
      nickname: '',
      birthplace: '',
      birthday: '',
      bloodType: '',
      sign: '',
      hobby: '',
    },
  })
  firebase
    .firestore()
    .collection('users')
    .doc(root.$route.params.id) // Get the ID from the URL and get the document for that ID
    .get()
    .then((doc) => {
      if (doc.exists) {
        userData.id = root.$route.params.id
        userData.name = doc.data().name
        userData.email = doc.data().email
        userData.role = doc.data().role
        userData.iconUrl = doc.data().iconUrl
        userData.profile = doc.data().profile
        userData.comment = doc.data().comment
      }
    })
    .catch((err) => {
      console.log('Error getting document', err)
    })
  return {
    userData,
  }
},
```

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- You can confirm that your member profile will be displayed.

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Extra.

- Make sure you can upload your photos in your profile edit screen.
- Use Cloud Storage for Firebase.
  https://firebase.google.com/docs/storage
  - This service saves files such as photos and videos.
- Open `/pages/profile/edit.vue`.

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- It is already possible to drag and drop an image on the icon part.
- Let's change the `setIcon` as follows.

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```
const setIcon = (file: File): void => {
  const storageRef = firebase.storage().ref()
  // Get a reference to the profile image upload location
  const fileRef = storageRef.child(
    'images/profile/' + userData.id + '/' + file.name
  )
  // Upload your profile image to storage
  fileRef.put(file).then(function (snapshot) {
    // Update the URL of the user data
    snapshot.ref.getDownloadURL().then((url) => {
      userData.iconUrl = url
    })
  })
}
```

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- After dragging and dropping the image, press the "Register" button to set the icon.

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- When you open Cloud Storage, you can see that the images are stored.

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Summary

✅ This time you can now use Firebase to register users, login, register/read/update data, etc.

✅ The complete app is in the `titech-nuxt-firebase-day3-answer` directory. If you missed something, please check here.

✅ If you understand the first three articles, you should be able to develop a simple app like this one.

If you're interested, feel free to customize your app or create your own!

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Thank you for your hard work!