

Account Access

Native App Development

Time: 60 mins

Introduction

In this class, the student/s will learn to authenticate the user credentials to sign in and sign out using the Firebase queries.

New Commands Introduced

- `firebase.auth()` allows to access the default app's authentication service
- `.ref(databasePath+userData.uid)` Refers specific location in the database path for userData with a default assigned user id(uid)
- `snapshot.val()` Data read from the database is received as a snapshot value
- `.once(snapshot)` Captures the snapshot value of the user data
- `onAuthStateChanged()` Listener that triggers an initial state once a connection with Firebase has been established
- `navigation.popToTop()` Navigates to the top most stack

Vocabulary

- A **Firebase** is a set of services and application development platforms provided by Google which hosts databases, services, authentication, and integration for a variety of applications.
- A **real-time database system** is a database system in which transactions have explicit timing constraints such as deadlines.
- Event **listeners** wait for an event to occur and pass that event across different files.

Learning Objectives

Student/s should be able to:

- **Recall** reading the Firebase database to get user information of a user .
- **Demonstrate** how to authenticate the user credentials.
- **Explain** how to keep the user signed in.

- **Explain** how to sign out with firebase.

Activities

1. Class Narrative: (2 mins)

- Recall the feature added to sign up a user to the BriskMed app and explain the next feature to add a sign in feature to help the registered users access their account..

2. Concept Introduction Activity: (5 mins)

- Let the student/s play the explore-activity and explore how authentication works on the BriskMed app.
- Ask students to sign in with user credentials and sign out of the app with the logout button to the top right.
- Using the slides, explain that the student/s will learn:
 - to authenticate the user credential
 - to keep user signed in
 - to sign out the user

3. Activity 1: Authenticate the User Credentials: (12 mins)

Teacher Activity: (6 mins)

- Explain to the students how firebase authentication can be used to verify user credentials with the firebase database.
- Lead and explain the students to think on defining a function to get the user information from the Firebase for a patient or a doctor and another function to handle the sign in screen.

Student Activity: (6 mins)

- Guide the student/s to get the user information as a patient or a doctor and authenticate the user credentials with the firebase.

4. Activity 2: Keep User Signed In: (12 mins)

Teacher Activity: (6 mins)

- Highlight that the app asks for signing in on refreshing or previewing or on losing connectivity.
- Explain that the firebase disconnects and can be connected back by using a listener method within the hook useEffect().

Student Activity: (6 mins)

- Guide the student/s to keep the user signed in with the help of a listener method.
Probing question: What is a listener in JS?
Expected answer: Event listeners wait for an event to occur and pass that event across different files.

5. Activity 3: Sign Out the User: (8 mins)

Teacher Activity: (6 mins)

- Explain to the student/s how the user should be able to sign out by clicking the logout button and sign in screen shall pop up.

Student Activity: (8 mins)

- Guide the student/s to sign out the user and pop a screen to sign in.

6. Introduce the Post class project: (2 min)

- Keep the user signed in until signing out from the Campus Security app.

7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learning after respective missions.
- Summarize the overall class learning towards the end of the class.

8. Additional activities:

- Encourage the student/s to add the functionality to update the email address using the hook reference method.
- Encourage the student/s to allow an anonymous user to sign in and try the app.

9. State the Next Class Objective: (1 min)

- We will locate the doctors near you on the map.

U.S. Standards:

CSTA: 2-AP-11, 2-AP-12, 2-AP-13, 2-AP-14, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Account Access	https://s3-whjr-curriculum-uploads.whjr.online/f38661b9-3a3c-4e1e-a2a4-47215a6ca6c9.html
Explore Activity	BriskMed App	https://snack.expo.dev/@procodingclass/wad-402-c58-pcp-sign-in-and-sign-out-the-user--solution?platform=web
Teacher Activity 1	Authenticate the User Credentials	https://snack.expo.dev/@procodingclass/wad-402-c58-ta1-authenticate-the-user-credentials?platform=web
Teacher Activity 1 Solution	Authenticate the User Credentials	https://snack.expo.dev/@procodingclass/wad-402-c58-ta1-authenticate-the-user-credentials---solution?platform=web
Student Activity 1	Authenticate the User Credentials	https://snack.expo.dev/@procodingclass/wad-402-c58-sa1-authenticate-the-user-credentials?platform=web
Teacher Reference: Student Activity 1 Solution	Authenticate the User Credentials	https://snack.expo.dev/@procodingclass/wad-402-c58-sa1-authenticate-the-user-credentials---solution?platform=web

Teacher Activity 2	Keep the User Signed In	https://snack.expo.dev/@procodingclass/wad-402-c58-ta2-keep-the-user-signed-in-?platform=web
Teacher Activity 2 Solution	Keep the User Signed In	https://snack.expo.dev/@procodingclass/wad-402-c58-ta2-keep-the-user-signed-in---solution?platform=web
Student Activity 2	Keep the User Signed In	https://snack.expo.dev/@procodingclass/wad-402-c58-sa2-keep-the-user-signed-in-?platform=web
Teacher Reference: Student Activity 2 Solution	Keep the User Signed In	https://snack.expo.dev/@procodingclass/wad-402-c58-sa2-keep-the-user-signed-in---solution?platform=web
Teacher Activity 3	Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-ta3-sign-out-the-user?platform=web
Teacher Activity 3 Solution	Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-ta3-sign-out-the-user---solution?platform=web
Student Activity 3	Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-sa3-sign-out-the-user?platform=web
Teacher Reference: Student Activity 3 Solution	Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-sa3-sign-out-the-user---solution?platform=web
Student's Additional Activity 1	Update the Email Address	https://snack.expo.dev/@procodingclass/wad-402-c58-aa1-update-the-email-address?platform=web
Teacher Reference: Student's Additional Activity 1 Solution	Update the Email Address	https://snack.expo.dev/@procodingclass/wad-402-c58-aa1-update-the-email-address---solution?platform=web
Student's Additional Activity 2	Enable an Anonymous Sign In	https://snack.expo.dev/@procodingclass/wad-402-c58-aa2-enable-an-anonymous-user-sign-in?platform=web
Teacher Reference: Student's Additional Activity 2 Solution	Enable an Anonymous Sign In	https://snack.expo.dev/@procodingclass/wad-402-c58-aa2-enable-an-anonymous-user-sign-in---solution?platform=web
Post Class Project	Sign In and Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-pcp-sign-in-and-sign-out-the-user?platform=web

Teacher Reference: Post Class Project Solution	Sign In and Sign Out the User	https://snack.expo.dev/@procodingclass/wad-402-c58-pcp-sign-in-and-sign-out-the-user--solution?platform=web
--	-------------------------------	---