

Discbuss - Testing

During the project we have not implemented any unit test code. Mainly because we figured testing our application on the phone as we coded was more than sufficient to ensure functionality was properly working. Firebase provides a web based database handler. In the web client we can manage the database and server part, reading data in the database and edit or add as felt it necessary.

Using firebase was a great decision but made writing test code hard for our controllers. To test the controllers there are two different ways to choose. One of them is by testing the firebase connection we have, that would be either creating unittest-code that would do exactly the same as we do when we run the application. The other way is by setting up a local server, exactly like the one we have remotely. After this is done the same kind of testing we do remotely can be done.

We decided to test the functionality remotely from using the application. We made simple activities for our actions and sent a request, pushing the data to the database and then we could see that the data was pushed in the firebase webclient in the right way. We tested the main part of the firebase code this way. This tested all functionality in the controllers for the activity classes.

The activities was tested when implemented by using the application. The application as a whole was tested when merging a new feature into what already existed within the application. When developing we not only tested things that should work but what happened if we gave incorrect input, such as trying to register without required in-data, or registering multiple users using the same email.

The most difficult part to get together and the main difficulty of the program was getting the firebase-communication in terms of receiving and pushing data correct. Given the nature of firebase and our knowledge about it we found testing it using unit-classes difficult and instead tested it as described in the first part. Firebase has a built-in way to simulate a user when it comes to pushing/retrieving data which was used to test the communication, see

print below.

The screenshot shows the Firebase Security Rules Simulator interface. It is divided into two main sections: '1. AUTHENTICATE AS A USER:' and '2. SIMULATE READ AND WRITE OPERATIONS AS YOUR USER:'. In the first section, 'Unauthenticated' is selected with a checkmark, and a 'Custom Auth' field contains the JSON object `{ provider: 'anonymous', uid: '002a448c-30c0-4b87-a16b-f70dfebe3386' }`. An 'Admin' radio button is also present. A blue 'Authenticate' button is at the bottom. The second section has 'READ' and 'WRITE' tabs, with 'READ' selected. A 'URL' field contains `https://boiling-heat-3778.firebaseio.com/ /`. A blue 'Simulate Read' button is to the right. Below the URL field is a text area with the instruction: 'Enter a path to read and then press "Simulate Read." We'll simulate the operation against your currently saved security and Firebase rules and results will appear here.'

Test routines

Registration testing:

1. Try registering a valid user, with real correct data
 2. Make sure you can login with your newly registered user
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1. Try registering a user and leave one field blank at a time
 2. Make sure registration didn't go through
-
1. Try registering a user with all fields filled in but with the passwords mismatching
 2. Make sure registration didn't go through
-
1. Try registering a user with an email that's already registered, make use of the first test
 2. Make sure registration didn't go through

Login testing:

1. Try logging in with an email not registered as an user
 2. Make sure you don't get to the main screen
-
1. Try logging in as a registered user with an invalid password
 2. Make sure you don't get to the main screen
-
1. Try the above but on the loading press cancel
 2. Make sure you don't get to the main screen
-
1. Try logging in with valid data
 2. Make sure you get logged in and that your username and userdata is correct in the profile

Main Testing:

1. Try pressing "börja chatta"
 2. Make sure you get to the bus chat.
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1. Try pressing "meddelanden"
 2. Make sure you get to private messages
-
1. Try pressing "min profil"
 2. Make sure you get to your profile
-
1. Try pressing "Föreslå topic", enter text and press "föreslå"
 2. Make sure the statement is submitted. New statement should appear in <https://boiling-heat-3778.firebaseio.com/statements>. if the serverscript is running the new statement should eventually be seen in bus chat.

Bus chat testing:

1. Try entering a message and press send
 2. Make sure chat is updated with your message
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1. Try upvoting a comment
 2. Make sure the karma value increases by one and the vote arrow color switch to green and gray.
-
1. Try downvoting a comment
 2. Make sure the karma value decreases by one and the vote arrow color switch to red and gray.
-
1. Try pressing one of your messages
 2. Make sure the message is extended with a view with a button for accessing profile.
-
1. Try pressing a message from another person
 2. Make sure the message is extended with a view with a button for accessing profile and one for sending private message.
-
1. Try pressing "visa profil" after pressing one of your messages to extend it.
 2. Make sure you get to your profile
-
1. Try pressing "visa profil" after pressing another persons message to extend it.
 2. Make sure you get to that persons profile.
-
1. Try pressing "skicka meddelande" after pressing another persons message to extend it.
 2. Make sure you enter a private chat with that person.
-
1. Enter chat with another client.
 2. Make sure chat participants value in top right is updated.

1. Vote on one of your messages from another client.
2. Make sure the message karma value, and your total karma value is updated.

Private chat testing:

1. Try entering a message and press send
 2. Make sure chat is updated with your message
-
1. Try pressing one of the messages
 2. Make sure the message is extended with a view with a button for accessing profile
-
1. Try pressing the profile button in one of your own messages
 2. Make sure your own profile is displayed
-
1. Try pressing the profile button in one of your chat partner's messages
 2. Make sure your chat partner's profile is displayed.

Message activity testing:

1. Try pressing a private chat.
 2. Make sure you enter the selected private chat.
-
1. Try pressing the red cross in order to close the private chat.
 2. Make sure the private chat is removed properly.
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1. Try messaging a person whose private chat you have already deleted
 2. Make sure the previous messages are not displayed
-
1. Send a message from another client
 2. Make sure chat with that person is displayed in bold until message is read
-
1. Send message to a person that has read your most recent message(message marked as read)
 2. Make sure message is no longer marked as "read"

Personal profile activity testing

1. Make sure all personal data is correct
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1. Try pressing "byt visningsnamn"
 2. Make sure the change username fragment is displayed
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1. After entering new username, try pressing "ändra"
 2. Make sure your username is updated
-
1. Try pressing "byt lösenord"
 2. Make sure the change password fragment is displayed

1. After entering new password, try pressing “byt lösenord”
2. Logout from the application and try logging in with your new password
3. Make sure logging in works

Other profile activity testing:

1. Make sure all personal data is correct
1. Try pressing “skicka meddelande”
2. Make sure you enter a private chat with the person