Low Level Design Document

Student Multi-Tool

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Technologies Used

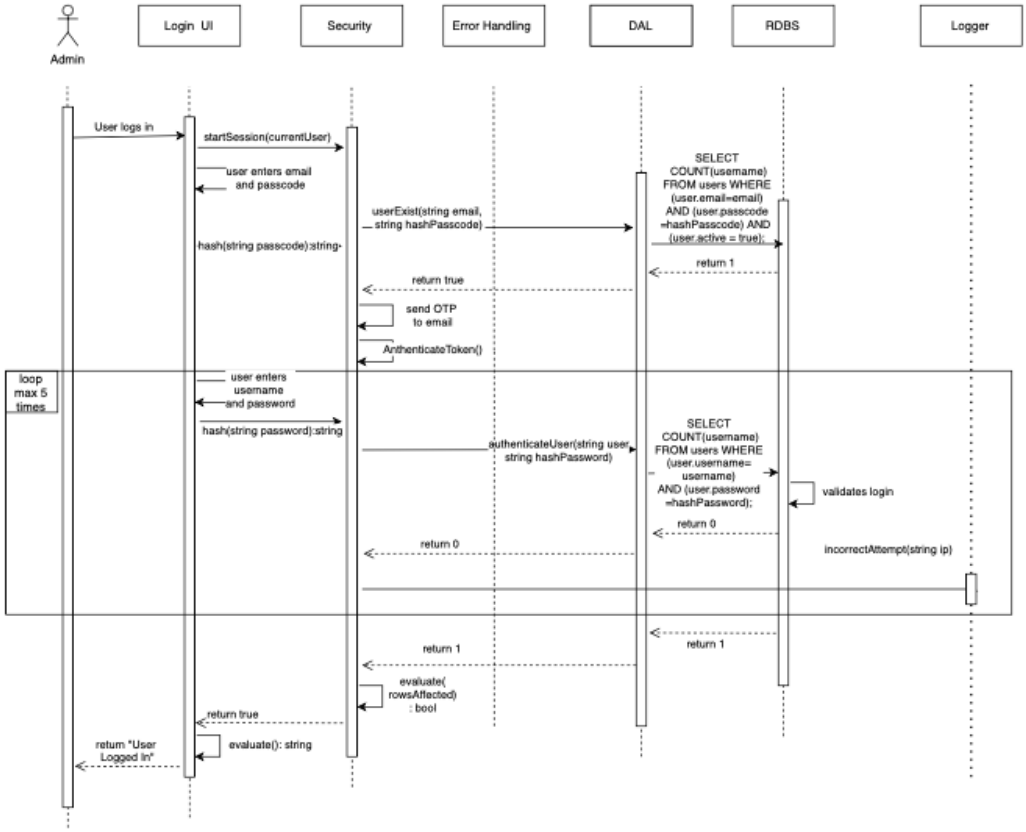
- C#
- .Net and ASPNET
- SQL Server 2019 Developer/Express Edition
- SQL Server Management
- Video Studio Code and Visual Studio Community
- HTML

Authenticate

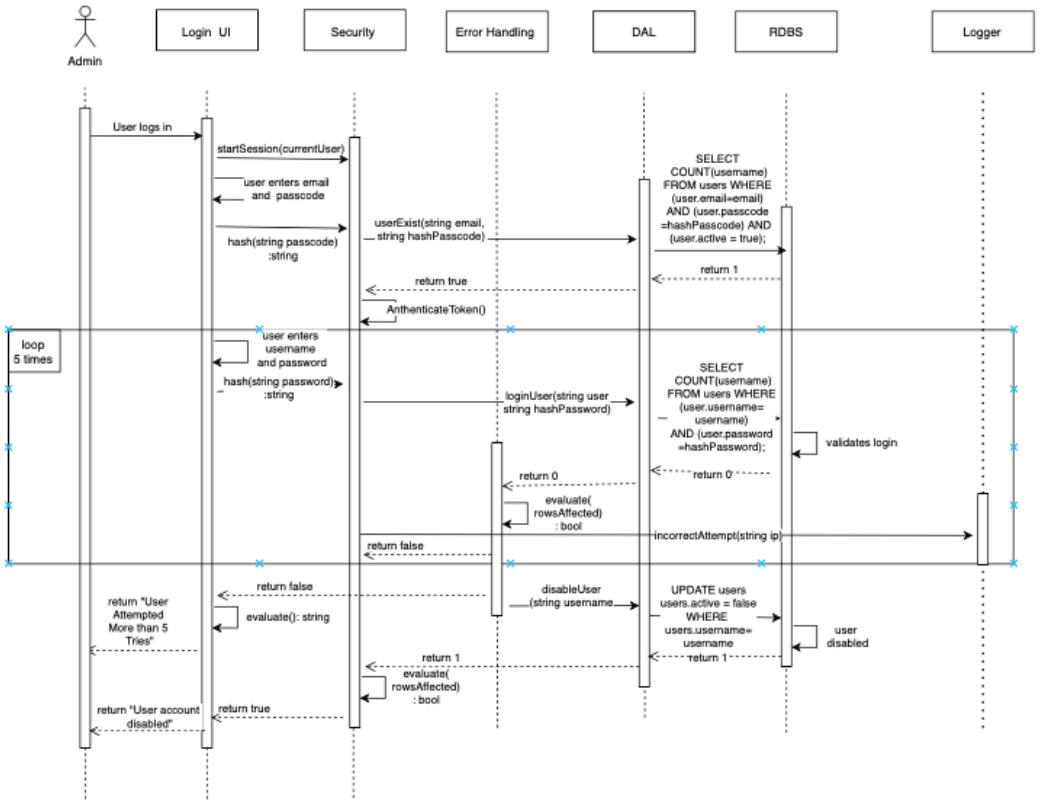
Sequence Diagrams:

- To be able to log into an account, a user must have already successfully registered an account with the system
- A user has at most 5 attempts within a 24 hour period to enter the correct username and OTP to gain access to the system

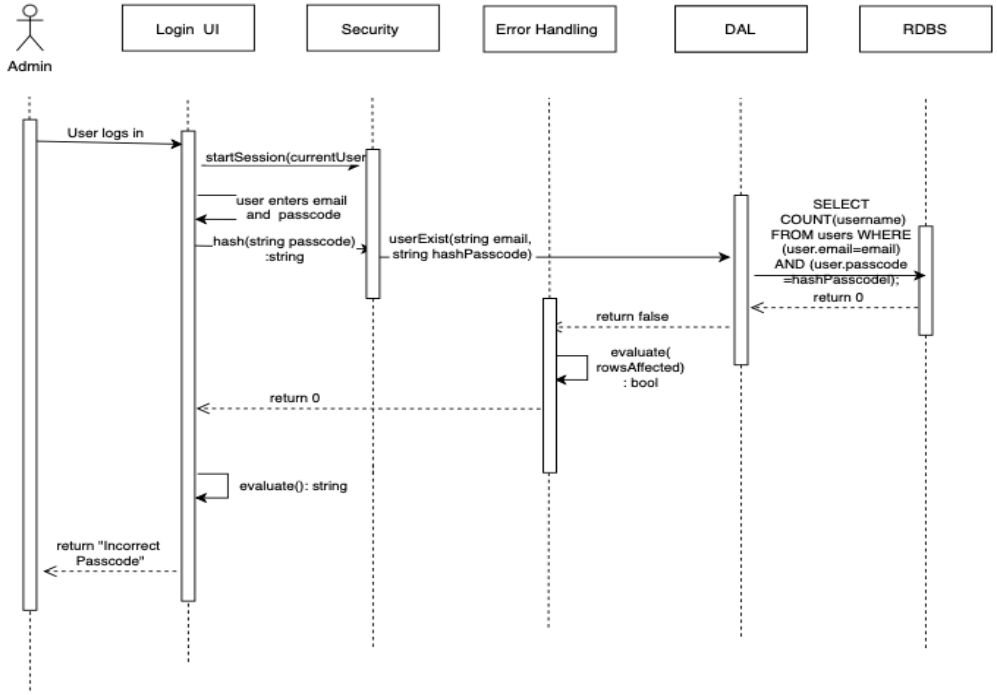
Authenticate (Success)



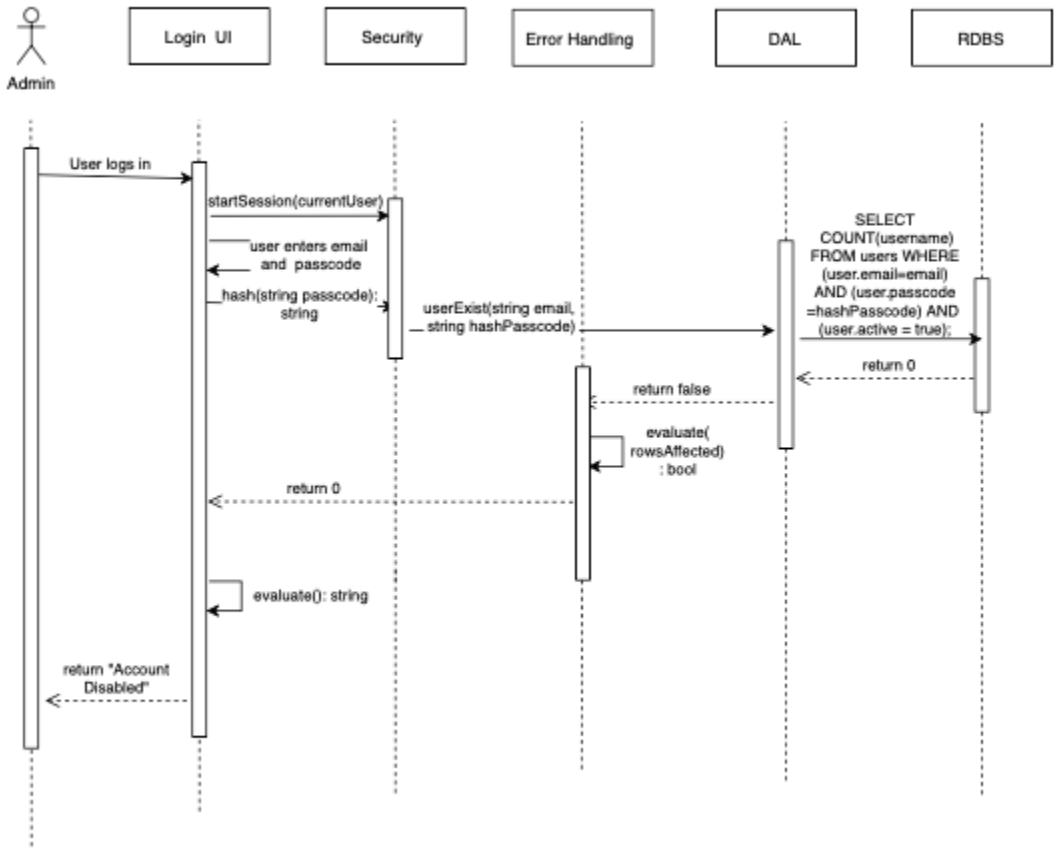
Authenticate Fail (More than 5 Failed Attempts)



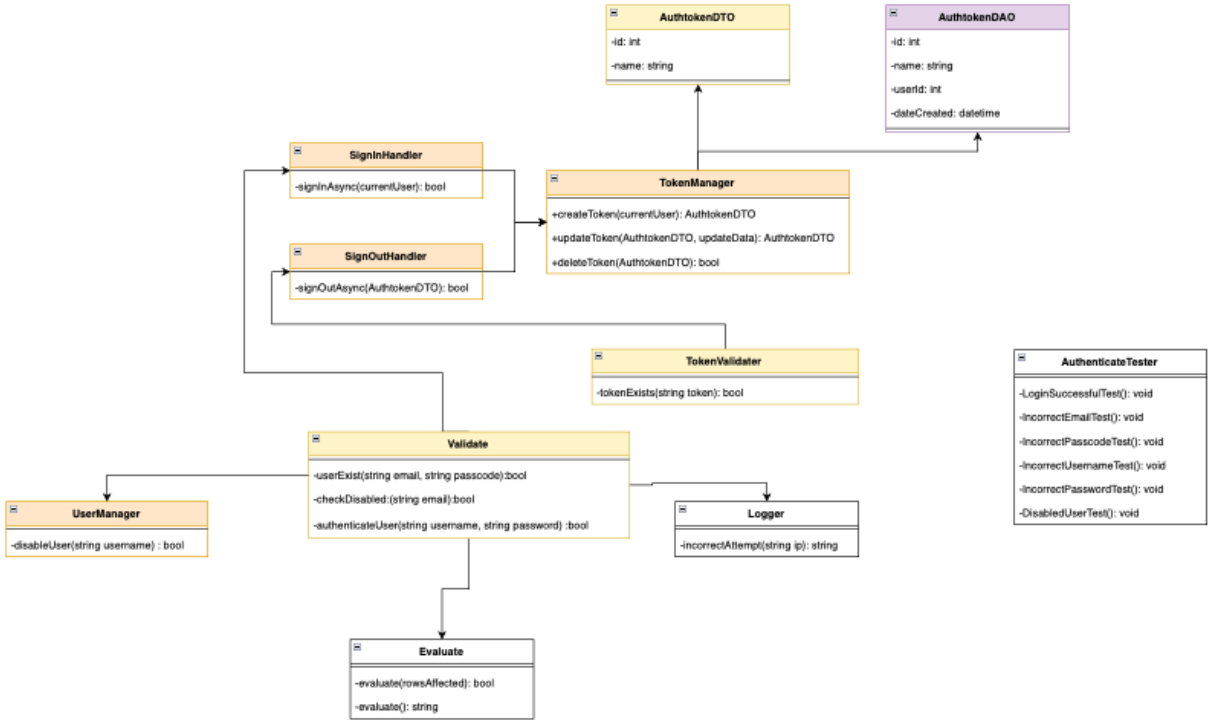
Authenticate Fail (Incorrect Email or Passphrase)



Authenticate Fail (Account Disabled)



Class Diagrams:

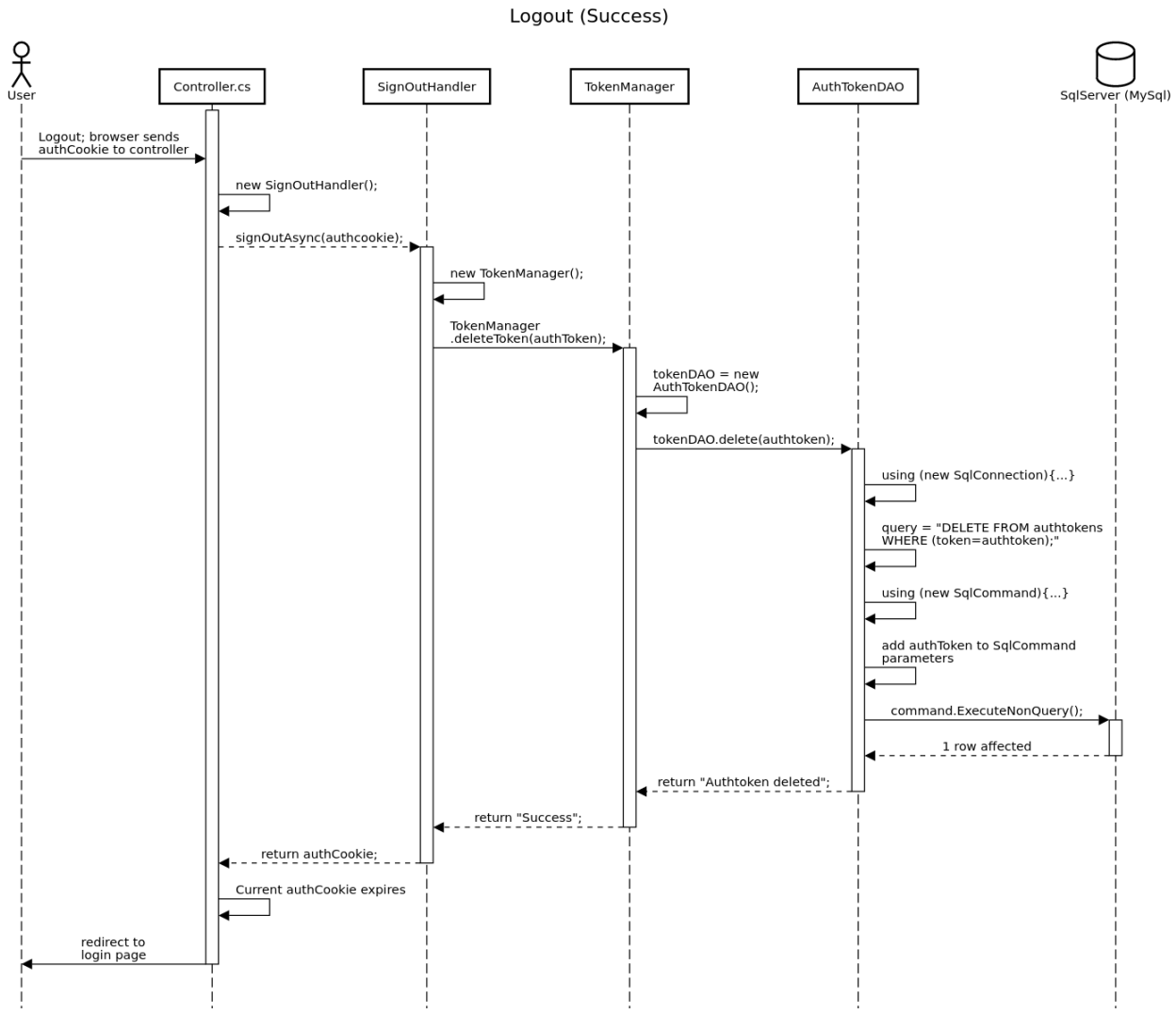


Logout

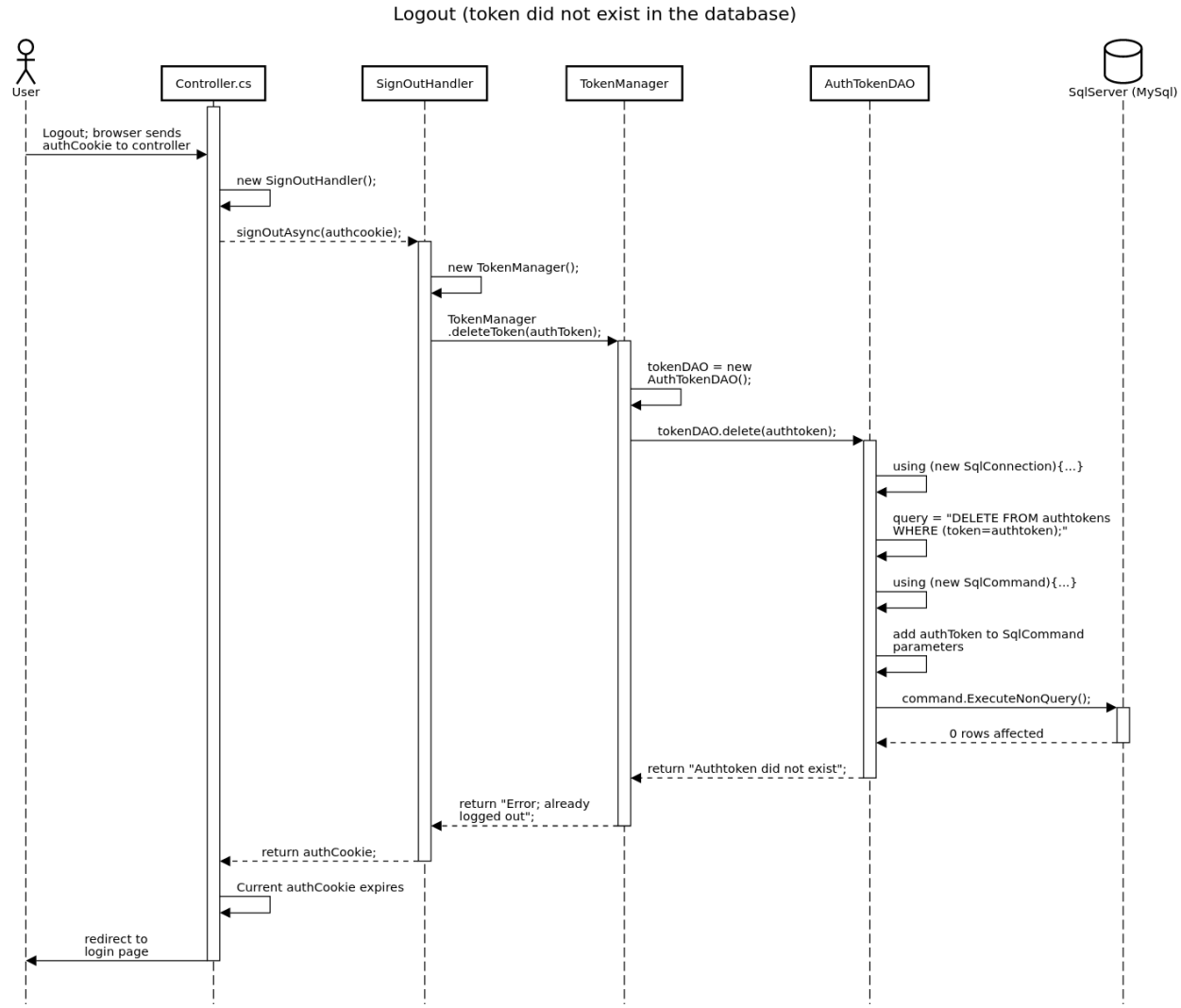
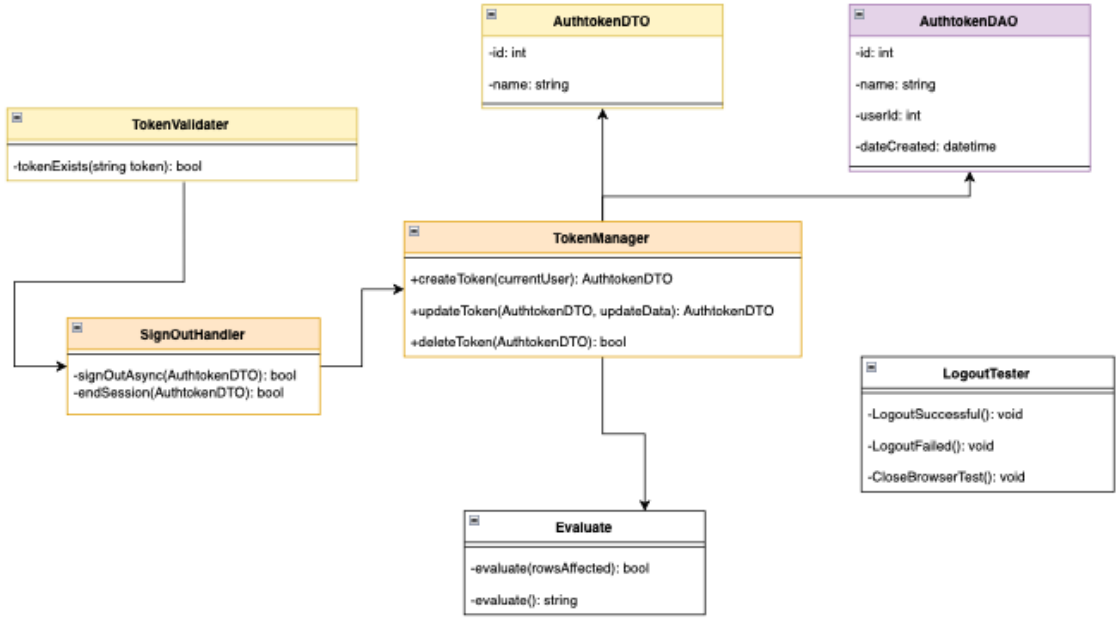
Sequence Diagrams:

- To log out of an account, a user must be successfully logged into an account
- A user can log out by either closing the browser or by manually logging out

Logout (Success)



Logout (Fail)


Logout (token did not exist in the database)
User
Controller.cs
SignOutHandler
TokenManager
AuthTokenDAO
SqlServer (MySql)
Logout; browser sends authCookie to controller
new SignOutHandler();
signOutAsync(authcookie);
new TokenManager();
TokenManager .deleteToken(authToken);
tokenDAO = new AuthTokenDAO();
tokenDAO.delete(authtoken);
using (new SqlConnection){...}
query = "DELETE FROM authtokens WHERE (token=authtoken);"
using (new SqlCommand){...}
add authToken to SqlCommand parameters
command.ExecuteNonQuery();
0 rows affected
return "Authtoken did not exist";
return "Error; already logged out";
return authCookie;
Current authCookie expires
redirect to login page

Class Diagrams: