Activity 6 Part 1: The Debugger

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Screenshots:

A screenshot of a computer program

Description automatically generated with medium confidence

Here we set a breakpoint at the .IsValid function to pause the action. We can then see the username and password in the debugging console at the bottom.

A screenshot of a computer

Description automatically generated

Here we set the breakpoint at the SecurityService initialization line. We then stepped into the next step. We then verified the user in the console.

A screenshot of a computer

Description automatically generated

Here we set another breakpoint on the SqlDataReader initialization and stepped into through the functions. We can see each step in the debug console as pictured above.

A screenshot of a computer program

Description automatically generated with medium confidence

Here we can see that the user was found in the database by the success – true in the debug console.

A screenshot of a computer program

Description automatically generated with medium confidence

Here we can see a breakpoint set with the condition to initialize the breakpoint if the UserName == “Ryan”. As you can see by the console, this was returned as true, and the breakpoint was initialized.

A picture containing multimedia software, software, text, graphics software

Description automatically generated

Here we set a conditional breakpoint to send a message to the output upon successful login. As you can see, the output log printed out “Login was successful”.

A screenshot of a computer

Description automatically generated with medium confidence

Here we set a breakpoint on the return statement of the find by user function. In the call stack window, we can see how each of the functions operate with one another.

Summary of key concepts:

In this first part of the activity we learned how to set breakpoints and what their uses can be. We utilize the debugger to follow the path of set breakpoints and “step through” to the next step following logging in. We can see the input and processes in the debugger output as seen in the screenshots. There are multiple types of breakpoint and things they can set off. For instance we set a conditional breakpoint checking for if the username is = to what we put, if it is it would pause at the breakpoint, otherwise it would just continue on as normal. Using breakpoints and the debugger is a great way to test functions and see how they work.