Run a Client-Server System on Single Machine

Overview

In this lab, you will run a web server and a web client on a single computer and use the client to call the server. While a very basic scenario, this allows you to understand or regain familiarity with how the client-server system works. Plus, it helps you learn how to use .Net Core to create server and client app.

Configuration

Get the starter files for this task from the GitHub repo, <https://github.com/MicrosoftLearning/edX_DEV247X_Build_WebAPIs_Using_ASP.NET.git>. It is recommended that you clone the entire repo to your computer for easier access to the required files in an offline scenario.

Create a folder on your computer as a working directory. Give it a name of your choosing but we suggest starting with a WebAPI folder name. Then create a subfolder or directory for Module1.

For this task, locate the **Run a Client-Server System on a Single Machine**folder. Copy the WebServer and WebClient directories and their entire contents to your Module1 working directory.

Start the Web Server

Run the command line (on Windows) or Terminal (on MacOS/Linux), enter the **WebServer** directory. Execute the commands below, pressing ENTER after each command line:

dotnet restore  
dotnet build  
dotnet run

If you see the output below, the server is started:

Now listening on: http://localhost:5000  
Application started. Press Ctrl+C to shut down.

Start the Web Client

Open a new console or command window. Enter the **WebClient** directory, execute the commands below:

dotnet restore  
dotnet build  
dotnet run http://localhost:5000

If you see the output below, the client is started:

Acceptable input: integer | ALL | EXIT

Interaction of Client-Server

In the WebClient command line window, try the listed input options below:

* Enter an integer between 0 and 3: you will get the data of the rocket that has this ID
* Enter an integer not in the range of 0 to 3: you will see "Nothing to print."
* Enter ALL (case insensitive): you get the data list of all rockets
* Enter EXIT (case insensitive): the client says "Thank You!" then stops.

You can now go back to the console for the server and press CTRL + C to stop the server.