Step 1: Importing the Live Client for Unity package

The Faceware Live Client for Unity package can be installed from the Unity Asset Store. Simply search for "Faceware" and you can select and import it into your Unity project. After importing the Faceware Live Client for Unity package you're almost ready to connect to Live Server and see your real-time facial animation data that is streaming from Live Server. There's just a few easy steps we need to complete first.
*Note - You'll need to be streaming data from Faceware Live Server in order to see animation in Unity. Need a free trial? Here you go: http://facewaretech.com/products/software/free-trial/
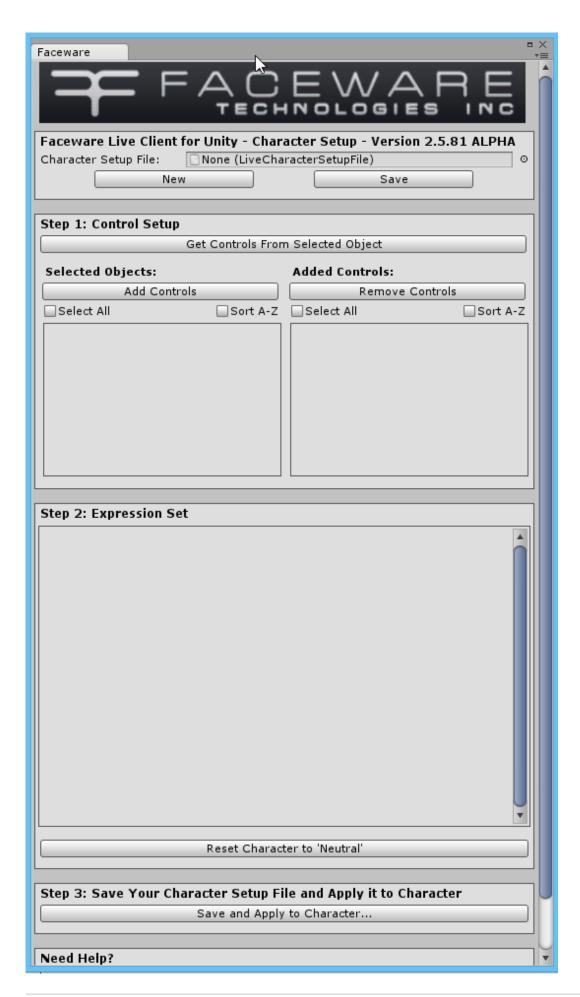
Step 2: Character Setup

Each character you use will need to have a 'Character Setup' file. This will be created as a Unity asset file (.asset) using our Character Setup tool. You only need to build this file once and you'll load it into the Live Client component each time you want to stream animation onto this character.

*Note: In the previous version of Live Client for Unity, this is a .JSON file. This .JSON is not compatible with the new version of Live Client and will need to be recreated.
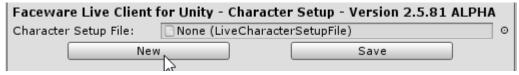
Opening Character Setup

Load your character into your Unity scene and open the Character Setup window by selecting "Tools" -> "Faceware" -> "Character Setup." This will open the Character Setup tool.

Faceware

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Faceware Live Client for Unity - Character Setup - Version 2.5.81 ALPHA

Character Setup File: ☐None (LiveCharacterSetupFile)   ⊙

[New]   [Save]

Step 1: Control Setup

[Get Controls From Selected Object]

Selected Objects: **Added Controls:**

[Add Controls]   [Remove Controls]

☐Select All   ☐Sort A-Z   ☐Select All   ☐Sort A-Z

Step 2: Expression Set

[Reset Character to 'Neutral']

Step 3: Save Your Character Setup File and Apply it to Character

[Save and Apply to Character...]

Need Help?

Creating/Loading a Character Setup File

Create a new character setup file for your rig by pressing the "New" button at the top of the tool and name your file. This will create a new .asset file.
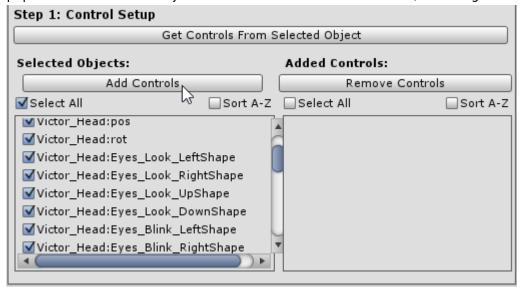

You can also load a previously created character setup file by selecting the circle to the right of the field and choosing your file.

Adding Controls

The first step after creating the file is to add the controls on the rig that we want to animate with Live Server. First, we're going to select the object in the scene that we want to use. If you're using a blendshape rig, you'll select the entire object that contains your blendshapes. If you have separate controllers, select those.
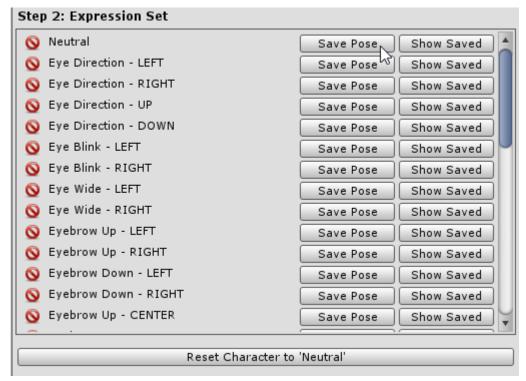
Once you have the appropriate objects selected, press the "Get Controls From Selected Object" button. This will populate the "Selected Objects" menu with all available controls, including blendshapes, rotations, and positions.

From this list, choose the ones you want to use in your animation by checking the box next to the control manually or using "Select All." When you have what you want selected, press the "Add Controls" button and any selected controls will now be moved into the "Added Controls" menu on the right. You can, at any time, add more controls in the same manner or remove them by selecting in the Added Controls menu and pressing "Remove Controls."

Expression Set Creation

Now that your controls are added, the next step is to make your Expression Set. Live Server streams data as shapes (e.g. blinks, phonemes, jaw open, etc) and we are going to create corresponding expressions on our character to tell the software what each shape should look like when streamed to the character rig. This is the purpose of the Expression Set.

First, set your rig to a "Neutral" pose where it has no specific expression. This will serve as a default or resting position. Make sure to use the controls that you've added in the previous step to do so.
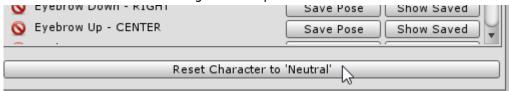
Once your rig is neutral, press the "Save Pose" button next to the Neutral expression. The red icon will turn to a green check mark to indicate that the pose is saved into memory.

Additionally, the "Save Pose" button will change to "Update Pose." If you ever want to change a pose, simply make the change on your rig and press the Update Pose button. You can also press "Show Saved" to make your rig into the saved expression at any time.

Go through the list of expressions and save each one as you go. Each pose is how your character is going to respond to a given shape, so this is the step that will most strongly detemine what your results look like. You can see pictures of each expression here: http://support.facewaretech.com/creating-characters-for-live

*IMPORTANT NOTE: Before creating each expression, it is very important to set your character back to a neutral position. This will prevent controls from overlapping into expressions that they are not intended to be in (for example, having a blink active when creating the Jaw - Open expression would cause the character to blink every time the jaw opens during animation). To prevent this behavior, always press the "Reset Character to Neutral" button before creating a new expression.
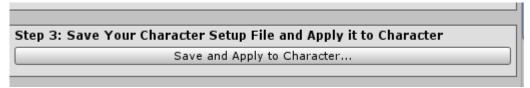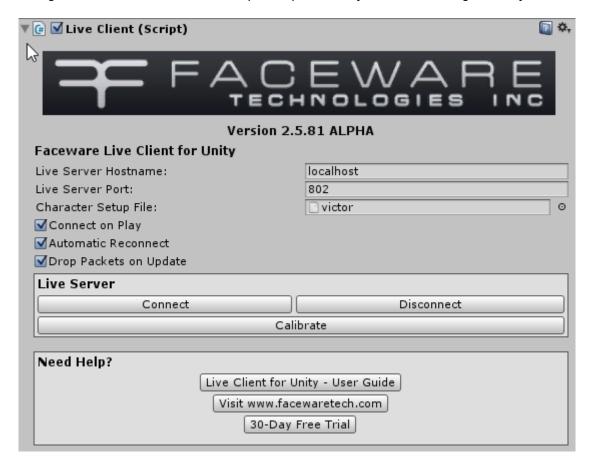

Saving your Character Setup File

Once you have all of your desired expressions created, save your character setup file with the "Save" button at the top of the Character Setup window or by pressing "Save and Apply to Character" at the bottom (more details below).

Step 3: Connecting to Live Server and Streaming Data onto the Character

Once our character setup is complete, we need to add the Live Client script component onto our character rig. The best way to do this is to click the "Save and Apply Character" button at the bottom of the Character Setup window.

Doing so will add the Live Client script component to your character rig, which you can view in the Inspector.

Within the component, you will need to set up a few fields to make sure that they line up with the Live Server instance that you are running.

- **Live Server Hostname:** This is the IP address of the Live Server instance. You can find it at the bottom of the main Live Server window. If you are running Live Server and Live Client on the same computer, then use "localhost" instead of the IP address.
- **Live Server Port**: This is the port number that Live Server and Live Client will communicate through. Make sure that the port number here matches the port setting in Live Server (at the top of the Live Server window).
- **Character Setup File:** This is the character setup asset that was created for this rig during the Character Setup process. Using the "Save and Apply to Character" button in Character Setup automatically selects the appropriate asset in this window.

At this point, make sure that Live Server is streaming data and press the Play button for your Unity scene and

you should see your character animate according to the facial performance coming out of Live Server. That's all there is to it. There are a few more options in the Live Client component that will be discussed below. We generally recommend that these remain checked for almost all use cases.

- **Connect on Play**: If this is checked on, then if Live Server is set to stream, as soon as "Play" is pressed, the client will connect and the character will begin to animate. If this is unchecked, use the "Connect" and "Disconnect" buttons to connect to the stream.
- **Automatic Reconnect:** If the data stream is disconnected for any reason, this will allow Live Client to reconnect as soon as it detects that the stream is back up and running.
- **Drop Packets on Update:** When this is off, Unity will attempt to use every packet sent to it from the data stream, data for every frame, coming out of Live Server. If data is being streamed from Live Server at 60 frames per second or more, which is recommended for the best tracking, Unity can sometimes slow down and begin to lag behind the live animation. Keeping this box checked on will prevent this by dropping packets if necessary to keep the animation from lagging. This should not adversely affect the animation quality and is strongly recommended to keep on.

Live Server Calibration in Unity

If the Live Server Hostname is "localhost," there will be a button to Calibrate in Live Server directly from the Live Client component. If the hostname is anything other than "localhost," this option is disabled and the button will not be present.

Troubleshooting

- I can't connect to Live Server!
- Check to make sure the Server Address (IP address) and Port of Live Server are correct.
- Check to make sure the machines are on the same network and can ping each other.
- Check to make sure you have loaded a Character Setup file.
- Restart Unity and Live Server to make sure there are no broken connections possibly causing issues in Windows.

- It says I'm connected but my character is not moving!
  Make sure you've loaded the correct Character Setup file and that you've completed your Expression Set

- My Facial Rig/Character can't make some of these Expressions in your Character Setup process.
  If your rig can't make a certain Expression, you can leave it blank and it will be ignored during animation.