

# Tutorial 7. Onboarding New Artists and Sample Workflow

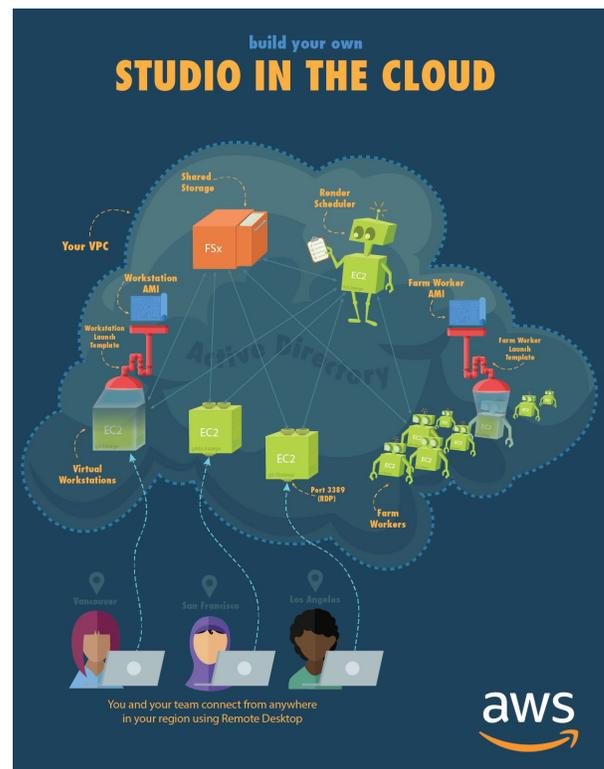
*Estimated Time to Complete: 25 minutes*

## Review of: [Tutorial 6: Setting Up a Linux Farm Worker and Spot Fleet Request](#)

In the previous tutorial, you built your own cloud render farm by setting up a Linux instance with all the necessary software for rendering. Then you created a launch template that could be used by AWS Thinkbox Deadline to automatically launch Farm Workers using that template when a render is submitted. With that, you now have all the necessary infrastructure in place for your Studio in the Cloud. Give yourself a pat on the back because now you can move on to creating your content.

### Overview

In this tutorial, we'll walk through how you and your artists will actually use your Studio in the Cloud on a day-to-day basis. We'll start with a quick review of your basic infrastructure and then cover the process for onboarding a new artist. Finally, we'll step through a sample workflow that an artist would follow to animate and render a shot with Blender.



### Startup Notes

If you're coming straight from the last tutorial and already have your Render Scheduler instance running, then you can continue straight to the next section, Review Your Infrastructure. Otherwise, please go to the **EC2 Dashboard** to start it up again. Remember to start up the **Deadline Monitor**, **Deadline RCS (Remote Connection Server)**, and **Deadline Pulse** as well.

Note: We also had you stop your User Management instance at the end of the last tutorial. If you have already added accounts for all of your artists, you can leave that "stopped" for now.

### Review Your Infrastructure

Let's quickly review (and marvel at) all that you have created over the course of these tutorials.

- **Your VPC** - a private network in the cloud that contains all of the pieces for your studio.
- **User Management instance** - you used this to help set up your studio and add accounts for your artists. At the moment, that instance is stopped, but can be restarted at anytime to add more artists.
- **FSx** - fast cloud storage for your user profile, studio tools, content creation applications and production data
- **Render Scheduler instance** - uses Deadline to manage the renders that your artists submit to the farm. Once production begins, this instance should remain running constantly so that it is always available for artist submissions.
- **Windows Workstation instances** - the GPU-enabled instances your artists will be using to create content, connected to FSx to retrieve and store production data. At the moment, you may not have any of these running, but you will add them one-by-one as you add artists.
- **Linux Farm Worker instances** - the instances that will be launched automatically whenever a render is submitted, connected to FSx to retrieve production data. These instances will be started and stopped on demand, so the number of running instances will vary and when there are no renders, there will be no running instances.

When combined, all the above services and different types of virtual workstations allow you to move your content creation to the cloud. Now that you have all the pieces in place, it's time to start thinking about your next steps before entering into production. Below we'll cover additional steps to complete before onboarding your artists.

 *Note:* As we mentioned at the beginning of Tutorial 1, the security measures we have implemented so far are sufficient for initial setup and testing of a cloud-based production pipeline. However, before using your setup for production content that may require a higher level of security, we recommend adding extra measures, according to your individual security compliance goals. While that is beyond the scope of these first tutorials, in the future we will publish an add-on tutorial focused specifically on how to add extra layers of security to your Studio in the Cloud.

## Set Up Your Project's Directory Structure

Before beginning work on your cloud-based project, you should create a basic directory structure on your FSx file system to share your production data separate from your tools, profiles, installers and applications. Every studio and project is different, so create a structure that works for you. We suggest creating a top-level directory for your projects and then individual project directories and sub-directories for production shots, a library of assets, etc.

- Connect to your Render Scheduler instance or another instance that is already connected to your FSx file system.
- Open **File Explorer** and click on **This PC**, then double-click on your studio drive (e.g., Z:).
- Right-click and select **New**→**Folder**, then create a folder named **projects**. This will keep all the data for your projects separate from your user profiles and studio tools.

- Double-click on the **project** folder.
- Right-click and select **New**→**Folder**, then create a folder named for your project and repeat to create any sub-folders that you need (e.g. library, production, etc.).

## Onboarding a New Artist

Once they are set up, your storage, Render Scheduler, and Farm Workers should run inside your VPC with little to no supervision. So the only thing you should need to worry about when adding a new artist is launching a new Windows Workstation for them to use.

To keep things simple, we're going to assume that you, as the administrator of your studio, will be responsible for starting and stopping Windows Workstations as they are needed. It is possible to allow individual artists to start and stop their own instances by granting them access to the AWS Console. However, doing so requires that you add them as users on your AWS account (separate from their user accounts on your studio). It also means tightly controlling their access to AWS services so they don't accidentally delete your FSx file system, etc. Ultimately the choice depends on your comfort level as well as how technical your artists are.

**Note:** Before launching additional Windows Workstations you may need to request a quota increase to your On-Demand G instances limit. Each of the g4dn.4xlarge or g3.4xlarge instances we use in these tutorials requires 16 vCPUs of quota. Please see the [Appendix in Tutorial 1](#) for instructions on how to view your current quota and request an increase.

## Launch a New Windows Workstation

- Go to **Services** → **EC2** and click on **Launch Templates** in the left panel.
- Select the Windows Workstation launch template that you made in Tutorial 5 (e.g., My-Studio-Workstation-LT). *Please see the cheat sheet if needed for the name of your workstation launch template.*
- Choose **Actions** → **Launch instance from template**.
- Select the version.
- Scroll down to **Instance tags** and add the name of the user to the end of the **Name** tag (e.g., **Workstation - jason**).
- Choose **Launch instance from template**.
- Click **Close**.

## Send Workstation Login Information to Your Artist

In order for your artist to connect to their new virtual workstation, you will need to send them some login information.

- Select **Instances** in the left panel
- When your new workstation instance is done initializing, select it and make note of the **IPv4 Public IP** on the **Description** tab at the bottom of the page.
- You will need to send the following information to your new artist:

- IP address of their workstation
- username
- password
- your Active Directory's NetBios name (e.g., mystudio), they will need this to login. *Please refer to the Tutorial 2 section of the cheat sheet for your active directory's NetBios name.*
- A reminder to change their password after they have logged in for the first time
- A brief explanation of the directory structure that you set up for your project so they will know how and where to store their data

## Workstation Setup - Artist Instructions

### How to Connect to Your Windows Virtual Workstation

- Download and install Remote Desktop for [Windows](#), [macOS](#) or [Linux](#).
- Launch Remote Desktop.
- In the **Computer** field, enter the **IP address** provided by your administrator.
- Click the **down arrow** next to **Show options**.
- For **User name** enter the **Active Directory NetBios name** and **username** provided by your administrator, with a "\" in between, like this <Active Directory NetBios name>\<username> (e.g., mystudio\jason).
- Click **Connect**.
- In the popup window enter the **password** provided by your administrator then click **OK**.
- When a window pops up that says **The identity of the remote computer cannot be verified** click **Yes** to continue connecting.
- Finally, a new window will open that shows the desktop of your cloud workstation.

### Change Your Password

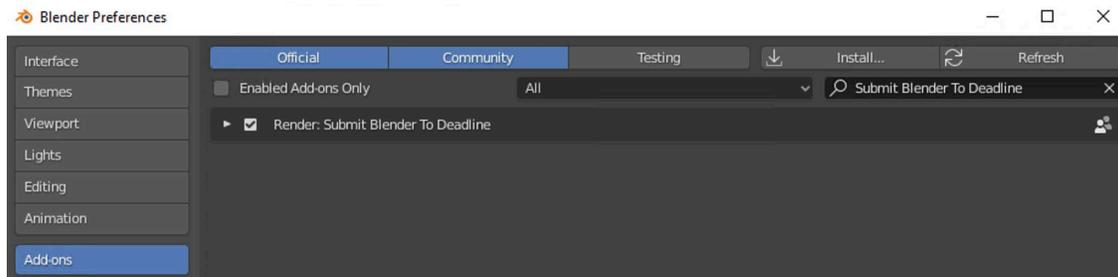
- In your Remote Desktop session, hit <ctrl>+<alt>+<end>.
- Next click **Change a password**.
- Type in your old password and then your new one and hit <enter>.

## Sample Workflow

### Creating Content with Blender

- Blender is already installed on your workstation instance. You can launch it using a shortcut located here: **Z:\applications\blender** .
- Create your content in Blender, being sure to save your work to the appropriate folder on the **Z: drive** and not to the C: drive of your workstation.

- You will need to install the Deadline Blender submitter before submitting:
  - Run **Blender**.
  - Go **Edit** → **Preferences...** (or **File**→**Preferences** - for Blender 2.79 & earlier).
  - Click on **Add-Ons** in the left panel.
  - Click **Install...**
  - Navigate to **Z:\installers\thinkbox\submission\Blender\Client** .
  - Choose **DeadlineBlenderClient.py** .
  - Click **Install Add-on**.
  - Click the checkbox next to **Render: Submit Blender to Deadline** add-on.



- Close your preferences window.
- When you are ready, submit a render to the farm by selecting **Render**→**Submit To Deadline**.
- Set the **Group** to **linux\_worker**.
- Set the **Frame List** to your frame range.
- Make sure the **Blender File** and **Output File** is set properly.
- Click **Submit**.

## Maintaining Your Studio

Once you've completed these tutorials, there is a minimum amount of AWS services that you will need to leave running in order to continue to use your Studio in the Cloud. There are other services that can be stopped and started as needed. Let's go through each one:

- **Render Scheduler instance**
  - In order to submit renders to your Linux worker farm, your Render Scheduler instance will need to be running.
  - If you anticipate needing to render at any time of day you can leave it running constantly, but be aware that you will be charged for every hour it is running, regardless of whether there are any active render jobs.
  - You can conserve money by starting and stopping the Render Scheduler as needed, but be aware that every time you restart it, you will need to login and

make sure that the **Deadline Monitor**, **Deadline RCS**, and **Deadline Pulse** are running.

- **Active Directory**
  - This allows your users to login to your instances.
  - There is nothing you need to do to maintain this service. But it also cannot be stopped and started like an instance.
  - You will need to keep your Active Directory for as long as your studio is active. It will keep running until you actively delete it.
- **FSx File System**
  - This is your shared storage for your studio and it must be available for as long as your studio is running.
  - Like Active Directory, you cannot stop and start FSx. As long as you leave it active, you should be good to go.
- **User Management instance**
  - You should have already stopped this instance during the course of the tutorials.
  - You can leave this instance in a stopped state until you need to add new artists. At that point, you can start the instance, add your new artists and then stop it when you're done to conserve resources.
- **Windows Workstation instances**
  - If you don't currently have any artists working, you can stop all your Windows Workstation instances.
  - You can launch new Window Workstations at any time by using your workstation launch template (e.g., My-Studio-Workstation-LT).
  - Make sure to stop your Windows Workstation instances when you artists are not using them to reduce costs. Since they only need to be running when an artist is actively using them, there is not reason to leave them running all the time.

## Shut Down Notes

If at any point you are finished with your Studio in the Cloud and would like to shut down all the services associated with it, please see the instructions in the Appendix below: [Shutting It All Down](#).

## Thank you!

We appreciate your time spent reading and following the steps in these tutorials. We hope that this has given you a taste of how to use the scale, power and convenience of AWS to move your studio to the cloud. Happy creating!

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## Appendix

### Tutorial Table of Contents

[Tutorial 1: Getting Started with AWS Virtual Workstations](#)

[Tutorial 2: Creating a VPC and Active Directory for Your Studio](#)

[Tutorial 3: Setting Up an FSx File System and User Accounts](#)

[Tutorial 4: Building a Render Scheduler with AWS Thinkbox Deadline](#)

[Tutorial 5: Installing Applications and Creating a Workstation AMI](#)

[Tutorial 6: Setting Up a Linux Farm Worker and Spot Fleet Request](#)

[Tutorial 7: Onboarding New Artists and Sample Workflow – \*this page\*](#)

### Downloads

- [Important Information Cheat Sheet](#)

### Shutting It All Down

Once you have seen how to set up your studio in the cloud, it's important to know how to shut it down. The following are the steps you can take to shut everything down.

#### Terminate All Running Instances

- Go to the **EC2 Console** and click on the **Instances**.
- Select all **running** and **stopped** instances and choose **Actions** → **Instance State** → **Terminate**.
- When the window pops up with the warning, confirming to shut down instances, make sure to also **Release** the **Elastic IP** associated with the **Render Scheduler**.
- Click **Yes, Terminate**.

#### Delete Launch Templates

- Click on **Launch Templates**
- One at a time, **select** each Launch Template and choose **Actions** → **Delete Template**
  - Confirm deleting by typing **Delete** in the field.
  - Click **Delete**

#### Check that All Spot Requests are Canceled

- Click on **Spot Requests**.
- Make sure all spot requests have been cancelled.
- If they haven't, **select** the spot requests and choose **Actions** → **Cancel Spot Request**.

#### Deregister All AMIs

- Make sure to wait until *all instances have been terminated*.

- Click on **AMIs**.
- **Select** all AMIs associated with your studio. Choose **Actions** → **Deregister**.
- Choose **Continue**.

### **Delete FSx File System**

- Choose **Services** → **FSx**.
- **Select** the **studio** drive.
- Choose **Actions** → **Delete File System**.
- In the popup window, you can choose to create a final backup, or not if you don't care about keeping any of the data.
- Then **type** the name of your drive in the field (e.g., fs-04af6ed309bc0d5a1).
- Click **Delete file system**.
- Note: It will take a few minutes for the file system to delete.

### **Delete Active Directory**

- Make sure to wait until the FSx file system has been deleted.
- Choose **Services** → **Directory Service**.
- **Select** your Active Directory.
- Choose **Actions** → **Delete directory**.
- In the popup window, enter the **directory name** (e.g., mystudio.com).
- Click **Delete**.
- Note: It will take a few minutes for the directory to delete.

### **Delete the VPC**

It's time to delete the VPC. This will automatically take down all other associated objects (Subnets, Security groups, etc) as well.

- Choose **Services** → **VPC**.
- **Select** your Studio VPC.
- Choose **Actions** → **Delete VPC**.
- Click **Delete VPC**.

### **Delete the DHCP Option Set**

- **Select** DHCP Option Sets.
- **Select** the studio DHCP Option Set.
- Choose **Actions** → **Delete DHCP Option Set**.

- Click **Delete DHCP option set**.

### **Delete the Secret**

- Choose **Services** → **Secrets Manager**.
- Click **Secrets**.
- **Select** your secret (e.g., Admin/DomainJoin).
- Choose **Actions** → **Delete Secret**.
- Change the waiting period to 7 days.
- Click **Schedule Deletion**.