

# Alteryx Designer on Amazon WorkSpaces

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## Overview

This document outlines a deployment framework for Alteryx Designer Desktop on AWS WorkSpaces. This deployment framework provides similar benefits to VDI and VM deployments, however WorkSpaces offers a thin client, purpose-built for streaming and hosting applications rather than remote machines.

### What is Amazon WorkSpaces

WorkSpaces is an AWS End User Computing (EUC) service that can be configured for SaaS application streaming or delivery of virtual desktops with selective persistence. When WorkSpaces is used for virtual desktops, saved files and application settings remain persistent between user sessions, and a fresh virtual desktop is assigned to the user every time they log on. WorkSpaces works with Amazon WorkSpaces Thin Client for cost-effective, easy-to-manage, secure access to virtual desktops that improves end-user and IT staff productivity.

WorkSpaces offers multi-session capability, allowing you to provision multiple user sessions on a single WorkSpaces instance. This gives you the ability to optimize resource utilization and helps lower cost, supporting a wide range of user types without over provisioning.

### What are the Benefits of Deploying Alteryx Designer on Amazon WorkSpaces

1. Centrally managed by IT
2. Governed access to data sources and reporting platforms
3. Easier to manage and deploy Alteryx Designers updates/patches
4. License key management controls
5. SSO Integrated and in your AWS VPC with inherited security
6. Reduce deployment cost and egress cost to AWS data sources

### Who is this Guide Intended For

The guide is intended for IT staff, Cloud architects, and/or AWS account administrators that may be tasked with setting up Amazon WorkSpaces for use with Alteryx Designer.

### Important Note

Please note that, at the time of writing, running Alteryx Designer in Amazon WorkSpaces is not an officially supported deployment method. While not officially supported, we have seen customers successfully deploy it in WorkSpaces environments and we are actively engaging with our Product Engineering and Support teams for official support.

## Requirements

The following requirements must be satisfied to run Alteryx Designer on Amazon WorkSpaces. If any of these requirements are not met, Alteryx is unable to ensure the success of deploying Alteryx Designer on Amazon WorkSpaces to your end-users.

1. The instance type for the Amazon WorkSpaces Fleet must meet the [Alteryx Designer System Requirements](#).
  - a. **IMPORTANT:** Amazon WorkSpaces instances are priced based on the number of vCPUs, which is double the number of physical cores. For example, a 4 vCPU instance is 2 physical cores.
2. Alteryx Designer admin version 2022.1.1.25127 or newer.
  - a. **IMPORTANT:** If users will be publishing workflows to an Alteryx Server environment, to ensure compatibility, the Alteryx Designer version should match the version of Alteryx Server.
3. Alteryx License Server version 2021.4.1.04899 or newer.
  - a. NOTE: The addition of Alteryx Licensing Server may require changes to existing software agreements.
4. The Amazon WorkSpaces Fleet must be an Always-On or On-Demand Fleet.
  - a. **IMPORTANT:** Alteryx Designer cannot be deployed on Elastic Fleets. See [WorkSpaces Fleet Types](#) for additional information on Fleet types.
5. Authentication to the Amazon WorkSpaces environment must be enabled using SAML 2.0.
6. A Microsoft Active Directory domain configuration the WorkSpaces streaming instances can connect to.
  - a. **IMPORTANT:** Alteryx Designer uses [Microsoft Data Protection API](#) (DPAPI) for encrypting DCM credentials. Amazon WorkSpaces requires streaming instances with applications that use DPAPI to be joined to a Microsoft Active Directory. See [How Application Settings Persistence Works](#) for additional information. Utilizing Alteryx Designer without joining the WorkSpaces instances to an Active Directory domain may result in encryption errors when using database and other credentials and is not recommended for production use.
7. To persist files between sessions, the WorkSpaces Stack must have Home Folders, Google for G Suite, or OneDrive for Business enabled. Alteryx highly recommends persisting file so that user settings, configurations, and workflows persist through multiple sessions.
8. An Amazon Virtual Private Cloud (VPC) and associated networking resources which can be used for the deployment of Alteryx Licensing Server and the Amazon WorkSpaces Fleet.

## Prerequisites

1. If you do not have an existing VPC with at least two subnets that can be used for the WorkSpaces Fleet, you will need to create a VPC with at least two subnets.
  - a. The networking infrastructure requirements for running Alteryx Designer on WorkSpaces are dependent on requirements of your Alteryx Designer deployment. Access to other VPCs, Cloud platforms, and on-premises data centers may be required to access data sources and reporting platforms and are considered out of scope for this guide.
  - b. To access data sources and/or reporting platforms hosted in another VPC, see [Amazon VPC-to-Amazon VPC Connectivity Options](#).
  - c. To access data sources and/or reporting platforms hosted in another Cloud provider or an on-premises data center, see [Network-to-Amazon VPC Connectivity Options](#).
2. Install Alteryx License Server version 2021.4.1.04899 or newer.
  - a. Install the Alteryx License Server following the steps provided at [Download and Install Alteryx License Server: Admin Only](#).

- b. The Alteryx License Server should be installed on a persistent machine, such as an EC2 instance, that is accessible from the Amazon WorkSpaces streaming instances. Alteryx License Server should not be deployed on WorkSpaces directly. Networking and any firewalls should be configured so that the VPC listed in Step 1 can access your license Server URL as configured in 2a.
        - c. **IMPORTANT:** Alteryx products are licensed using a named-user licensing model. License seats cannot be shared amongst multiple users. If all users are not licensed to use add-on products, such as Alteryx Intelligence Suite and Alteryx Data Packages, it may require you to setup and configure multiple WorkSpaces images. Optionally, you can use [Alteryx License Server Partitions](#) to reserve product access for specific users. Using Alteryx Designer licenses on a Windows Server Operating System may require specific license types. Contact your Alteryx Account Executive for details if you are unsure if your license is configured for use on a Windows Server Operating System.
3. Create an Amazon WorkSpaces Directory Configuration.
  - a. See [Using Active Directory with WorkSpaces](#) and complete the [Tutorial: Setting Up Active Directory](#) to create an Active Directory configuration to use with Amazon WorkSpaces.
4. Setup a SAML 2.0 authentication for the Amazon WorkSpaces environment.
  - a. See [WorkSpaces Integration with SAML 2.0](#) for additional information.
5. Create a list of data sources that will be accessible to users running Alteryx Designer in the WorkSpaces environment. This list will be used later to ensure the required ODBC Drivers, Alteryx Tools, and Alteryx Connectors are installed to the WorkSpaces image.
  - a. For a list of supported data sources, see [Data Sources](#).
  - b. **IMPORTANT:** If users will be publishing workflows to an Alteryx Server environment, to ensure compatibility, the version of the ODBC Drivers, Alteryx Tools, and Alteryx Connectors installed to the WorkSpaces image should match the version(s) installed in the Alteryx Server environment.

## Creating an Amazon WorkSpaces Image

A WorkSpaces image contains applications that users can stream through a browser enabling them to start using the applications quickly in a controlled and governed environment. The application's available to end-users are installed by an administrator using the WorkSpaces image builder.

To get started with creating a WorkSpaces Image, the first step is to [Launch an Image Builder](#). When you launch a new image builder, you must select a Windows Server base image. The base image you select should use the same instance family you plan to use when deploying it to your users. For most Alteryx Designer deployments we recommend General Purpose instances that meet the [system requirements](#) for Alteryx Designer. When you create a new image builder you should select the same VPC, Subnet, Security Group, Active Directory domain, and organizational unit to which the WorkSpaces instances will use during streaming sessions.

After the image builder has launched, you can proceed with the [Create a Customer WorkSpaces Image tutorial](#). The tutorial is broken up into multiple steps, all of which will need to be completed.

## Step 1: Install Applications on the Image Builder

The first step is to [Install Applications on the Image Builder](#). In this step, you will be installing Alteryx Designer and any add-on Alteryx Products, Alteryx Tools, Alteryx Connectors, ODBC drivers, and any other applications that should be available to end-users of the WorkSpaces environment. The following steps should be completed within the Image Builder.

### Download and Install Alteryx Products, Tools, and Connectors

- 1) Login to the [Alteryx Licensing and Downloads Portal](#) to download the Alteryx product(s) that will be made available to your users through WorkSpaces. Refer to [Download and Install a Product](#) for additional information.
  - a. **IMPORTANT:** Please be sure to download the admin version of Alteryx Designer.
  - b. If you plan to install the Predictive Tools, download the admin version of the Predictive Tools matching the version of Alteryx Designer being installed.
  - c. If you have licensed Alteryx Intelligence Suite and plan to make it available to WorkSpaces users, download the admin version of Alteryx Intelligence Suite version matching the version of Alteryx Designer being installed.
  - d. If you have licensed Alteryx Data Packages and plan to make them available to WorkSpaces users, choose which licensed Data Packages to download.
- 2) Install Alteryx Designer
  - a. Run the Alteryx Designer Installer with admin rights. (Right-click and select **Run as Administrator.**)
  - b. On the Welcome screen, click **Next.**
  - c. Check the I accept the License Agreement checkbox and select **Next.**
  - d. Confirm the installation folder and select **Next.**
  - e. On the ready to install screen, click **Install.**
  - f. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish.**
  - g. After the installation is complete, it is recommended to permanently delete the Alteryx Designer installer to save on storage costs.
- 3) (Optional) Install the Alteryx Predictive Tools
  - a. Run the Alteryx Predictive Tools installer (RInstaller\_XXXX.X.X.XX) with admin rights. (Right-click and select **Run as Administrator.**)
  - b. On the Welcome screen, click **Next.**
  - c. Check the I accept the License Agreement checkbox and select **Next.**
  - d. On the ready to install screen, click **Install.**
  - e. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish.**
  - f. After the installation is complete, it is recommended to permanently delete the Alteryx Predictive Tools installer to save on storage costs.
- 4) (Optional) Install Alteryx Intelligence Suite
  - a. Run the Alteryx Intelligence Suite installer (AlteryxAISInstall\_XXXX.X.X.XX) with admin rights. (Right-click and select **Run as Administrator.**)
  - b. On the Welcome screen, click **Next.**
  - c. On the ready to install screen, click **Install.**
  - d. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish.**

- e. After the installation is complete, it is recommended to permanently delete the Alteryx Intelligence Suite installer to save on storage costs.
- 5) (Optional) Install Alteryx Data Packages
- a. If you have licensed Alteryx Data Packages that will be available to users of WorkSpaces, follow the steps documented on the [Download and Install Alteryx Data Packages](#) help page to install the Alteryx Data Packages.
    - i. NOTE: Due to the disk space requirements for the Alteryx Data Packages, we recommend installing them to a network location. You can use an existing file server or native AWS services, such as [Amazon FSx for Windows File Server](#) when performing a network install. To install to a network location, follow the steps in the [Prepare a Network Install](#) and [Register to Use a Dataset Installed on a Network](#) sections of the Alteryx help documentation.
  - b. After the installation is complete, it is recommended to permanently delete the Alteryx Data Package installer(s) if they were downloaded to the machine to save on storage costs. **IMPORTANT:** You should *not* delete installers from remote network drives as they will prevent future registration from the network location. **Only delete Data Package installers if you downloaded them to the WorkSpaces machine.**
- 6) (Optional) Install Add-on Alteryx Tools and Connectors
- a. Before installing any Alteryx Tools and Connectors, complete the steps to [Activate](#) Alteryx Designer. The preferred method of activation is to [Activate Using License Server](#).
  - b. **IMPORTANT:** To ensure the Tools and/or Connectors are available to all users of the WorkSpaces environment, the tools must be installed for all users. To install them for all users, refer to the [Install Custom Tools](#) help documentation for Alteryx Server.
  - c. After the installation is complete, it is recommended to permanently delete the Alteryx Tool and Connector installer(s) to save on storage costs.

#### Download and Install ODBC Drivers

- 1) (Optional) Install ODBC Drivers
- a. **IMPORTANT:** All required ODBC Drivers should be installed by an administrator using the Image Builder. ODBC Drivers installed by users of the WorkSpaces environment will not be available from one session to the next as they are not persisted.
  - b. If needed, refer to the ODBC Driver documentation for installation steps.
  - c. After installing all the ODBC Drivers, it is recommended to permanently delete the installers to save on storage costs.
- 2) (Optional) Create required ODBC System DSNs
- a. If needed, refer to the ODBC Driver documentation for configuring System DSNs.
  - b. If using System DSNs, unless required, we do not recommend saving passwords with the DSN configuration.
  - c. NOTE: Users can create User DSNs which will persist between sessions. Having users create their own user DSNs or using [Data Connection Manager \(DCM\)](#) in Alteryx Designer may be preferred to improve security and governance in the WorkSpaces environment.

## Installing Additional Software

- 1) (Optional) Install any additional software, such as Microsoft Office, Notepad++, Chrome, or other applications you want to include in the WorkSpaces image.
  - a. **IMPORTANT:** For optimal performance, we do not recommend installing other CPU, I/O, or Memory intensive applications.

## Setup and Configure WorkSpaces Session Scripts

- 1) Configure a WorkSpaces session script to activate Alteryx Designer on session start.
  - a. Create a PowerShell script named run-elevated.ps1 in the directory "C:\WorkSpaces\SessionScripts\  
    - i. Edit the PowerShell script and add the following code to it.

```
# Execute the activation script in PowerShell as administrator
start-process
"C:\Windows\System32\WindowsPowerShell\v1.0\powerShell.exe" -verb
runas -ArgumentList "C:\WorkSpaces\SessionScripts\activate-alteryx.ps1" -
Wait

# Sleep for 5 Seconds to ensure Alteryx Designer is licensed on first launch
Start-Sleep -Seconds 5
```

- i. Save and close the run-elevated.ps1 PowerShell script.
  - b. Create a PowerShell script named activate-alteryx.ps1 in the directory "C:\WorkSpaces\SessionScripts\  
    - i. Edit the PowerShell script and add the following code to it.
      1. Set the value for "<license-server>" appropriately to the URL of your Alteryx License Server.
      2. Set the value(s) for "\$licensedProduct#" to the names of the product(s) you wish to automatically activate.
      3. Modify the last line of code to remove any "\$licensedProduct#" values you will not be using. (e.g. if you only wish to activate "Alteryx Designer", remove \$licensedProduct2 and \$licensedProduct3.

```
# Retrieve the WorkSpaces users email address from registry
$mail = (Get-ItemProperty -Path HKCU:\Environment -Name
"WorkSpaces_UserName" -ErrorAction SilentlyContinue | Select-Object
WorkSpaces_UserName).WorkSpaces_UserName

# Set Alteryx Designer to use Alteryx License Server
& "C:\Program Files\Alteryx\bin\AlteryxActivateLicenseKeyCmd.exe"
setLicenseServerSystem http://<license-server>:7070/request $mail

#Activate Alteryx Designer and any add-on licenses
$licensedProduct1 = "Alteryx Designer"
$licensedProduct2 = ""
$licensedProduct3 = ""
```

```
& "C:\Program Files\Alteryx\bin\AlteryxActivateLicenseKeyCmd.exe"  
$licensedProduct1 $licensedProduct2 $licensedProduct3
```

- i. Save and close the activate-alteryx.ps1 PowerShell script.
- 2) Configure a WorkSpaces session script to deactivate Alteryx Designer on session end.
- a. Create a PowerShell script named deactivate-alteryx.ps1 in the directory "C:\WorkSpaces\SessionScripts\  
    - i. Edit the PowerShell script and add the following code to it.

```
# Deactivate all activated Alteryx Products  
& "C:\Program Files\Alteryx\bin\AlteryxActivateLicenseKeyCmd.exe" "delete"
```

- ii. Save and close the deactivate-alteryx.ps1 PowerShell script.
- 3) Update the [WorkSpaces Session Scripts Configuration File](#).
- a. Open the config.json file located at C:\WorkSpaces\SessionScripts in a text editor.
  - b. Replace the existing file contents with the content below.

```
{  
  "SessionStart": {  
    "executables": [  
      {  
        "context": "system",  
        "filename": "",  
        "arguments": "",  
        "s3LogEnabled": true  
      },  
      {  
        "context": "user",  
        "filename":  
"C:\\Windows\\System32\\WindowsPowerShell\\u000b1.0\\powershell.exe",  
        "arguments": "-File \"C:\\WorkSpaces\\SessionScripts\\run-elevated.ps1\"",  
        "s3LogEnabled": true  
      }  
    ],  
    "waitingTime": 60  
  },  
  "SessionTermination": {  
    "executables": [  
      {  
        "context": "system",  
        "filename":  
"C:\\Windows\\System32\\WindowsPowerShell\\u000b1.0\\powershell.exe",  
        "arguments": "-File \"C:\\WorkSpaces\\SessionScripts\\deactivate-  
alteryx.ps1\"",  
        "s3LogEnabled": true  
      },  
      {  
        "context": "user",  
        "filename": "",  
        "arguments": "",
```

```
        "s3LogEnabled": true
      }
    ],
    "waitingTime": 60
  }
}
```

c. Save and close the config.json file.

**IMPORTANT:** The PowerShell scripts and configuration file shared in the steps above are included as examples. These scripts should not be used in a production environment without extensive validation. For a production deployment we would strongly recommend adding logging and error handling logic to the PowerShell scripts

Once you have completed step 1 of the image builder tutorial, you can proceed to [Step 2: Creating a WorkSpaces Application Catalog](#).

### Step 2: Create a WorkSpaces Application Catalog

When creating the application catalog and adding Alteryx Designer as an App in Image Assistant, browse to and select the AlteryxGui.exe located, by default, at C:\Program Files\Alteryx\bin\AlteryxGui.exe. After selecting AlteryxGui.exe, you can edit the name, display name, provide launch parameters, or specify the Working Directory. Upon completion, the App Launch Settings should look like the following:

**App Launch Settings** x

Name:

Display Name:

Launch Path:

Icon Path:

Launch Parameters:

Working Directory:

After entering the App Launch Settings, click the **Save** button. If you installed additional applications for users to stream, repeat the process for the additional applications. Once you have added the applications, click **Next** to proceed to [Step 3: Creating Default Application and Windows Settings](#)

### Step 3: Create Default Application and Windows Settings

In step 3, after launching Alteryx Designer as a non-administrative user and then closing it, there are a few important steps you must complete to prevent issues for your users. Complete the steps below before switching back to the administrator account. In the below section, “<Username>” should be replaced with the username of the non-administrative user account you used to launch Alteryx Designer.

- 1) Ensure Alteryx Designer has been closed.
- 2) Open Windows File Explorer and navigate to C:\Users\<Username>\AppData\Local\Alteryx
  - a. Permanently delete any Dcm.\*.sqlite file(s). Multiple files may exist with different numbers.
  - b. Permanently delete any DcmSecrets.\*.sqlcipher file(s). Multiple files may exist with different numbers.
  - c. Permanently delete the Keys subfolder.
- 3) Navigate to C:\Users\<Username>\AppData\Roaming\Alteryx
  - a. Permanently delete the Serial.ini file if existing.
- 4) Navigate to C:\Users\<Username>\AppData\Roaming\SRC.
  - a. Permanently delete the FlexeraLicenseManager subfolder.
- 5) Navigate to C:\ProgramData\SRC.
  - a. Permanently delete the FlexeraLicenseManager subfolder.
- 6) Navigate to C:\ProgramData\Alteryx.
  - a. Permanently delete the Keys subfolder.
  - b. Permanently delete the Serial.ini file
- 7) Close Windows File Explorer
- 8) Click the **Switch User** button to proceed.

After completing these steps, you can switch users, log in using the same account you used to create the application catalog earlier, and complete the remaining steps in [Step 3: Creating Default Application and Windows Settings](#).

Once you have completed step 3, proceed to [Step 4: Test Applications](#).

### Step 4: Test Applications

To test Alteryx Designer, you will need to license the Alteryx Designer installation. After your testing is completed, you should deactivate the Alteryx Designer license to free the seat for other users.

After completing step 4, you can proceed to [Step 5: Optimize Applications](#)

### Step 5: Optimize Applications

There are no Alteryx specific requirements for this step.

After completing step 5, you can proceed to [Step 6: Finish Creating Your Image](#)

### Step 6: Finish Creating Your Image

There are no Alteryx specific requirements for this step.

After completing step 6, you can proceed to [Step 7 \(Optional\): Tag and Copy Your Image](#)

## Step 7: (Optional): Tag and Copy Your Image

After completing step 7, you can proceed to [Step 8: Clean Up](#)

## [Step 8: Clean Up](#)

There are no Alteryx specific requirements for this step.

Now that you have created an image for Alteryx Designer, it's time to create a WorkSpaces Fleet and Stack.

## Creating an Amazon WorkSpaces Fleet and Stack

Now that you have completed the Image Builder process and your new image appears in the Image Registry, the next step in the process is to create an [Amazon WorkSpaces Fleet and Stack](#).

When creating an Amazon WorkSpaces Fleet, there are a few important things to remember. Please be sure to complete the following steps when creating the Fleet.

1. The Fleet type must either be an Always-On or On-Demand Fleet.
  - a. For additional information, see [Fleet Types](#).
2. The instance type must meet the [Alteryx Designer System Requirements](#).
3. The Fleet should be configured to use the Image you created in the previous section.
4. The Fleet must be configured to connect the streaming instances to an Active Directory domain.

After you have created the Fleet, proceed to the [Create a Stack](#). When creating an Amazon WorkSpaces Stack, there are a few important things to remember. Please be sure to complete the following steps when creating the Stack.

1. To persist files between sessions, make sure to check the Enable Home Folders checkbox. Optionally, you can Enable Google Driver for G Suite or Enable OneDrive for Business to persist files.
  - a. For additional information, see [Enable and Administer Home Folders for Your WorkSpaces Users](#).
2. To persist application customizations and Windows settings between session, we strongly recommend checking the Enable application settings persistence checkbox.
  - a. For additional information, see [Enable Application Settings Persistence for Your WorkSpaces Users](#).

## Updating an Amazon WorkSpaces Image

The following update sections have not been tested and validated. Additional testing and validation will be required.

Amazon WorkSpaces images need to be updated periodically to install the latest Windows Server OS updates, driver updates, WorkSpaces agent software updates, application updates, and other software, such as ODBC Drivers, which are installed on the WorkSpaces image. Depending upon the type of updates required, there are different processes which must be followed.

Windows Operating System and Driver Updates, and WorkSpaces agent software updates  
Amazon WorkSpaces provides an automated way to apply Windows Operating System and driver updates, and the WorkSpaces agent software updates. Please see the [Update an Image by Using Managed WorkSpaces Image Updates](#) for additional information. Please note that after an image has been updated, a new image will be created, and the Fleet will need to be updated to use the latest image. Refer to the [Update a fleet with a new image](#) for additional information.

## Managing Applications and Dependencies, Software Components, ODBC Driver updates and more

Updating applications and dependencies, software components, and ODBC Drivers installed on a WorkSpaces image requires you to launch an image builder to apply the required updated. When launching image builder, you can use an existing image builder or launch a new image builder from an existing image. See [Launch an Image Builder to Install and Configure Streaming Applications](#) for additional information. Once you have launched and connected to your image builder, refer to the instructions below based on what actions you will be performing.

### Upgrading Alteryx Designer

1. Download the version of Alteryx Designer you will be upgrading to within the image builder.
  - a. NOTE: If you are updating to a new major version, you must download the standard Alteryx Designer installer. If you are updating to a new patch release within the same major version, you can download the patch installer. For additional information, see [Download and Install a Patch Update](#)
2. Run the Alteryx Designer installer or Alteryx Designer Patch installer with admin rights. (Right-click and select **Run as Administrator**.)
3. On the Welcome screen, click **Next**.
4. Check the I accept the License Agreement checkbox and select **Next**.
5. Confirm the installation folder and select **Next**.
6. On the ready to install screen, click **Install**.
7. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish**.
8. After the installation is complete, it is recommended to permanently delete the installer to save on storage costs.

### Upgrading the Alteryx Predictive Tools and Alteryx Intelligence Suite

1. (Optional) Login to the [Alteryx Licensing and Downloads Portal](#) to download the Alteryx Predictive Tools and Alteryx Intelligence Suite. Refer to [Download and Install a Product](#) for additional information.
  - a. **IMPORTANT:** Please be sure to download the admin version of Alteryx Designer.
  - b. If you plan to install the Predictive Tools, download the admin version of the Predictive Tools matching the version of Alteryx Designer being installed.
  - c. If you have licensed Alteryx Intelligence Suite and plan to make it available to WorkSpaces users, download the admin version of Alteryx Intelligence Suite version matching the version of Alteryx Designer being installed.
2. (Optional) Install the Alteryx Predictive Tools

- a. Run the Alteryx Predictive Tools installer (RInstaller\_XXXX.X.X.XX) with admin rights. (Right-click and select **Run as Administrator.**)
  - b. On the Welcome screen, click **Next.**
  - c. Check the I accept the License Agreement checkbox and select **Next.**
  - d. On the ready to install screen, click **Install.**
  - e. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish.**
  - f. After the installation is complete, it is recommended to permanently delete the Alteryx Predictive Tools installer to save on storage costs.
3. (Optional) Install Alteryx Intelligence Suite
    - a. Run the Alteryx Intelligence Suite installer (AlteryxAISInstall\_XXXX.X.X.XX) with admin rights. (Right-click and select **Run as Administrator.**)
    - b. On the Welcome screen, click **Next.**
    - c. On the ready to install screen, click **Install.**
    - d. On the completion screen, deselect the Run Alteryx Now checkbox and click **Finish.**
    - e. After the installation is complete, it is recommended to permanently delete the Alteryx Intelligence Suite installer to save on storage costs.

After the installation is complete, if the installers were downloaded to the image, it is recommended to permanently delete the installer(s) to save on storage costs.

#### Updating or Adding New Alteryx Tools and Alteryx Connectors

4. Download the Alteryx Tools and Connectors to be installed within the WorkSpaces environment to the image builder.
  - a. Before installing any Alteryx Tools and Connectors, complete the steps to [Activate Alteryx Designer](#). The preferred method of activation is to [Activate Using License Server](#).
  - b. **IMPORTANT:** To ensure the Tools and/or Connectors are available to all users of the WorkSpaces environment, the tools must be installed for all users. To install them for all users, refer to the [Install Custom Tools](#) help documentation for Alteryx Server.
5. After the installation is complete, it is recommended to permanently delete the Alteryx Tool(s) and Connector installer(s) to save on storage costs.

#### Updating or Adding New Alteryx Data Packages

1. Download the Alteryx Data Packages to be installed within the WorkSpaces environment to the image builder.
  - a. If you have licensed Alteryx Data Packages that will be available to users of WorkSpaces, follow the steps documented on the [Download and Install Alteryx Data Packages](#) help page to install the Alteryx Data Packages.
    - i. NOTE: Due to the disk space requirements for the Alteryx Data Packages, we recommend installing them to a network location. You can use an existing file server or native AWS services, such as [Amazon FSx for Windows File Server](#) when performing a network install. To install to a network location, follow the steps in the [Prepare a Network Install](#) and [Register to Use a Dataset Installed on a Network](#) sections of the Alteryx help documentation.
  - b. After the installation is complete, it is recommended to permanently delete the Alteryx Data Package installer(s) to save on storage costs.

## Updating or Adding New ODBC Drivers and System DSNs

- 1) Install ODBC Drivers
  - a. **IMPORTANT:** All required ODBC Drivers should be installed by an administrator using the Image Builder. ODBC Drivers installed by users of the WorkSpaces environment will not be available from one session to the next as they do not persist.
  - b. If needed, refer to the ODBC Driver documentation for installation steps. After installing all the ODBC Drivers, it is recommended to permanently delete the installers to save on storage costs.
- 2) Updating and Adding System DSNs
  - a. If needed, refer to the ODBC Driver documentation for configuring System DSNs.
  - b. If using System DSNs, unless required, we do not recommend saving passwords with the DSN configuration.
  - c. NOTE: Users can create User DSNs which will persist between sessions. Having users create their own user DSNs or using [Data Connection Manager \(DCM\)](#) in Alteryx Designer may be preferred to improve security and governance in the WorkSpaces environment.

After all updates have been installed, you can proceed with building a new image. Please refer to steps 2 through 8 in the [Creating an Amazon WorkSpaces Image](#) section of this document.