

ALTERYX SERVER INSTALLATION CONFIGURATION GUIDE

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EXPERIENCE ALTERYX:
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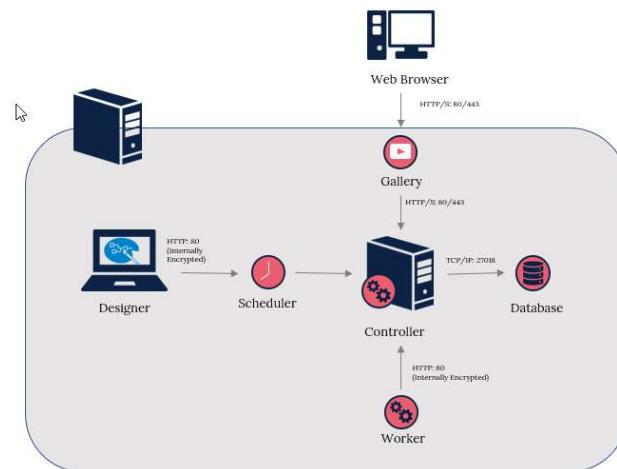
SYSTEM OVERVIEW

Alteryx Server comprises four primary components:

Designer is a Windows-based software application that provides an intuitive drag-and drop user interface for users to create repeatable workflow processes. Users can use these workflows to blend and enrich data from a range of sources, perform advanced analytics, and quickly produce results that can be easily shared with others. Designer executes the workflows through a local instance of the Alteryx Engine. Alternatively, in an Alteryx Server deployment, the Scheduler interface component within Designer allows users to schedule workflows to be executed at predetermined times or specific recurring intervals. In addition, users may use Designer to publish their workflows to the Alteryx Gallery where others can have access to running them. The Engine executes the workflows that are built in Designer, provides high-speed data processing and analytics functionality, and produces the output. The Engine supports direct connections to various data sources for accessing the data and then processes it in-memory during the execution of the workflow. The Engine can be entirely self-contained in a Designer deployment, scaled across an organization via a Server deployment, or deployed in the cloud via the Alteryx Public Gallery.

The Alteryx Service allows the Alteryx Engine to be deployed across multiple servers, providing a highly scalable architecture for the scheduling, management, and execution of analytic workflows. The Alteryx Service uses a Controller-Worker architecture where one server acts as the Controller and manages the job queue and the others act as Workers and perform the work. The Service relies upon the Service Persistence tier to store information critical to the functioning of the Service and, serves content and information to the Alteryx Gallery when it requests it.

The Alteryx Gallery is a cloud- or self-hosted application for publishing, sharing, and executing workflows. Alteryx offers the Alteryx Public Gallery where users can sign up and share workflows, apps, and macros publicly or with selected users. In addition, a Server deployment allows companies the ability to offer a private Gallery to their internal users hosted on their own server infrastructure.



1. SYSTEM REQUIREMENTS

To install and run Alteryx, your system must first meet the following specifications and requirements.

	RECOMMENDED
Machine Requirements	64-bit, 32-bit not supported
OS Requirements	Microsoft Windows Server 2008R2 or later
Chip	Quad core (single chip)
Processor	2.5GHz or faster
RAM	16GB
Disk Size	1TB

Other requirements:

- **Administrator privileges:** Administrator rights are required to install Server.
- **Predictive Tools Install:** The server must have the Predictive Tools installed in order for workflows that use Predictive Tools to be able to run.
- **Base Address:** This is the URL that users will use when they go to the Gallery. The field defaults to <http://localhost/gallery/> which can be used to run the Gallery locally on the machine.
- **SMTP Server:** Notifications and account validations are managed via email. SMTP host information is required for Gallery email notifications.
- **Default Gallery Administrator:** This depends on the type of authentication selected when the server settings were configured. The Administrator is given permission to access the Gallery and manage users and workflows.
 - If using Windows Authentication, provide the user name of a domain user.
 - If using Built-In Authentication provide the email address and password of the site administrator during configuration and then provide the first name and last name during login to complete the Gallery Admin account registration.
- **Database Type:** If you are configuring the machine to run a Gallery instance you must use MongoDB.
 - For embedded MongoDB, the host, user name, and password automatically generated will be available for you to use.
 - For User-managed MongoDB you will need to specify this information based on the configuration of your MongoDB instance(s).
 - **Important:** If you were previously using SQLite for Alteryx Scheduler, jobs must be manually re-scheduled when switching to MongoDB.

2. INSTALLATION

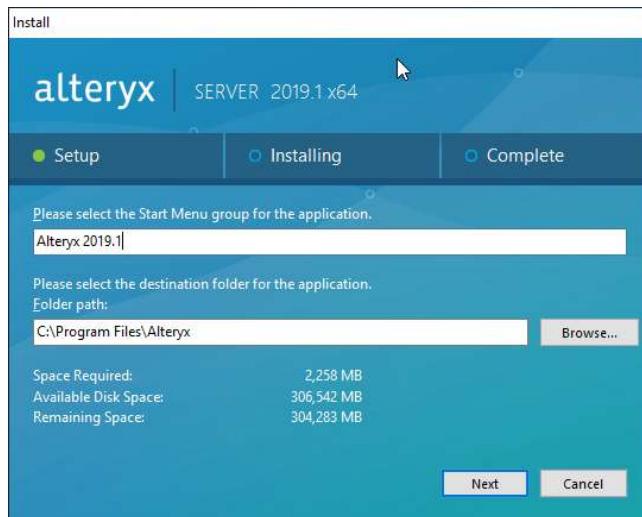
Before installing and activating Server, verify your machine meets the System Requirements and your network can contact the web domain whitelist.alteryx.com used by the licensing system.

2.1 Download Installation File

1. Sign in to the Alteryx Downloads and Licenses portal at licenses.alteryx.com
2. In the Product Downloads area, click the product to download
3. In Downloads, click the plus sign to display a description of the product
4. Click the link for the product to download the file

2.2 Install Server

1. Run the Alteryx Server Installer
2. Confirm the destination folder and click Next



3. Select the **I accept the license agreement** checkbox and click Next
4. Select one of the following options and click Finish:
 - **Configure Server Now:** Opens the System Settings window so you can configure the server
 - **Close and run Alteryx Designer later:** Closes the installation window and does not open the System Settings window for configuring the server system settings. The System Settings window can be accessed at any time via the System Settings icon on your desktop.
 - **Install Predictive Tools:** Installs the Alteryx Designer predictive tools that use R, an open-source code base used for statistical and predictive analysis. Selecting this option during installation will launch the Alteryx R installer and install the R program and the predictive tools that use R. The R-based predictive tools must be installed in order to use the predictive macros in Alteryx. To install tools at a later time, go to **Options > Download Predictive Tools** and sign In to the Alteryx Downloads and Licenses portal. From there you can Install R and the packages used by the R tool.

3. LICENSING

3.1 Activate Online

If Server has not yet been licensed, you will be prompted to license it. Use the license key from your license administrator to activate a product license.

Note: If the Alteryx Server Activation window does not open automatically, open Designer and click Options > Manage Licenses > Activate New License.

To activate online:

1. In the Alteryx Server Activation window, type your email address.
2. Type or paste your License keys, one per line.
3. Click **Activate**.
4. In the Activation Success window, click **Experience Alteryx**.

3.2 Activate Offline

As an alternative to online activation, you can submit a request for an activation (.bin) file. If you want to activate with a file, click **Activate with File** to open the Alteryx Offline Activation window.

Create a request (.req) file from the offline computer

1. Open Designer. If the Alteryx Designer Activation window does not open automatically, click Options > Manage Licenses > Activate New License.
2. In the Alteryx Offline Activation window, click **Create** to create a request (.req) file to request product activation.
3. Type your **First name**, **Last name**, and **Email address** and then type or paste your **License keys**.
4. Click **Create request**.
Alteryx creates a request file with your email address and .req extension as shown in this example: name@company.com.bin
5. Click **Save** to save the request (.req) file where it can be accessed from the Alteryx Downloads and Licenses portal or send the file to your license administrator.

Upload the request file to the Alteryx Downloads and Licenses portal

This step requires Internet access

1. Sign in to the Alteryx Downloads and Licenses portal at licenses.alteryx.com.
2. On the Home page, click **Upload Activation Request**.
3. Click **Browse** to find and select the request (.req) file.
4. Click to upload the request (.req) file. The Alteryx Downloads and Licenses portal generates an activation file with your email address and .bin extension as shown in this example: name@company.com.bin
5. Click **Save** to save the activation (.bin) file so that you can access it from the offline computer.

Open the activation (.bin) file on the offline computer

1. In the Alteryx Designer Activation window on the offline computer, click Back.
 - Alternatively, click Options > Manage Licenses > Activate New License to open the Alteryx Offline Activation window.
2. Click Browse to find and select the activation (.bin) file.
3. In the Activation Success window, click Experience Alteryx.

3.3 Activate using a License Server

To activate using a License Server:

1. Open Designer. If the Alteryx Designer Activation window does not open automatically, click Options > Manage Licenses > Activate New License.
 - Server: If you have no valid licenses, Alteryx displays **Install License**. Click **OK** to continue.
2. Click [here](#) within **To access your License Server, click here**. Alteryx displays **Manage Licenses**.
3. In **License Server Connectivity**, Click **Connect**. Alteryx displays available licenses.
 - If this is the first time you have activated Alteryx, type your email address.
4. Click **Activate** for each product you want to activate.
5. Click **Close**.

4. Configuration

Server can be configured in a basic setup, with all components running on the same machine, or as a multi-node instance with multiple machines.

After you install and license Server components, the System Settings window opens. Configure Server components in System Settings.

4.1 Single-machine configuration

1. If necessary, double-click the System Settings icon on your desktop to open it. The System Settings Status screen displays the system components that are enabled by default.
2. Click **Next** to configure settings for each component (See System Settings).
 - Environment
 - Controller
 - Worker
 - Gallery
 - Engine
3. On the Finalize Your Configuration screen, click **Finish**. The Status screen displays the system components you enabled.
4. Click **Done** to close the System Settings window.

4.2 Multiple-machine configuration

After the Server is installed on a machine, you can scale it to accommodate for higher levels of usage by enabling certain components on additional machines. Increase Engine processing capabilities by configuring an additional machine to act as a worker.

4.2.a Configure a worker machine

You must configure each additional worker machine with the unique controller security token to be able to communicate with it. The security token is available as part of the System Settings of the controller machine.

1. If necessary, double-click the System Settings icon on the desktop of the controller machine, to open it.
2. Click **Next** on the System Settings screens until you reach the Controller General Configuration screen.
3. Click **View** to display the controller token. Copy the token and save it for later use.
4. Find and copy the machine name of the controller machine and save it for later.
5. Install Server on the machine to be configured as a worker.
6. Double-click the **System Settings** icon on the desktop of the worker machine.
7. Click **Next** to configure settings for each component (details below).
 - Environment
 - Controller

- Worker
 - Gallery
 - Engine
8. On the Finalize Your Configuration screen, click **Finish**. The Status screen displays the system components you enabled.
 9. Click **Done** to close the System Settings window.

The worker machine is now configured to execute workflow job requests from the controller machine.

4.2b Environment

Setup screen

1. Select **Custom** and **Enable Worker**.
2. Click **Next**.

Designer is automatically enabled when you select the Custom option.

Workspace screen

1. Click **Browse** and find the location you want to save all temporary files, log files, and database files.
2. Click **Next**.

4.2c Controller

Remote screen

1. In **Host**, paste the machine name, and in **Token**, paste the controller token.
2. Click **Test** to verify the connection to the controller machine.
3. Click **Next**.

4.2d Worker

General screen

1. Configure the options as needed.
 - **Workspace:** Displays the path to the location where you want to save all temporary files, log files, and database files.
 - **Allow machine to run scheduled Alteryx workflows:** Enable if you want this machine to process scheduled workflows. In multi-node deployments, you may want to disable this option if you are using another machine to run workflows, and want this machine to process other requests.
 - **Workflows allowed to run simultaneously:** Define the maximum number of scheduled workflows allowed to run simultaneously on this machine. You may want to increase this number to improve the responsiveness of scheduled jobs, but the overall processing time may be increased.

- **Cancel jobs after timeout:** Define the period of time after which you want to force running jobs to cancel. This will help to free up system resources that might otherwise be taken up by unintentionally long running jobs.
 - **Quality of Service:** Define resource allocation in an environment where multiple workers are deployed by restricting which jobs will be run by each worker. For normal operation with one machine configured as a worker, set this value to 0.
2. Click **Next** to continue.

Run As screen

1. Configure the options as needed.
 - **Run as a different user:** Select if a worker machine needs to run workflows that access files or data from a location that requires specific credentials to access it.
 - **Domain, Username, Password:** Enter to have a machine run as a specified user or account.
2. Click **Next** to continue.

Important:

Each Run As user must have all the following required permissions set on each Alteryx Server worker machine. You may need to enable additional permissions on the machine depending on the workflow and the data and program files the workflow accesses.

The Run As user also needs permissions to access the data sources included in the workflows run in the Gallery. Necessary permissions and data sources vary based on the workflow.

LOCATION	PERMISSION	NOTES
In the Alteryx Server program files: [Install Directory]	Read & Execute, List, Read	This folder contains Alteryx program files; it is where Alteryx was installed. By default, this is at: C:\Program Files\Alteryx which may be hidden by Windows.
In the Windows Program Data Directory: %ProgramData%\Microsoft\Crypto\RSA\MachineKeys	Read, Write	This folder contains content related to encryption keys used by certain Windows APIs.
In the Alteryx Server program files: %ProgramData%\SRC	Read, Execute	This folder contains Alteryx Server license files.

LOCATION	PERMISSION	NOTES
In the Alteryx Server program files: %ProgramFiles(x86)%\Alteryx	Read, Execute	This folder may contain installed spatial data. Spatial data can also be installed in other locations. Access is only necessary if spatial data is included in workflows.
In System Settings: Worker > General > Workspace %ProgramData%\Alteryx\Service\Staging	Modify, Read & Execute, List Folder Contents, Read, Write	This folder contains temporary files, such as unpackaged workflows, or other files used to execute workflows. Ensure that these subfolders inherit permissions: MapTileCache, Results, Cache, TileSetInfoCache and XProcessCache.
In System Settings: Engine > General > Temporary Directory %ProgramData%\Alteryx\Engine	Modify, Read & Execute, List Folder Contents, Read, Write	This folder contains temporary files used in processed workflows and apps.
In System Settings: Engine > General > Logging Directory	Modify, List Folder Contents, Read, Write	This folder contains output files created when workflows or apps are processed. By default, logging is not enabled so the directory may be empty. Write permission is only needed if logging is enabled.
In C:\Users: %HOMEDRIVE%%HOMEPATH%	Full Control	The Run As and/or workflow credentials user account must have a profile on the local machine where the workflow is executed, and needs to have full

LOCATION	PERMISSION	NOTES
In C:\Users\<UserName> %HOMEDRIVE%\Users	Read & Execute, List Folder Contents, Read	control of that profile. This profile should be created automatically with the correct permissions the first time a job runs with the specified credential.

Mapping screen

- Configure the options as needed.
 - Allow machine to render files for mapping:** Enable for the machine to act as a map worker that renders map tiles for Map Questions and the Map Input tool.
 - Max number of render workers:** Define the number of processes to be used for tile rendering. The more processes allowed, the more simultaneous tiles can be rendered, but it will take up more system resources.
- Click **Next** to continue.

4.2e Gallery

There are no settings to be completed since the Gallery component was not selected on the Setup Type screen. Click **Next** to continue.

4.2f Engine

General screen

- Configure the options as needed.
 - Temporary Directory:** Displays the path to the location where temporary files used in workflow processing are saved.
 - Logging Directory:** Displays the path to the location where output logs produced during workflow processing are saved.
 - Package Staging Directory:** Displays the path to the location where files associated with the workflow are temporarily saved when you edit workflows stored in a Gallery. By default, these files are written inside of the Engine Temporary Directory.
 - Memory Limit per Anchor:** Define the maximum amount of memory to use to consume data for each output anchor for tools in a workflow. The default value typically does not need to be changed.

- **Default Sort/Join Memory Usage:** Define the minimum amount of memory the Engine will use to perform operations such as Sorts and Joins within a workflow. Generally this value should not change.
 - **Default Number of Processing Threads:** Define the number of processing threads tools or operations can use. The default value is the number of available processor cores plus one. Generally this value should not be changed.
 - **Allow Users to Override:** Select to allow users to override the above settings. This allows users to define their own memory usage, processing, threads, etc. If not checked, the users will assume the settings provided.
 - **Run Engine at a Lower Priority:** Select if you are running other memory intensive applications simultaneously. It is also recommended that this setting be checked for a machine configured to run the Gallery.
 - **Allow User Alias to Override:** Select to allow any user alias that is in the Alias Repository can take priority over a system alias.
2. Click **Next** to continue.

4.2g Proxy

Alteryx uses a proxy, if one is set up, to access the internet, rather than directly connecting to an internet host. These proxy credentials will be used by the Engine when running workflows in the Gallery or as a scheduled job.

If a proxy server has been set up, and a user name and password is required, then they can be entered on the Proxy screen. If a proxy server has not been set up, this screen does not display.

- **Proxy requires password:** Select this option to enter the Username and Password that are sent to the proxy for authentication.

Click **Next**, then **Finish** to complete System Settings configuration.

To complete the configuration, Alteryx restarts some services. If you have the Gallery or Scheduler services currently enabled and running, you may notice a brief outage. This may take a few moments.

4.3 System Settings

4.3a Environment

In System Settings, on the Environment screens, select the type of configuration for the server, and the global workspace for other components to use as a root location for file storage.

Setup Type

On the Setup Type screen, select the components of the Server architecture to enable on the machine. The complete Server architecture can be enabled on a single machine, selected

components can be enabled on the machine, or certain components can be enabled or disabled for a multi-machine, scaled Server deployment.

- **Designer Only:** Only enables Designer on the machine. Scheduler and Gallery functionality are not enabled or configurable.
- **Designer and Scheduler Only:** Enables Designer and Scheduler on the machine. Gallery functionality will not be enabled or configurable. Select this option if you want users on the machine to build and run workflows, and schedule workflows to be run in the future.
- **Complete Alteryx Server:** Enables the entire Server architecture to run on the machine. This includes Designer, Scheduler, and Gallery. Select this option if you are running a single-machine environment and want the entire Server functionality.
- **Custom:** Allows you to enable or disable specific components for the machine. Select this option for multi-machine deployments of Server when you want different components enabled on different machines.
 - **Enable Controller:** Enables a controller on the machine, allowing it to manage and distribute scheduled workflows to workers.
 - **Enable Worker:** Enables a worker on the machine, allowing it to execute scheduled workflows assigned by the controller.
 - **Enable Gallery:** Enables Gallery on the machine. If this option is enabled, the Default Gallery Administrator must be specified on the **Gallery > General** screen and the SMTP Server information must be specified on the **Gallery > SMTP** screen for email notifications.

Workspace

On the Workspace screen, select a root location to act as the global workspace. The path is used as the base for configuration options that determine where temporary files, log files, and database files are stored. Sub-folders for the specific items can be created to use the global workspace or can be customized later to write to a different location. This path should point to a location that is safe to store large amounts of files.

4.3b Controller

In System Settings, on the Controller screens, configure the controller component. The controller is available for configuration if the local machine is configured to act as a controller.

The Alteryx Service Controller is responsible for the management of the service settings and the delegation of work to the Alteryx Service Workers. Only one machine may be enabled as a controller in a deployment.

General

The General screen includes configuration options such as where temporary files and log files should be stored and what information should be logged.

- **Controller Token:** A secret key that is used to establish communications between the controller machine and the machine using Designer, and between the controller machine and the worker machine.

If the machine using Designer is separate from the controller machine and you want to schedule a workflow to run in the future, add the controller token in the Schedule Workflow screen in Designer to connect to the controller and have the job run from there.

You will also need the controller token if you want to have one machine act as a controller and another machine act as workers. Set the first machine up as a controller, then copy the controller token and add it when configuring the worker machine (in System Settings, **Controller > Remote**) so that the machines can communicate with each other.

The controller token is auto-generated for you. If you want to change your token, click **Regenerate**. You will get the following message stating the service will be stopped: "Are you sure you want to regenerate the token? If the service is running it will be stopped, and any remote workers or clients connected to this computer will be disconnected."

Token regeneration should only be done if absolutely necessary, such as the token becoming compromised. Regenerating the token will require updating any Gallery or Worker nodes in the deployment.

- **Workspace:** The Controller Workspace is the location where the controller stores temporary or cache files. By default, the folder is located within the global workspace folder. Use a path to a location that is safe to store large amounts of files.
- **Logging:** The controller component contains functionality to produce logs of events such as services being started, shut downs, execution requests, etc. which can be helpful for troubleshooting issues. This information is stored in files on the file system.
 - **Level:** Allows you to choose the types of messages that should be captured. (None = No logging; Low = Log only Emergency, Alert, Critical, and Error type messages; Normal= Log everything in Low, plus Warnings and Notices; High = Log all message types.) A level of "None" or "Low" may be sufficient for production environments where little logging is needed while a level of "High" logs more messages to help with troubleshooting.
 - **File size:** Allows you to specify the maximum size of a log file.
 - **Enable log file rotation:** Log files can become quite large depending on how the system is running and the level of the logging. Enabling log file rotation ensures that when the current log file reaches its maximum size it is placed in an archive file and logs are written to a new file. This helps prevent creating large log files that are difficult to consume in standard log readers.
- **Enable Scheduler auto-connect:** Allows users on this machine to auto-connect to the Scheduler. Enable this if you have difficulties connecting to the Scheduler.
- **Enable Insights:** Configuring the machine to enable insights allows it to handle requests for rendering insights in the Gallery. Insights are interactive dashboards created in Designer.

Persistence

The Alteryx Service includes a persistence layer that it uses to store information critical to the functioning of the service, such as Alteryx application files, the job queue, and result data. The Service supports two different mechanisms for persistence: SQLite and MongoDB. For lightweight and local deployments SQLite is adequate for most scheduling needs. For heavier usage, or if the Alteryx Gallery is deployed, MongoDB must be used.

Since the controller acts as an orchestrator of workflow executions and various other operations it needs a location where it can maintain the workflows that are available, a queue of execution requests, and other information. These settings can be defined on the Persistence screen.

When switching between SQLite and MongoDB database types, previously scheduled jobs are not automatically migrated. These jobs must be manually re-scheduled.

- **Database Type:** The controller maintains data in either SQLite or MongoDB databases. Server offers embedded SQLite or MongoDB options as well as a user-managed MongoDB option. If you are configuring the machine for a Gallery, you must use MongoDB.
 - **SQLite:** Creates an instance of the SQLite database for you to use. For lightweight and local deployments that use the Scheduler, SQLite is sufficient.
 - **MongoDB:** Creates an instance of the MongoDB database for you to use. For heavier usage, or if the Alteryx Gallery is deployed, MongoDB must be used.
 - **User-managed Mongo DB:** Allows you to connect the Service to your own implementation of MongoDB.

It is highly recommended that you provide an automated backup system for whatever persistence mechanism you choose. For information on backing up MongoDB, see MongoDB Management. To back up SQLite, you can zip up or copy the Persistence folder found in \ProgramData\Alteryx\Service\.

- **Data Folder:** This is the location where either the SQLite or embedded MongoDB database files should be stored. If you select **User-managed MongoDB** this option is disabled because it is configured directly in your own MongoDB instance.
- **Database:** For embedded MongoDB the host, username, and password automatically generated are available for you to use if you would like to access and interrogate the data. The Admin Password is for MongoDB Admins to setup backups and replica sets. The user Password is the one all of the components use to communicate with MongoDB and can be used for creating usage reports that connect to the database.

For User-managed MongoDB complete this information based on the configuration of your MongoDB instance.

- **Persistence Options:** The controller maintains a queue of Alteryx jobs and caches uploaded files for use in executing those jobs. Workflow queues and results can quickly take up space if left unattended. You can specify whether or not job results and files should be deleted and, if so, how many days they should remain. These settings may help to reduce the amount of drive space necessary as the system is used.

Mapping

The controller can be enabled to also handle requests for mapping operations, such as orchestrating requests for map tile generation and caching. On the Mapping screen, configure whether or not the machine should act as a Map Controller, and define the thresholds for the tile and layer caching. The map tiles and the reference maps needed to render them can be cached to increase performance. A larger cache size, and increased time to live, results in faster responses for tiles that have been requested before but takes up more memory and disk space; a smaller cache has the opposite effect.

- **Enable map tile controller:** Configuring the machine to enable a map tile controller allows it to serve up map tiles that are rendered by Workers. These tiles are used for rendering maps in the Map Question and Map Input tools.
- **Memory cache:** This is the maximum number of map tiles that are stored in memory. 1,000 tiles requires roughly 450 MB of memory. A higher memory cache results in more tiles being stored to increase performance but requires more system resources.
- **Disk cache:** This is the maximum amount of space to allocate for caching map tile images on the hard drive. A higher disk cache results in greater consumption of drive space but may increase performance of map tile requests.
- **Reference layer time to live:** Reference layers are created by Map Questions and Map Input Tools and are driven by a .yxdb file. The controller can maintain a reference to this .yxdb file to help speed up rendering. This setting allows you to define the amount of time to persist reference layer information. Increasing this number may help optimize performance of frequently requested layers. If a reference layer expires, it is generated again the next time it is requested.

Remote

If you are configuring the machine to act as a worker, then you will only see the Remote screen under Controller. Since the machine is not configured to be a controller, it must connect to the controller machine. The host location and the controller token are required to connect to the controller machine.

- **Host:** Type the host location of the controller machine.
- **Token:** Enter the controller machine token. This information is found on the controller machine in System Settings on the Controller > General screen.
- **View:** This displays the controller token characters.
- **Hide:** This hides the controller token characters.

4.3c Worker

In System Settings, on the Worker screens, configure the worker components. The worker component is available for configuration if the local machine is configured to act as a worker.

The Alteryx Service Worker is responsible for executing analytic workflows. There must be at least one machine enabled as a worker to execute workflows through the Service. You may

configure the same machine to be both the controller and a worker. The actual number of workers needed depends on the required performance for the system.

General

The General screen includes configuration options such as where temporary files should be stored and whether the machine can run scheduled workflows.

- **Workspace:** The Workspace is where the worker stores temporary or cache files, and unpackaged workflows for use when executing workflows. By default, it is the same as the controller folder. This path should point to a location that is safe to store large amounts of files.
- **Allow machine to run scheduled Alteryx workflows:** Enabling this machine to run scheduled Alteryx workflows allows it to take requests to run workflows from the Scheduler or from the Gallery. In multi-node deployments, you may want to uncheck this option if you have another machine that will be running workflows and want this machine to process map requests only.
- **Workflows allowed to run simultaneously:** This is the maximum number of scheduled workflows that are allowed to run simultaneously on this machine. You may want to increase this number to improve the responsiveness of scheduled jobs, but the overall processing time may be increased.
- **Cancel jobs running longer than (seconds):** If you do not want jobs to run for an extended period of time, use this setting to force jobs to cancel after a certain amount of time has passed. This helps free up system resources that might otherwise be taken up by unintentionally long running jobs. This setting only applies to scheduled jobs and does not affect manual runs from the Gallery.
- **Job Priority:** In an environment where multiple workers are deployed, selecting a priority level can determine which jobs are run by each worker. For normal operation with one machine configured as a worker, set this value to 0.
 - 0 = Low (normal workflow execution)
 - 1 = Medium
 - 2 = High
 - 3 = Critical
 - 4 = Chained application execution (all apps in the chain aside from the last)
 - 6 = Workflow validation requests

When a job request is handled by a worker, it compares the priority level of the job to the Job Priority value for the worker. Jobs that have a value greater than or equal to the Job Priority for the worker will be handled by that worker. For example, if a worker has a Job Priority of 0 and is available, the worker will handle any request. However, a worker with a Job Priority of 3 will only handle jobs that have a value of 3 or higher. This allows resources to be reserved for higher priority requests.

- **Job Assignment:** A specific worker can be assigned to run a job. First, add a job tag for the worker, and then select that job tag when creating a schedule or running a workflow.

- **Run unassigned jobs:** Select this option to use the worker to run jobs that have not been assigned a job tag.
- **Job tags:** Add words that can be used to assign a specific worker to run a job. Separate multiple job tags with a comma. The same job tag can be added to multiple workers.
- **Send usage data for jobs run on the Server:** Deselect this option to opt out of sending usage data to Alteryx. When enabled, Alteryx collects usage data each time a job is run, including manual and scheduled runs. This information is used to plan future releases and prioritize fixes and features. Deselecting this option does not prevent your IT department from collecting usage data. The usage data collected includes the following:
 - Version of Server running the job
 - Serial number of the Server installation
 - Job schedule
 - Job ID
 - Date and time the job was run
 - Errors, warnings, conversion errors, messages

Run As

If a worker machine needs to run workflows that access files or data from a location that requires specific credentials to access it, the machine can be configured to run the workflows as a specified user or account. To have the machine run as a different user, enter the **Domain**, **Username**, and **Password**.

Mapping

The machine can be enabled to act as a Map Worker, which allows it to render map tiles for Map Questions and the Map Input tool. You can specify the number of processes to be used for tile rendering. The more processes allowed, the more simultaneous tiles can be rendered, but it takes up more system resources.

Insights Configuration

Enable Insight Worker: The machine can be configured to act as an Insight Worker and render insights, which are interactive dashboards created in Designer and published in a Gallery.

Insights allowed to run simultaneously: The maximum number of insights that can run simultaneously on the machine. The more insights that can be run simultaneously, the more system resources used.

Max Cache Size (# of Cache Directories): The maximum number of insights cached on a worker machine. Each insight consists of a description and data file, so each insight cache is a directory that contains those files.

Max Port, Min Port: The range of port numbers designated for use when rendering insights.

4.3d Gallery

In System Settings, on the Gallery screens, configure the Gallery component. The Gallery component is available for configuration if the local machine is configured as a Gallery.

The Alteryx Gallery is a cloud-based application for publishing, sharing, and executing workflows. It communicates directly with the Alteryx Service for the management and execution of the workflows and utilizes a MongoDB persistence layer for all state maintenance. This allows the Gallery to be deployed across multiple servers behind a load balancer (not provided as part of the architecture) to support horizontal scalability.

Alteryx offers a public Gallery (<https://gallery.alteryx.com/>), where users can sign up and share workflows, apps, and macros, and a private Gallery, which allows companies to offer the Gallery to internal users hosted on their own server infrastructure.

General

The General screen includes configuration options such as where temporary files and log files should be stored.

- **Gallery Workspace:** The workspace is the location where the Gallery stores temporary files. By default it is a folder within the global workspace folder. This path should point to a location that is safe to store large amounts of files.
- **Logging Directory:** This is the location where log messages specific to the Gallery services will be stored.
- **Base Address:** This is the URL that users use to go to the Gallery. Although the domain configuration must be done elsewhere, this URL is used in areas such as email content when links to workflows are made available.
- **Enable SSL:** Enabling this changes the URL in the Base Address field to https. If you enable SSL and your certificate is set to a port other than the default 443, include the port in the URL (e.g., <https://localhost:445/gallery/>).
- **Default Run Mode:** Determines the level that workflows are permitted to run in the Gallery. Workflows that contain certain tools or access may need to be blocked. If a user has a workflow that uses one of the prohibited tools in a safe manner, they may request an exemption from the Gallery Admin. Exemptions are managed on the Workflows page in the Gallery.
 - **Unrestricted:** Any workflow can be run.
 - **Semi-safe:** Workflows accessing or storing data on non-local drives are blocked from running.
 - **Safe:** Workflows accessing or storing data on non-local drives, or using certain tools and events, are blocked from running. The tools and events include: Run Command tool, Download tool, Email tool, R tool, Python tool, Run Command event, and Send Email event.

Safe and Semi-safe options can only be used if the Run As setting is enabled in System Settings on the Worker Run As screen.

Authentication

The Authentication screen includes configuration options for the type of authentication you want to use to access the Gallery.

- **Authentication Type:** Server supports built-in authentication, integrated Windows authentication with or without Kerberos support, and SAML authentication.
 - **Built-in:** Allows users to access the Gallery using an email address and password.
 - **Integrated Windows authentication:** Allows users to access the Gallery with internal network credentials.
 - **Multi-domain support:** Server supports multiple domains for Windows authentication. There is no configuration needed within Server to enable this, but the following capabilities and permissions must be present across the domains.
 - The domain the Gallery is running on needs the same trust policy as other domains users are working on so Active Directory can resolve and determine user permissions.
 - Both domains need to be part of the same forest.
 - The Alteryx Service needs to be able to read all attributes from CN=Users and CN=Computers containers for both domains. The Alteryx Service runs under the Local System account on the server it is installed on. If a dedicated service account is defined instead of using Local System, the account needs permissions to read all attributes from both containers to enable authentication for both domains.
 - **Integrated Windows authentication with Kerberos:** Allows users to access the Gallery with internal network credentials using Kerberos authentication protocols.
 - **SAML authentication:** Allows users to access the Gallery with Identity Provider (IDP) credentials.

Important: Once an authentication type has been selected it should not be changed or Gallery functionality may be compromised.

- **Select an option for obtaining metadata required by the IDP:** Alteryx provides support for configuring SAML using an IDP metadata URL, or an X509 certificate and IDP SSO URL.
- **SAML IDP Configuration:** To configure SAML authentication for Single Sign On (SSO), you must have an account with an Identity Provider (IDP) that supports SAML.
Before configuring SAML authentication for the Gallery, you must add Server as a Service Provider application within the IDP. The IDP may require the ACS Base URL (for example: <http://localhost/aas/Saml2/Acs>) and SP Entity ID (for example: <http://localhost/aas/Saml2>). Alteryx Gallery requires assertions to contain case sensitive attributes of email, firstName, and lastName attribute statements to be mapped to corresponding fields in the IDP so users can be authenticated.
 - **ACS Base URL:** The URL for the Assertion Consumer Service, that accepts SAML messages for the purpose of establishing a session.

- **IDP URL:** The URL for the Alteryx application configured in the IDP. It may also be referred to as the IDP Entity ID.
- **IDP Metadata:** The URL provided by the IDP that includes the IDP SSO URL and the X509 certificate for configuring the Alteryx Authentication Service.
- **IDP SSO URL:** The SSO URL, provided by the IDP, that the Alteryx Authentication Service uses to log into the IDP.
- **X509 certificate:** The public certificate provided by the IDP for secure communication with the Alteryx Authentication Service.
- **Verify IDP:** Click this button to open a browser window, log in, test the IDP configuration, and set the Default Gallery Administrator.
- **Default Gallery Administrator:** A Gallery Administrator account must be created to administer the site (manage users, workflows, and more). If the Gallery is enabled in the System Settings > Environment > Set Up screen, the Default Gallery Administrator is a required field.
 - If using **Built-in**, enter the administrator's email address (ex. me@example.com).
 - If using **Integrated Windows authentication**, enter the user account (ex. Domain\Username).
 - If using **SAML authentication**, click Verify IDP to test the IDP configuration and populate the field with IDP credentials.

SMTP

The SMTP screen includes configuration options for enabling SMTP. If the Gallery is enabled on the Setup screen, the information on the SMTP page is required so that the server can send email notifications for various events such as registering your Gallery account, changing your password, or sharing a workflow.

1. In **From Email**, type the email address from which emails are to be sent.
2. Type the email service host name in **Host**.
3. Type a username and password in **Username** and **Password**, if the SMTP server configuration requires it.
4. Click **Test**. If the test is successful, an email is sent to the email address in From Email.

Deselect **Enable SMTP** to complete the Server setup without enabling SMTP. Email notifications from the Gallery will be disabled until SMTP settings are configured.

If the SMTP server is setup to use SSL, select the **Use SSL** checkbox.

Persistence

Use Controller Persistence Settings: The Gallery stores information for users, collections, etc. in MongoDB. Select this option (which is on by default) for the Gallery to use the persistence options set on the **Controller > Persistence** screen. If you would like the Gallery to use a different MongoDB connection than the Controller, specify the host, user name, and password information.

Same settings as Web Persistence: Indices for search functionality within the Gallery are also stored on Mongo. Select this option (which is on by default) for the Search indices to be persisted using the same options as the Web Persistence. If you would like the search indices to use a different MongoDB connection than the Web Persistence, specify the host, user name, and password information.

4.3e Engine

In System Settings, on the Engine screens, configure the Engine component.

The Alteryx Engine consumes Alteryx workflows and provides high-speed data processing and analytics functionality. This process can be entirely self-contained in the Designer, scaled across an organization by the Alteryx Service, or deployed in the cloud by the Alteryx Gallery.

General

The General screen includes configuration options such as where temporary files and log files should be stored and options for specifying system resource usage to optimize performance.

- **Temporary Directory:** Displays the path to the location where temporary files used in workflow processing are saved.
- **Logging Directory:** Displays the path to the location where output logs produced during workflow processing are saved. See Log Files.
- **Package Staging Directory:** Displays the path to the location where files associated with the workflow are temporarily saved when you edit workflows stored in a Gallery. By default, these files are written inside of the Engine Temporary Directory.
- **Memory Limit per Anchor:** Define the maximum amount of memory to use to consume data for each output anchor for tools in a workflow. The default value typically does not need to be changed.
- **Default Sort/Join Memory Usage:** Define the minimum amount of memory the Engine will use to perform sort and join operations in a workflow. Generally, this value should not change.
- **Default Number of Processing Threads:** Define the number of processing threads tools or operations can use. The default value is the number of available processor cores plus one. Generally, this value should not be changed.
- **Allow Users to Override:** Select to allow users to override the above settings. This allows users to define their own memory usage, processing, threads, etc. If not checked, the users assume the settings provided.
- **Run Engine at a Lower Priority:** Select if you are running other memory intensive applications simultaneously. It is also recommended that this setting be checked for a machine configured to run the Gallery.
- **Allow User Alias to Override:** Select to allow any user alias that is in the Alias Repository can take priority over a system alias.

Proxy

Alteryx uses a proxy, if one is set up, to access the internet, rather than directly connecting to an internet host. These proxy credentials will be used by the Engine when running workflows in the Gallery or as a scheduled job.

If a proxy server has been set up, and a user name and password is required, then they can be entered on the Proxy screen. If a proxy server has not been set up, this screen does not display.

- **Proxy requires password:** Select this option to enter the Username and Password that are sent to the proxy for authentication.

Click **Next**, then **Finish** to complete System Settings configuration.

To complete the configuration, Alteryx restarts some services. If you have the Gallery or Scheduler services currently enabled and running, you may notice a brief outage. This may take a few moments.

4.4 MongoDB Management

Alteryx includes an option to use an embedded version of a MongoDB database when setting up a Gallery to reduce the amount of configuration necessary for deploying a basic instance of Server. Several utilities are available to back up and restore data from Server deployments, which can prove beneficial in the unlikely event of a system failure, data corruption or loss, or need to roll back to past data.

Back up and restore data using the command line utilities available from the AlteryxService.exe executable. Because the database backup process requires Server to be shut down (disabling scheduling and Gallery functionality for several minutes), perform backups during off-peak times.

4.4a Create a MongoDB backup

1. Stop AlteryxService.
2. From the command line, navigate to the directory to store the backup.
3. Execute the following command to save a backup of the database in the specified folder: alteryxservice emongodump=path_to_backup_location

Example command:

\Program Files\Alteryx\bin\AlteryxService.exe emongodump="c:\tem p\dumpOutput"

4. Restart AlteryxService

4.4b Restore from a MongoDB backup

1. Stop AlteryxService.
2. From the command line, navigate to the directory where the backup is located.

3. Execute the following command to take the saved backup from the output folder and move it to the specified input folder: alteryxservice
emongorestore=path_to_backup_location,path_to_mongo_folder

Example command:

```
\Program Files\Alteryx\bin\AlteryxService.exe
emongorestore=c:\temp\dumpOutput,c:\temp\restoreInput
```

4. Restart AlteryxService.

4.4c Use a MongoDB backup

1. Double-click the System Settings icon on your desktop.
2. Go to **Controller > Persistence**.
3. In the Data Folder field, click the **Browse** button to browse to the folder for the backup.
4. Click **Next** to continue through the System Settings windows and restart the Service.
When the Service starts it will run off the restored folder.

4.5 Enable Gallery SSL

Server supports SSL (Secure Socket Layer) encryption via HTTPS to ensure that all communication between Designer and Server, as well as between a user's web browser and your Alteryx Private Gallery, remains safe and secure.

Before enabling SSL on your machine, obtain a valid SSL certificate for your Alteryx Private Gallery from a trusted Certificate Authority (CA). The service address that you specify for the certificate must match the address that you want to use for your Gallery website domain (the same domain in **Base Address URL** in System Settings on the Gallery General screen).

After you have obtained the SSL certificate, you need to configure your web server to use that certificate when users visit your site. To do this, the certificate thumbprint must be associated with a specific port on the machine.

4.5a Obtain an SSL certificate's thumbprint

To obtain the thumbprint of the certificate:

1. Locate and open the certificate (.cer) file.
2. Click the **Details** tab.
3. Scroll through the list and highlight **Thumbprint**.
4. The value displayed in the box at the bottom is the thumbprint of the certificate. Copy the value, paste it into a text editor, and remove all spaces. This is the value that are used when configuring the port.

4.5b Configure a port to use an SSL certificate

To associate the certificate's thumbprint to a specific port:

1. Click the Windows Start button to open the netsh console, type 'netsh' in the **Search** field, and press Enter.
2. Edit the following command.

- Replace the ‘certhash’ value with the certificate thumbprint value without the spaces.
- Modify the iport value if you want to use a port other than the default port 443.
- Leave the appid as it is since it is the application ID of the Alteryx Gallery.

```
netsh http add sslcert iport=0.0.0.0:443
certhash=0000000000003ed9cd0c315bbb6dc1c08da5e6 appid={eea9431a-a3d4-4c9b-9f9a-b83916c11c67}
```

3. Paste the modified command into the netsh console and press **Enter** to associate the certificate with the given port.
4. Verify the association and successful install of the certificate by running the following command in the netsh console. All SSL certificate associations and their respective ports are listed.

```
netsh http show sslcert
```

4.5c Configure the Server Gallery URL

After the certificate is associated with a specific port, the Server configuration must be changed to expect web requests over HTTPS instead of HTTP. Additionally, if the certificate has been associated with a port other than the default 443, Server must be configured to utilize that port.

1. Double-click the System Settings icon on your desktop.
2. Click **Next** on each screen in System Settings to navigate through the Environment, Controller, and Worker components.
3. On the Gallery General screen select the **Enable SSL** checkbox. Enabling this option changes the URL in the **Base Address** field to https.
4. If you enable SSL and your certificate is set to a port other than the default 443, specify the port in the **Base Address URL** as well. For example: <https://localhost:445/gallery/>
5. Click **Next** to continue navigating through the settings for the Gallery and Engine components and click **Done** to close the System Settings window and restart Alteryx Services.

After the SSL certificate is installed on the local server machine and SSL has been enabled in the Server System Settings, users who go to the Gallery will see https: and a padlock symbol displayed before the URL address in their browser. This means that a secure link is established for that session, with a unique session key, and communications are secure.

4.6 Set Required Run As User Permissions

Server supports the ability to run workflows using specific user accounts referred to as Run As user accounts. Set Run As user account to execute workflows as that user and read and write data and program files the user can access.

You can configure Server and subscriptions (studios) in the Gallery to use specific Run As user accounts. You can also require Gallery users to enter their personal credentials to run a workflow making each user's account a Run As user account.

To use a Run As user account to execute workflows, enable all required permissions on each Server worker machine. Verify the Secondary Logon Service is running to enable alternative users to be run for other Services.

4.6a Set Run As user permissions

First, edit the local group policy on the machine to give the Run As user account permission to log on as a batch job.

1. Click Start on the Windows task bar.
2. In Search, type "gpedit.msc" or "local group policy" and click the result (gpedit).
3. In the left side of the Local Group Policy Editor window, click Computer Configuration > Windows Settings > Security Settings > Local Policies > User Rights Assignment.
4. To the right, find and double-click Log on as a batch job.
5. In Log on as a batch job Properties, click Add User or Group.
6. Complete the required information to add the user or group.
7. Click OK and Apply.

Then, set permissions on each of the folders requiring Run As user permissions.

1. Right-click the folder and click Properties.
2. Click the Security tab and click Edit.
3. In Group or user names, click the name of the user you want to grant permissions to, or click Add to add a user that does not appear in the list.
4. In Permissions for Run As User, select the required Run As permissions for the user.
5. Click Add after selecting all required permissions.
6. Click Apply.

Complete these steps on each Server worker machine for each of the user accounts you want to give Run As user account permissions.

4.6b Required Run As user permissions

Each Run As user must have all the following required permissions set on each Server worker machine. You may need to enable additional permissions on the machine depending on the workflow and the data and program files the workflow accesses.

The Run As user also needs permissions to access the data sources included in the workflows run in the Gallery. Necessary permissions and data sources vary based on the workflow.

LOCATION	PERMISSION	NOTES
In the Alteryx Server program files: [Install Directory]	Read & Execute, List, Read	This folder contains Alteryx program files; it is where alteryx was installed. By default, this is at: C:\Program

		Files\Alteryx which may be hidden by Windows
In the Windows Program Data directory: %ProgramData%\Microsoft\Crypto\RSA\MachineKeys	Read, Write	This folder contains content related to encryption keys used by certain Windows APIs
In the Alteryx Server program files: %ProgramData%\SRC	Read, Execute	This folder contains Alteryx Server license files.
In the Alteryx Server program files: %Program Files(x86)%\Alteryx	Read, Execute	This folder may contain installed spatial data. Spatial data can also be installed in other locations. Access is only necessary if spatial data is included in workflows.
In System Settings: Worker>General>Workspace %ProgramData%\Alteryx\Service\Staging	Modify, Read & Execute, List Folder Contents, Read, Write	This folder contains temporary files, such as unpackaged workflows, or other files used to execute workflows. Ensure that these subfolders inherit permissions: MapTileCache, Results, Cache, TileSetInfoCache and XProcessCache.
In System Settings: Engine>General>Temporary Directory %ProgramData%\Alteryx\Engine	Modify, Read & Execute, List Folder Contents, Read, Write	This folder contains temporary files used in processed workflows and apps.
In System Settings: Engine>General> Logging Directory	Modify, List Folder Contents, Read, Write	This folder contains output files created when workflows or apps are processed. By default, logging is not enabled so the directory may be empty. Write permissions is only needed if logging is enabled.

4.7 Control Designer Access to Gallery

The Open and Save options for the Gallery under the File menu in Designer can be configured using the RuntimeSettings.xml. If the RuntimeSettings.xml file does not exist, it will be created when Alteryx is installed.

The configuration options enable you to:

- Disable all Save and Open options for the Gallery
- Prevent users from adding or removing Gallery connections
- Provide a default Gallery location for use instead of the Alteryx Analytics Gallery

4.7a XML Options

To configure the Gallery options, add the following XML options to a <Designer> child node within <SystemSettings> in the RuntimeSettings.xml (C:\ProgramData\Alteryx\RuntimeSettings.xml). Each XML option is optional and only needs to be added if the specified value is different from the default value.

<SaveToGalleryEnabled>True</SaveToGalleryEnabled>: Enables or disables all of the Save/Open Gallery options. The default is True and the options are True or False.

<ManageGalleriesEnabled>True</ManageGalleriesEnabled>: Enables or disables the ability for end users to add or remove Gallery connections. The default is True and the options are True or False.

<DefaultGalleryUrl>https://gallery.example.com</DefaultGalleryUrl>: Specifies the URL for the default Gallery. The default points to https://gallery.alteryx.com. The URL must be a valid URL pointing to a valid Gallery.

Example 1

- Enable all Save and Open options for the Gallery
- Allow users to add or remove Gallery connections
- Change the default Gallery location to gallery.example.com

"SaveToGalleryEnabled" is not included as the default value is "True".

```
<?xml version="1.0" encoding="UTF-8"?>

<SystemSettings>

    <Designer>

        <DefaultGalleryUrl>https://gallery.example.com</DefaultGalleryUrl>

    </Designer>

</SystemSettings>
```

Example 2

- Enable all Save and Open options for the Gallery
- Prevent users from adding or removing Gallery connections
- Change the default Gallery location to gallery.example.com

"SaveToGalleryEnabled" is not included as the default value is "True".

```
<?xml version="1.0" encoding = "UTF-8"?>

<SystemSettings>

    <Designer>

        <ManageGalleriesEnabled>False</ManageGalleriesEnabled>
```

```
<DefaultGalleryUrl>https://gallery.example.com</DefaultGalleryUrl>  
</Designer>  
</SystemSettings>
```

Example 3

Disable all Save and Open options for the Gallery.

"ManageGalleriesEnabled" and "DefaultGalleryUrl" are not included as they are not applicable when Save/Open options for the Gallery are disabled.

```
<?xml version="1.0" encoding="UTF-8"?>  
  
<SystemSettings>  
  
    <Designer>  
  
        <SaveToGalleryEnabled>False</SaveToGalleryEnabled>  
  
    </Designer>  
  
</SystemSettings>
```

4.8 Save Designer Usage Data

Alteryx collects usage data each time a user runs a workflow or uses Search in Designer. This data can be used to track user activity in Alteryx, or monitor and prevent user activity within certain tool categories. The data may also help identify and connect users performing similar processes in Alteryx. In Designer, within User Settings, you can choose to send tool usage data to Alteryx as a part of the Alteryx user experience program.

You can also choose to collect and save Designer usage data using the RuntimeSettings.xml. Usage data is saved to the same location where your Gallery is installed. To collect and save usage data, add the following XML options to a `<Designer>` child node within `<SystemSettings>` in the RuntimeSettings.xml (`C:\ProgramData\Alteryx\RuntimeSettings.xml`). This option must be enabled for each Designer installation.

```
<PhoneHomeUrl>[INSERT GALLERY URL]</PhoneHomeUrl>
```

4.8a Usage data formats

Usage data is formatted as JSON data and uses a consistent heading. "Data" is unique for each type of usage data.

Heading

```
{  
  "Type": NumberInt("0"),  
  "SerialNumber": "test@altery.com",  
  "SeatGuid": "f5edb5db3e5184c9c838ba3dd3990c3f6",  
  "Guid": "14747385-0a2a-4467-aec5-541662b1c916",  
  "IpAddress": "123.45.45",  
  "DateTime": ISODate("2016-11-21T13:54:26.067-07:00"),  
  "ServerDateTime":ISODate("2016-11-21T13:54:26.067-07:00"),  
  "Version": "11.0.0.21957",  
  "Preview": "false",  
  "Data":
```

Workflow data

For other workflows, the following data is collected in addition to the data collected for sample workflows: name of tools in the workflow, the number of times a tool is used in the workflow, and tool connection data in the workflow.

The tool connection refers to the input and output connection of a tool. "I" represents input, "O" represents output and "L" represents left, "R" represents right. The data is the same data that is stored in the workflow XML. It includes the origin tool ID (OID), the origin tool connection (OC), the origin tool name (ON), the destination tool ID (DID), the destination tool connection (DC), and the destination tool name (DN).

```
{  
  "ToolCounts": [  
    {  
      "Name": "AlteryxConnectorGui.MongoInput.MongoInput",  
      "Count": 1  
    },  
    {  
      "Name": "AlteryxBASEPluginsGui.JSONParse.JSONParse",  
      "Count": 1  
    }  
  ]  
}
```

```
"Count":1
},
{
"Name": "AlteryxBasePluginsGui.RecordID.RecordID",
"Count":1
},
{
"Name": "AlteryxBasePluginsGui.CrossTab.CrossTab",
"Count": 1
},
{
"Name": "AlteryxBasePluginsGui.BrowseV2.BrowseV2",
"Count": 2
},
{
"Connects": [
{
"ON":"MongoInput",
"OC":"0",
"OID":2,
"DN":"RecordID",
"DC":"I",
"DID":5
},
{
"ON":"JSONParse",
"OC":"0",
"OID":4,
```

```
"DN":"CrossTab",
"DC":"I",
"DID":6
},
{
"ON":"RecordID",
"OC":"O",
"OID":5,
"DN":"JSONParse",
"DC":"I",
"DID":4
},
{
"ON":"CrossTab",
"OC":"O",
"OID":6,
"DN":"Filter",
"DC":"I",
"DID":9
}
]
```

Sample workflow data

For sample workflows, the data includes the data and time the sample workflow was run, the version of Alteryx running the workflow, the serial number of the computer or server running Alteryx, and the name of the sample workflow.

```
{"SampleModule":"\\03_Basics\\Data_Types.ymd"}
```

Searched term data

In this example, the user searched "summarize."

```
{"Query": "summarize"}
```

Clicked Search result data

In this example, the user clicked a search result link that led to the Community.

```
{"LinkClicked": "https://community.alteryx.com/t5/Alteryx-Knowledge-Base/Tool-Mastery-Summarize/ta-p/24944"}
```

4.9 Troubleshooting

This topic contains suggested steps for resolving issues that may be encountered when installing, licensing, or configuring Server.

4.9a My workflows are always in a “Queued” state when scheduled or during validation

You may encounter this issue if the worker machine has not been configured to run scheduled workflows. Double-click the System Settings icon on your desktop to open the System Settings window and check the following settings:

In a single-machine deployment:

- Ensure the machine has been configured to have the Worker enabled. The Worker is enabled if any of the following options on the Environment Setup screen are checked:
 - Designer and Scheduler Only
 - Complete Alteryx Server
 - Custom: Enable Worker
- Verify the machine is set up to execute scheduled workflows. On the Worker General screen, ensure the Allow machine to run scheduled Alteryx workflows option is checked.
- Verify the Quality of Service option on the Worker General screen is set to 0.

In a multi-node deployment

- Ensure you have at least one machine in the deployment configured to act as a Worker.
- If the worker is connecting to a remote controller, verify it is connecting to the correct controller. On the Controller Remote screen click Test to verify it can connect successfully.
- Verify the worker machine is set up to execute scheduled workflows. On the Worker General screen, ensure the Allow machine to run scheduled Alteryx workflows option is checked.

4.9b Maps in the Map Input, Report Map, and Map Question tools don't show up

You may be encountering this issue if the worker machine has not been configured to render map tiles, or if the number of processes to be used for tile rendering needs to be increased. Double-click the System Settings icon on your desktop to open the System Settings window and check the following settings:

In a single-machine deployment

- Ensure the machine has been configured to have the worker enabled. The worker is enabled if any of the following options on the Environment Setup screen are checked:
 - Designer and Scheduler Only
 - Complete Alteryx Server
 - Custom: Enable Worker
- Verify the machine is set up to render map tiles. On the Worker Mapping screen, verify that the **Allow machine to render tiles for mapping** option is checked.
- Verify the **Max number of render workers** option on the Worker Mapping screen is set to a value greater than 0. The default value is 2.

In a multi-node deployment

- Verify that you have at least one machine in the deployment configured to act as a worker.
- If the worker is connecting to a remote controller, verify it is connecting to the correct controller. On the Controller Remote screen click **Test** to verify it can connect successfully.
- Verify the worker machine is set up to render map tiles. On the Worker Mapping screen, ensure the **Allow machine to render tiles for mapping** option is checked.
- Verify the **Max number of render workers** option on the Worker Mapping screen is set to a value greater than 0. The default value is 2.
- On the controller machine, ensure the **Enable map tile controller** option is selected on the Controller Mapping screen.

4.9c I have configured Server to run workflows as a specified user, but they are failing

You may encounter this issue if the worker machine that is configured to run the workflows as a specified user does not have the appropriate permissions in the workspace folder where files are stored. Double-click the System Settings icon on your desktop to open the System Settings window and check the following settings:

- Identify the **Workspace** folder specified on the Worker General screen..
- Open Windows Explorer and navigate to that folder.
 - View the folder properties.

- On the Security tab, verify that the user specified as the **Run As** user exists in the list of users. If it does not, add it.
- On the same tab, highlight the specified user and ensure it has the following permissions: Modify / Read & Execute / Read / Write.

4.9d I need to temporarily shut down Server

After Server is installed, you can safely shut down the service by following these steps:

1. Click the Windows Start button.
2. Type ‘services.msc’ in the Search field and press Enter.
3. In the Services window, locate and select Alteryx Service in the list of services.
4. Click the Stop link to stop the service.

You may need to refresh the list of services to confirm the Alteryx Service has stopped and it may take up to 30 seconds for Server to completely shut down.

4.10 Log Files

Alteryx Server creates log files and saves them to a default location, or a location set in System Settings. Logs capture warnings and errors and can be used to investigate and diagnose issues. The logging level is set on the Controller screen in System Settings.

Log File Location and Descriptions

FILE	DEFAULT LOCATION	DETAILS
Service logs AlteryxServiceLog.log	C:\ProgramData\Alteryx\Service	Server logs contain communication between components and startup and shutdown of processes on the controller and worker machines.
Gallery logs Alteryx-[year]-[month]-[date].csv	C:\ProgramData\Alteryx\Gallery\Logs	Gallery logs contain Gallery processes and functions, including errors found when running an Analytic App that uses interface tools, and schedule migration records.
Engine logs Alteryx_Log_[number].log	Must be set manually.	Engine logs contain the output of messages created when a workflow runs, as well as the time stamps when tools run in a workflow.
UI error logs (can change) [name].log	C:\ProgramData\Alteryx\ErrorLogs, the file may be located in a sub-folder	The UI error logs contain stack traces for errors.

Use log files

Service and Gallery logs are the primary logs used for investigating issues. There are several basic steps you can take to investigate logs and diagnose issues in Server.

- Locate and open the log in a text editor or Microsoft Excel.
- Search log entries for words such as Error, Alert, and Critical.
- Read the error description.
- Starting from the error, locate the point in the log where Server started ("AlteryxService starting").
- Scan for events before the error occurred to identify potential causes.
- Scan for events after the error occurred to identify potential consequences.

5. Administration

5.1 Administer Gallery

The Gallery is the Server web interface. A Gallery Admin uses the Gallery Admin interface to manage a private Gallery.

After you install and configure Server and enable the Gallery, you can open a browser and go to the Gallery URL set in System Settings in **Gallery > General > Base Address**.

5.1a Log in to the Gallery

The steps for logging in to the Gallery are dependent upon the type of authentication you selected in System Settings when you configured Server settings.

Use Windows authentication

If you configured Gallery to use Windows authentication, when you go to the Gallery URL you may be prompted to enter your domain credentials in order to log in.

1. Go to the URL entered in **Base Address** during configuration.
2. Type your user name in **User Name** and your password in **Password**.
3. Click **OK** to log in.

Use built-in authentication

If you configured Gallery to use built-in authentication, you must take additional steps when you log in the first time to create your Gallery Admin account.

1. Go to the URL entered in **Base Address** during configuration.
2. Click **Sign In**.
3. Complete the Sign Up form using the email address and password entered for the Default Gallery Administrator (System Settings in **Gallery > General > Default Gallery Administrator**).
4. Click **Sign Up**.

5.1b Gallery Admin interface

Once you have logged in to the Gallery, access the Admin interface by hovering over the **Settings** icon and clicking **Admin**.

The Gallery Admin interface consists of these pages from which you can manage your company's private Gallery:

- Subscriptions (Studios)
- Users
- Workflows
- Districts

- Data Connections
- Workflow Credentials
- Jobs
- Media
- Theme
- Pages
- Links
- Permissions
- Notifications

5.2 Diagnostics

The Diagnostics page provides visibility into user and asset information on the Gallery and worker machines in a Server environment.

Use the Diagnostics page to monitor the number of users, assets, collections, studios, credentials, schedules, and jobs on the Server. You can also view the number of worker machines that are connected and identify constraints in resources impacting performance.

The Diagnostics window shows the following static information:

- Apps
 - **Total Apps** – The total number of all versions of workflows, apps, and macros saved on the server, including those that have been deleted.
 - **Published Apps** – The number of workflows, apps, and macros made public in "My Company's Gallery".
 - **Deleted Apps** – The number of workflows, apps, and macros that have been marked as deleted.
- Users
 - **Total Users** – The total number of active and inactive users in MongoDB.
 - **Active Users** – The number of users marked as active.
 - **Disabled Users** – The number of users marked as inactive.
- Collections
 - **Total Collections** – The total number of collections created.
 - **Apps in Collections** – The total number of workflows, apps, and macros shared in all collections. If a workflow is in two collections, it is counted twice.
 - **Users in Collections** – The total number of users in all collections. If a user is in two collections, it is counted twice.
- Server
 - **Studios** – The total number of studios (subscriptions) created.
 - **Credentials** – The total number of credentials created for running workflows.
 - **Schedules** – The total number of schedules created for running workflows that have a valid next run date. Schedules that will no longer run are not included.
 - **Active Jobs** – The total number of jobs that are queued, initialized, or running.

The Diagnostics window shows the following dynamic information:

- Workers
 - Available Workers – The total number of workers communicating with the controller.
 - Worker – The hostname of the worker machine.
 - CPU – The percentage of the current CPU usage for a specific worker.
 - Memory – The percentage of the current memory usage for a specific worker.
- Worker [Host name of the machine]
 - Run Unassigned Jobs? – If Yes, the worker has been configured to run jobs that have not been assigned a job tag.
 - Job Tags – The words added when configuring the worker that can be used to assign a specific worker to run a job. Job tags are selected when a schedule is created or a workflow is run.
 - CPU – The percentage of the current CPU usage for all connected workers.
 - Memory – The percentage of the current memory usage for all connected workers.

Note: CPU and Memory data is not persisted in the database. If the service is restarted, the data is lost.

5.3 Subscriptions (Studios)

A subscription is another name for a studio. A studio allows Designer users to publish and share workflows privately within your organization. Admins can create studios and manage the users and workflows assigned to them.

Each Gallery user automatically gets a Private Studio with their user account. When a user creates a workflow in Designer and publishes it to the Gallery, the workflow is added to the user's Private Studio. Workflows published to the Private Studio are private and can only be seen by other users assigned to the studio. Each studio includes a limited number of user seats. A user can only belong to a single studio at a time.

To go to the page, click **Subscriptions** on the navigation bar.

5.3a Create a new subscription

1. On the **Subscriptions** page, click **Add New Subscription**. Provide required information.
2. In **Contact Name**, type the name of the user who will manage the studio.
3. Click **Subscription Type** and select an option:
 - Free: (Default) Artisans and Members who are part of the studio can run workflows in the Public Gallery.
 - Paid: Artisans who are part of the studio can publish and run workflows in that studio and Members can run workflows.
4. In **Artist Seats**, type the number of Artisan seats available in this studio. Artisans can publish, run, and share workflows in the studios to which an Admin gives them access.

5. In **Member Passes**, type the number of Member seats available in the studio. Members can run workflows in the studios to which they have access. Admins can add a Member to a studio and Artisans can distribute membership to users.\
6. Type a date (mm/dd/yyyy) in **Expiration Date**. This field is required if you select **Subscription Type > Paid**.
7. (Optional) In **Assigned Worker**, select a job tag to have workflows in the studio run on a specific worker. If a job tag is selected on the workflow, it will override the tag assigned in the studio.
8. (Optional) For **API Enabled**, select Yes or No. Access to the Private Server Gallery API is disabled by default. The Gallery API supports the ability to authenticate, list apps, run apps, and retrieve app results using an API Key and Secret from Gallery Settings.
9. (Optional) For **Shared Schedules Enabled**, select Yes to allow users to see the schedules and job results for workflows published by all users in the subscription (studio). Users can edit schedules created by the other users in the studio.
10. (Optional) Click **Set Account** to add Default Workflow Credentials.
11. Click **Workflow Credentials** and select a saved credential.
 - Click OK.
 - Click Save.

The new studio is added to the Subscriptions page. The number of Artisan seats assigned and the total number of Artisan seats available display in the studio box.

5.3b Delete a subscription

Before you delete a studio, remove all users from it. Deleting a studio also deletes the workflows in that studio.

Important: If your Gallery is configured to use Windows authentication, a subscription named **No Name** is created and listed on the Subscriptions page. Do not delete the subscription. Deleting it prevents new users from accessing the Gallery.

To delete a subscription, on the Subscriptions page, find the studio and click  next to the studio name.

5.3c Edit a subscription

1. On the **Subscriptions** page, click the studio name.
2. In **Edit Subscription**, edit subscription details or:
 - Add Artisans and Members to the studio (for Built-in authorization). See and **Gallery** for more on authentication type.
 - Send an email invitation for users to join the studio (for Built-in authorization). See and **Gallery** for more on authentication type.
 - Select a job tag to assign a specific worker to run the workflows in the studio.
 - Move a user to the studio by copying the **Subscription Key** and pasting it in the user's profile.
3. Click **Save**.

5.3d Add a user to a studio

1. On the Edit Subscription page, click Add Artisan or Add Member.
2. Type the user's name.
3. Click a user in the list, or to invite a new user, type the entire email address and click **Invite**.

New users must confirm their email address when logging in to the Gallery for the first time, or an Admin can validate the user's email address from the user's profile.

5.4 Users

On the Users page, add and manage user accounts. User permissions are managed in the user's profile and in the studio to which the user is assigned.

User Permissions: If you configured the Gallery to use Windows authentication, manage user access and permissions on the Permissions page.

To go to the page, click **Users** on the navigation bar.

5.4a User roles

- **Curator (Admin):** Access Admin pages and perform administrative tasks.
- **Artisan:** Publish, run, and share workflows in their studio.
- **Member:** For Built-In authentication: Run workflows in their studio. For Windows Authentication: Run workflows in their private studio and workflows shared with them in collections.
- **Viewer:** Run workflows in the Public Gallery.

5.4b Create a new user

1. On the Users page, click **Add New User**.
2. In **First Name**, type the user's first name.
3. In **Last Name**, type the user's last name.
4. In **Email**, type a valid email address. The user will receive notifications at the address.
5. Complete the user information.
6. For **Curator**, select an option:
 - **No:** (Default) The user is assigned the Viewer role. Viewers can run workflows in the Public Gallery. You can edit the user's role on a screen.
 - **Yes:** A curator is an Administrator. An Admin can perform all administrative tasks.
7. For **Schedule Jobs**, select Yes if the user can schedule workflows to run automatically at a scheduled time.

Note: Workflow scheduling must be enabled on the Jobs page, in order for a user to be able to schedule jobs.

8. For **Prioritize Jobs**, select Yes if the user can prioritize a job based on its importance. When there are multiple jobs in the queue, the job with the highest priority will run first.
9. For **Assign Workers**, select Yes if the user can assign a specific worker to run a workflow.
10. (Optional) In **Subscription Id**, type or paste a studio Subscription Key.
11. If you disabled the Gallery Sign Up form, in **Password**, type a password for the user.
12. Type the same password in **Re-type Password**.
13. Click **Save**.

The new user is added to the Users page. The user's name, email address (for built-in authentication), and the name of the studio they are assigned, as well as icons representing permissions display in the user box. Users can be deactivated, not deleted.

5.4c Edit a user

1. On the **Users** page, click a user's name.
2. Edit user information.
3. Click **Save**.

Edit options:

- Change the user's profile information and image.
- Change the user from a non-Admin to an Admin or in reverse.
- Deactivate a user's account.
- Reset the user's password.
- Move the user to another studio by copying the Subscription Key for that studio and pasting it in the **Subscription Id** field.

5.4d Deactivate a user account

To revoke a user's access to Gallery, deactivate their user account. You cannot delete a Gallery user's account.

1. On the **Users** page, click a user's name.
2. On the **Edit User** page, in **Action > Active** select an option:
 - No: Deactivates the user's account.
 - Yes: Activates the user's account. By default, Yes is selected when you create the user's account.
3. Click **Save**.

5.4e Reset a user password

1. On the **Users** page, click a user's name.
2. Click **Reset Password**.
3. Click **OK**.

The user receives an email with a link to reset their password.

Note: This option is not available if the Gallery is configured for Windows authentication.

5.4f Enable user registration

By default, users are not allowed to sign up for access to your company's private Gallery. To allow users to sign up for your company's private Gallery, select Yes for **Enable user registration**.

Note: This option does not apply if the Gallery is configured for Windows authentication.

When a user clicks **Sign In** on the Gallery, the Sign In area will display, but the Sign Up form will not. When the Sign Up form is disabled, new users must be added by an Admin.

5.6 Workflows

On the Workflows page, add workflows, apps, and macros to the Gallery and manage the run mode and exemptions. Create and apply tags to workflows to improve search results and group similar workflows into districts.

Workflows, apps, and macros can be published to the Gallery, shared with users, and downloaded and opened in Designer. Only workflows and apps can be run in the Gallery.

To manage workflows, click **Workflows** on the navigation bar.

5.6a Add a workflow

1. On the Workflows page, click **Add New**.
2. Find and select the workflow on your computer or a shared location and click **OK**.

The workflow must be saved as a .yxzp file to be uploaded.

3. Click **Close**.

The workflow is added to the Workflows page.

5.6b Add a tag

On the Workflows page, type a tag in **Tag** and click **Add New**.

Select **Admin Only** if you want the tag to only be available to Admins.

5.6c Edit workflow options

1. On the Workflows page, click a workflow name.
2. Edit the workflow description, add a tag, or change the icon image.
3. Click **Save**.

You can also modify:

- **Run Mode:** Determines the level that workflows are permitted to run in the Gallery. Workflows that contain certain tools or access may need to be blocked. The default run mode is selected during server configuration. If a user has a workflow that uses one of

the prohibited tools in a safe manner, they may request an exemption so it can be run in the Gallery and the run mode can be changed for that specific workflow.

- **Unrestricted:** Any workflow can be run.
- **Semi-safe:** Workflows accessing or storing data on non-local drives are blocked from running.
- **Safe:** Workflows accessing or storing data on non-local drives, or using certain tools and events, are blocked from running. The tools and events include: Run Command tool, Download tool, Email tool, R tool, Command event, and Send Email event.

Safe and Semi-safe options can only be used if the **Run As** setting is enabled in System Settings on the Worker Run As screen.

- **Assigned Worker:** Indicates the specific worker to run the workflow. If no worker is assigned on the workflow, the workflow will run on the worker assigned to the studio.
- **Requires Private Data:** Indicates if the workflow requires licensed data to run. Select **Yes**, if the workflow requires licensed data, or **No**, if the workflow does not require licensed data.
- **Private Data Exemption:** An exemption can be given to a workflow with private data so that it can run. Select **Yes**, to allow an exemption, or **No** to deny an exemption.
- **Place in My Company's Gallery:** Indicates if the workflow is shared in your company's Gallery. Select **Yes**, to share the workflow in your company's Gallery, or **No**, to remove the workflow from your company's Gallery. Removing the workflow from your company's Gallery does not remove the workflow from the user's studio.
- **This workflow is ready to be migrated:** Select **Yes** to mark workflows and apps for migration. You can then use an endpoint to move them from one environment into the appropriate subscription (studio) of another environment all at once. This option is only available if the **Enable workflows to be marked as ready for migration to separate environment** option has been enabled in the **Gallery Admin > Workflows page Settings** area.

5.6d Enable users to run workflows

By default, users can only run workflows when they are signed in to the Gallery. To change this setting, select **Yes** for **Enable unregistered users to run Public Gallery workflows**.

This option does not apply if the Gallery is configured for Windows authentication.

5.6e Enable workflows to be migrated

You can manage workflow deployments during development and testing phases by migrating workflows from one Server environment to another using a series of endpoints.

Once you mark workflows for migration, you can then use an endpoint to publish them from the source environment into the appropriate subscription (studio) of the target environment.

1. Enable workflows to be marked for migration.
 - As an admin, click **Workflows** and select Yes for **Enable workflows to be marked as ready for migration to separate environment**.
2. Mark the workflow to be migrated.
Workflows can be marked as ready for migration in two places.
 - As an admin: Click **Workflows**, select a workflow, and select Yes for **This workflow is ready to be migrated**.
 - As a user: Click **Private Studio**, select a workflow, click **Workflow Settings**, and select Yes for **This workflow is ready to be migrated**.
3. Get a list of workflows ready to migrate.
 - This endpoint creates an array of ApplicationIds that are marked as ready to migrate. It takes a comma-separated list of subscriptionIds as a query parameter and returns all workflows marked as ready to migrate under the specific studio(s). If no subscriptionIds are provided then all workflows marked as ready to migrate are returned. This endpoint returns three properties: appId, the currently published revision ID, and the subscriptionID the workflow belongs to.

Environment: Source

Method: GET

`GET api/admin/v1/workflows/migratable/?subscriptionIds={comma separated subscriptionIds}/`

4. Download workflow from source environment.
 - This endpoint downloads the workflow as a .yxzp file. This endpoint takes an appID as a parameter and downloads the entire workflow as a package.

Environment: Source

Method: GET

`GET api/admin/v1/[appID]/package/`

5. Publish workflow in target environment.
 - This endpoint publishes the downloaded workflow to the target environment.

Environment: Target

Method: POST

Arguments:

- **file** (string - required): The filename of the new workflow.
- **name** (string - required): The actual workflow name of the new workflow.
- **owner** (string - required): The owner of the new workflow that is migrated. The email address must exist in the Target system.
- **validate** (boolean - required): Whether or not the workflow should be validated upon migrating to the Target system.
- **isPublic** (boolean - required): Whether or not the workflow is set to public and will be shown in “My Company’s Gallery” on the Target system.

- **sourceId** (string - optional, but still send in an empty string ""): This is the Source environment appId of the workflow to be migrated. If a workflow with the same sourceId already exists then this will replace that workflow in the Target environment, otherwise a new workflow will be generated.
- **workerTag** (string - optional, but still send in an empty string ""): You can add a worker tag to the workflow to have a specific worker to run the workflow.
- **canDownload** (boolean - required): Whether or not the workflow can be downloaded by other users in the Target system.

POST api/admin/v1/workflows/

6. Reset migration option on workflow in source environment.

- This endpoint toggles the **This workflow is ready to be migrated** option on a specific workflow back to false in the source environment after the workflow has been successfully published in the target environment.

Environment: Source

Method: PUT

PUT api/admin/v1/workflows/migratable/{appID}/

5.7 Districts

On the Districts page, create new districts and modify the district name, description, and icon. Use districts to group and categorize shared workflows so that users can easily find them.

To go to the page, click **Districts** on the navigation bar.

1. On the **Districts** page, click **Add New**.
2. On the **Create District** page, in **Title**, type the title to display on the district page.
3. In **Nav Link**, type a name for the link users click to view the district.
4. Click **Tag** and select the tag applied to the workflows you want to display in the district.

Note: Only workflows with the selected tag appear in the district.

5. In **Description**, type informative text, like details about the workflows in the district, to display on the district page.
6. Click **Save**.

5.8 Data Connections

On the Data Connections page, create and share data connections with users in your company to use in Designer.

To go to the page, click **Data Connections** on the navigation bar.

5.8a Add a connection

1. On the Data Connections page, click Add New.
2. Click Connection and select a connection type:

Microsoft SQL Server

1. In Name, type a connection name.
2. Type the SQL database host name in Host.
3. Select an authentication option:
 - Use Windows authentication: Use the default credentials or enter specific credentials for the data connection.
 - Use SQL Server authentication: Enter server credentials. Pipe characters are not supported in passwords.
4. (Optional) Click Test Connection. A connection verification or failure message displays. A connection can be saved if the test fails.
5. If you selected Use Windows authentication, select an option, then click Test:
 - Default: Use the default credentials for data connection testing.
 - Use specific test credentials: Enter specific credentials for the data connection.
6. (Optional) Click Database to view a list of databases on the server. A list displays only if the connection test was successful.
 - Click a database to set it as the default database for this connection.
 - Click Type a database name and type the name of database on the server.
7. Click Save.

Oracle

All fields are required. After you complete required information, test the connection.

1. In Name, type a connection name.
2. In Host, type the Oracle server host name or IP address.
3. Type the name of the TNS-based application on the network in Service Name. This information is optional if only one service exists.
4. In Port, type the network listening port for the Oracle database. The default is 1521.
5. In Username and Password, type the user name and password for the data connection. Pipe characters are not supported in passwords.
6. (Optional) Click Test Connection. A connection verification or failure message displays. A connection can be saved if the test fails.
7. Click Save.

Other

1. In Name, type a name for the connection.
2. Paste the connection string in Connection String.
3. Click Save.

5.8b View saved connections on the Data Connections page

Connection tests on a multi-node configuration of Alteryx Server

A multi-node configuration of Server consists of a controller and two or more worker machines. In this configuration, connection testing tests the connection on the controller machine, not the individual worker machines.

Any of the available worker machines could be used to run a workflow. To ensure that the connection will work on any of the machines, confirm that the same database drivers and driver versions are installed on each machine.

Failed connection tests

A connection can still be saved if the connection test fails. Tests may fail for various reasons including:

- You do not have access to the server or database. For example, only the connection end user may have authority to access the server or database.
- Network security prevents you from connecting to the server or database.

5.8c Share a connection

After you create a Data Connection, return to the Data Connections page to share the connection with users to use in Designer.

1. On the **Data Connections** page, click the name of the connection you want to share.
2. In the **Edit Data Connections** window, click **Users and Studios**.
3. Type the name of a user or subscription. A list appears as you type.
4. Select a user or subscription.

For Microsoft SQL Server connections, confirm that the user has the same, or a more recent version of Microsoft SQL Server Native Client installed on their computer.

To revoke a user's access to a connection, click X next to the user's name.

The user or studio you share the connection with are listed on **Edit Data Connections > Users and Studios**.

5.8d Edit or delete a connection

To edit a connection:

1. On the **Data Connections** page, click a data connection.
2. In the **Edit Data Connections** window, edit information in **Name** or **Connection String**.
3. Click **OK**.

To delete a connection, on the **Data Connections** page, click  next to the connection name.

5.8e Troubleshooting

Am I required to test every data connection?

No, you can create and share a data connection without testing it. You can also save a data connection if it fails a connection test.

Why did my connection test fail?

- Alteryx Server may not be able to reach the database server host. While logged in to the server on which Server is installed, try pinging the database server host to ensure that there is network connectivity.
- The credentials for this database may be invalid or may not have the appropriate permissions. Contact the database administrator.
- The database may be offline. Contact the database administrator to confirm that the database is online and working as expected.
- You may be running a multi-node configuration of Server.

What are my default credentials for data connection testing?

You can use Windows Authentication or SQL Server authentication to create a Microsoft SQL Server connection. For Windows Authentication, you can use default credentials, or specific credentials for the data connection. Default credentials can be set in multiple locations. The Gallery uses default credentials, looking for available credentials in this order:

- System Settings > Worker > Run As
- Windows Server Manager > Alteryx Service Properties > Log on as: This account
- Local machine

The connection test fails if credentials are invalid.

Why can't a user see the data connection I created and shared?

There are multiple reasons why a user may not be able to see a Gallery connection in Designer. Try one of these recommended actions to resolve the issue.

- Confirm that the connection was shared with the user. Edit the data connection and look for the user in the Users and Studios list.
- Confirm that the email address the user uses to log in to the Gallery is the same address you are using to share the connection. Ask the user to remove the Gallery from Designer and re-add it using the correct credentials.
- If you are sharing the connection to a studio, confirm that the user has access to that studio.



What does: “Error [IM002] [Microsoft][ODBC Driver Manager] Data source name not found and no default driver specified,” mean?

A user may receive this error in Designer or Gallery when attempting to use a data connection created on a machine that uses a different version of a Microsoft SQL Server driver than the machine on which the data connection is being used.

The machine must have the same, or a more recent, version of a Microsoft SQL Server driver. For example, the error message displays when the machine on which the data connection is being used uses version 10.0 of a Microsoft SQL Server driver, and the machine on which the data connection was created uses version 11.0.

Why can't a user run a workflow in Gallery that uses a shared data connection?

The user who created the workflow in Designer and saved it to the Gallery, may no longer have permission to use the shared data connection.

- Open the Alteryx Service Log (AlteryxServiceLog.log). The Service Log is saved to a location set during configuration.
- Search for the time stamp when the error occurred and read the error description.
- If the description states "Unable to find permission for data connection: [data connection name]," the user does not have access to the data connection.
- Edit the data connection and share it with the user.

Why do shared data connections only show in Designer for standard connections?

In-DB connections are not supported using data connections shared via the Gallery.

5.8f Enable the Gallery REST API

Access to the Alteryx Gallery REST API can be enabled or disabled for each subscription (studio) by the Gallery Administrator.

To enable/disable API access for a subscription:

- Log in as a **Gallery Administrator**
- Enter the **Admin** page
- Click the **Subscription** page on the left
- Choose the subscription to be updated

- Review the API Enabled option and toggle your desired setting

Edit Subscription

Private Studio Name	John Smith's Studio
Company	
Contact Name (required)	John Smith
Address	
Address (Line 2)	
City	
State	
Postal Code	
Subscription Type	Paid
Artisan Seats (required)	1
Member Passes (required)	0
Expiration Date (required)	2050-10-10
Assigned Worker	Unassigned
API Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No
Shared Schedules Enabled	<input checked="" type="radio"/> Yes <input type="radio"/> No

Once enabled, users can obtain their API Key and Secret from their profile. To do so, follow the steps below:

- Log in to the **Gallery**
- Hover over **username** and click **Settings**
- Click on the **Keys** tab

Use the Subscription API to:

- Find workflows in a subscription
- Return questions in a specified analytic app
- Queue a job, view its current state, or view the output

The Gallery also includes an admin API. Only Gallery admins (Curators) will be able to access this API using the separate admin API credentials found on the same page as the Subscription API credentials.

Use the Admin API to collect data from your private Gallery, such as:

- Data connections created in the Gallery
- System data connections created on the server on which Server is installed
- Workflows
- Package of a workflow or application
- Find collections, insights, schedules, subscriptions, users, and workflows
- Audit logs
- Migrate workflows between development environments

Click [Visit the interactive API documentation](#) to view interactive API documentation created to help developers learn elements of the API and view example code in various programming languages. There are interactive examples for both Subscription and the Admin APIs.

5.9 Workflow Credentials

On the Workflow Credentials page, manage how workflows are run in the Gallery by setting default credentials at the subscription level, requiring users to enter their credentials, or allowing users to select credentials options when saving a workflow in Designer.

To go to the page, click **Workflow Credentials** on the navigation bar.

5.9a Select the credentials setting

Credentials setting for workflows displays the current workflow credentials setting. The default option is **Use default credentials**. To change the setting, click **Change** and select an option:

- **Use default credentials:** Runs all workflows using the default Run As account, which defaults to the LocalSystem account. The Run As account may be defined on any of the following process levels, listed in order of precedence:
 - Per studio subscription via Default Workflow Credentials
 - Per Server Worker node by adding a Run As account via Alteryx Server System Settings
 - Per Server via modification to Alteryx Service with the Windows Services Console
- **Require user credentials:** Prompts users to enter their credentials when they run the workflow.
- **Allow users to select credentials options:** Allows users to select credentials requirements when saving a workflow in Designer to a private Gallery. Options include:
 - User is not required to specify credentials
 - User must specify their own credentials
 - Always run this workflow with these credentials

Note: The workflow credentials setting you select may require additional user permissions.

After you select a credentials setting, changing the setting may prevent users from running workflows and disable schedules.

Changing the credentials setting in these ways automatically disables schedules in the Gallery:

- Use default credentials to **Require user credentials**
- Require user credentials to **Use default credentials**
- Allow users to select credentials to **Require user credentials**, if users did not create schedules with credentials
- Allow users to select credentials to **Use default credentials**, if users created schedules using their credentials

5.9b Create a new workflow credential

1. On the Workflow Credentials page, click **Add New Credentials**.
2. Type a user's user name and password in **Username** and **Password**.
3. Click **Save**.

The Gallery validates credentials using active directory. If the credentials are invalid or do not exist, an error message will display.

5.9c Share workflow credentials

1. On the Workflow Credentials page, click a credential name.
2. Click **Users and Studios**.
3. Search for and select a user or subscription to share the credentials with.

5.10 Jobs

The Jobs page lists all scheduled and spontaneously run workflows (jobs). On the Jobs page, you can enable workflow scheduling in Gallery; this allows users to schedule workflows to the Gallery while working in Designer or Gallery. You can also view the status of all jobs running in Gallery and manage scheduled jobs. Jobs does not display jobs running in Designer.

To go to the page, click **Jobs** on the navigation bar.

Jobs contains three tabs:

1. **Status:** Displays all workflows that are currently running and queued in your Gallery. Jobs may be scheduled or run spontaneously. Based on your configuration of Server, jobs are run one at a time, or simultaneously. See **General**.
2. **Scheduled Workflows:** Displays all workflows scheduled to run in your Gallery. Edit, disable, or delete schedules in this tab.
3. **Migrate:** Displays schedules of workflows saved to a controller. Select schedules to migrate from the controller to the Gallery and assign a Gallery user to own each schedule.

5.10a Enable users to schedule workflows

By default, workflow scheduling is disabled. To enable users to schedule workflows to run in the Gallery, select **Yes**, for **Enable users to schedule workflows**.

5.10b Cancel a job

1. On the **Status** tab, find the job you want to cancel.
2. Click  next to the job you want to cancel.

The job is removed from the queue. Canceling a scheduled job cancels that occurrence. The job will run again at the next scheduled time.

5.10c Edit a schedule

1. Click the **Scheduled Workflows** tab.
2. Click  next to the schedule you want to edit.
3. In the **Edit Schedule** window, edit schedule details. All schedule details, except workflow credentials, are editable.
4. Click **Done**.

5.10d Delete a schedule

1. Click the **Scheduled Workflows** tab.
2. Click  next to the schedule you want to delete.

The schedule is removed from the list.

5.10e Migrate schedules to the Gallery

The Migrate tab displays schedules of workflows that were scheduled in Designer to a controller. The scheduled jobs can be migrated to your private Gallery. Each schedule must be assigned to a Gallery user who will become the schedule owner.

Important: Schedules that were created to run in the scheduled workflow's original location on disk are not available for migration. Only schedules that were created to use a copy of a workflow saved to the Scheduler DB are available for migration.

Before migrating schedules to the Gallery, consider these recommendations:

- Create a back-up of your MongoDB database. Deleting a schedule on the Migrate tab removes the schedule from the page and deletes it from the controller.
- If the current Gallery credentials setting is **Require users to enter credentials**, schedules will fail to run when they are migrated. Migrate the schedules and ask the schedule owners to add credentials to the schedules. See **Workflow Credentials**.
- Migrate schedules from a single Gallery administrator (curator) user account at a time.
- Migrate all schedules for a single workflow at the same time to prevent multiple copies of the workflow from being added to the Gallery.
- Migrate schedules at a time when scheduled and ad hoc jobs are not running because schedule migration is queued after those jobs.
- Workflows saved as a macro (.yxmc) cannot be run in the Gallery; therefore schedules of those workflows cannot be migrated to the Gallery. However, schedules of workflows containing macros can be migrated to the Gallery.

To migrate schedules:

1. Click the **Migrate** tab.
2. Select the **check box** next to one or more schedules or select the **check box** next to **Schedules** to select all schedules displayed on the current page.
3. In **Search**, select or type the name of a Gallery user to own the selected schedules.
4. Click **Migrate**.

When a schedule is successfully migrated, a copy of the schedule and a copy of the workflow are saved to the server. The schedule owner can view a copy of the schedule on the Schedules page and a copy of the workflow their Private Studio. If a schedule fails to migrate, check the Gallery logs to investigate why the failure occurred.

5.11 Media

On the Media page, upload banner ads and other images and files to the Gallery.

To go to the page, click **Media** on the navigation bar.

5.11a Add a banner ad

1. On the Media page, click **Banner Ad** and **Add New**.
2. Click **Choose a File** and select an image file.
3. (Optional) Click .
 - In **Link**, paste a URL.
 - In **Hover** text, type text that will appear on hover.

5.11b Add an image

1. On the Media page, click **Uploads** and **Upload a File**.
2. Click **Choose a File** and select an image file.
3. In **Title**, type a title for the image and click **Save**.

To delete a banner ad or image, click next to the image.

5.12 Theme

On the Theme page, brand the Gallery with your organization's name, logo and colors. If you choose not to customize the Gallery, the default theme is used.

To go to the page, click **Theme** on the navigation bar.

1. On the Theme page, type your company name in **Gallery Name**.
2. Click **Upload a logo**, then click **Browse** and select an image file.
3. Click a color box to select a color for the Header, Body, Navigation, Footer, Search and Button element.
4. Click **Save**.

Refresh the page to see your changes.

5.13 Pages

You can create new pages to add to your private Gallery. Pages can contain text, hyperlinks, images, and tables. The page will also have a unique URL. Create and save a page as a draft or publish it for live use. Use filters on the Pages page to sort and locate pages.

To go to the page, click **Pages** on the navigation bar.

5.13a Create a page

1. On Pages, click Add New.
2. Type a title for the page in Title.
3. Permalink displays the auto-assigned page URL based on the page title.
4. (Optional) Type a description of the page in Excerpt.
5. Click Status and select an option:
 - Draft: Create a page without making it live for use.
 - Publish: Create and make a page live for use.
6. In Body, type page text and add elements to the page.
7. Click Save.

5.13b Edit or delete a page

To edit a page:

1. On Pages , use filters to locate the page.
2. Click the page title.
3. On Edit Page, edit the page details and body.
4. Click Save.

To delete a page:

On the Edit Page, click Delete, or on Pages, use filters to locate the page and click  next to the page.

5.14 Links

On the Links page, you can add a link to new pages to the site or a website. After you create page, add a link to the page in the site header or footer. Links are visible to all users.

To go to the page, click **Links** on the navigation bar.

To add a link:

1. On the Links page, in Header or Footer:
 - Page: Select a Gallery page to link to.
 - URL: Type a website URL.
2. In Title, type a title for the link.
3. Click Add New.

Depending on where you added the link, users can click  in the page header or Looking for More at the bottom of the page to view the link.

To delete a link, click  next to the link on the Links page.

5.15 Permissions

If you configured the Gallery to use Windows authentication, manage user access and permissions on the Permissions page. See [Authentication](#).

To go to the page, click **Permissions** on the navigation bar. This option is only available if your Gallery is configured to use Windows authentication.

5.15a Set default permissions for users

1. On the Permissions page, click Default Permissions and select an option:
 - **No Access:** Cannot access anything on the site.
 - **Viewer:** Can run workflows in the Public Gallery. A Viewer automatically becomes a Member, which means they can run workflows in their private studio and workflows shared with them in collections.
 - **Artisan:** Can publish, run, and share workflows.
 - **Curator:** Can access the Admin page.

5.15b Set permissions for users and groups

1. On the Permissions page, type the name of the user or group in Search and select it as it appears in the list.
2. In the Add Permission window, select a permission type and click OK.

The user is added to the Permissions page. Edit or delete permissions as needed.

5.16 Notifications

The server can send email notifications for various events such as registering a Gallery account, changing a password, or sharing a workflow. Manage email notification types, message text, and email groups, on the Notifications page.

To enable email notifications, enter the SMTP server information in System Settings on the **Gallery > SMTP** screen.

To go to the page, click **Notifications** on the navigation bar.

5.16a Edit System Message

You can edit the system message that appears in the Gallery. You might use this message to notify users of changes or system downtime. The message appears in a banner at the top of the Gallery browser window and can be closed by clicking **OK**.

To edit the system message: On the Notifications pages, in **System Message**, type a message.

5.16b Edit emails

Emails contain default messages that you can edit. The email subject line and body contain content variables that auto-insert text based on your profile. The variable type can be edited, but not the auto-inserted text.

1. On the Notifications page, click an email in the list.
2. To enable the email, in **Email Status**, click **Enabled**.
3. In **Send email as**, click one of the following:
 - **HTML**: Use to include images and formatting.
 - **Plain Text**: Use for plain text messages without formatting or images.
4. In **Subject**, type edit the default subject of the email.
5. (Optional) To change the content variable, double-click the highlighted [Studio Owner Name], and click **Placeholder Name**.
 - Select Studio Owner URL, Gallery URL, or Studio Owner Name.
 - Click **OK**.
6. In **Body**, type the message.
7. (Optional) Change the content variable, if desired.
8. Click **Group** to select an email group.
Manage groups on the Notifications page.
9. Click **Save**.

5.16c Emails

- Workflow added to collection
- Workflow updated in collection
- Collection shared with user
- Membership granted
- Artisanship granted
- Workflow shared
- Curator created a new license user account
- Curator created a new user account
- License created
- Membership expired
- Membership revoked
- Validation email
- Password changed
- Password reset
- Pending user workflow added to collection
- Pending user collection updated
- Pending user invited to a collection
- Pending user granted membership
- Pending user granted artisanship

- Non-user invited to create a new account
- Workflow shared link
- License Created Notification
- Curator created a new active user account
- Collection Sharing Granted
- Collection Sharing Revoked
- Collection cleanup error

6. Glossary

TERM	DEFINITION
Admin	A user who has access to the Admin page on the Gallery.
Designer	A desktop application that provides an intuitive drag and drop user interface for authoring and executing analytic applications.
Alteryx Engine	Consumes Alteryx workflows and provides high-speed data processing and analytics functionality.
Alteryx Gallery	A cloud- or self-hosted application for publishing, sharing, and executing workflows.
Alteryx Service	A scalable service supporting workflow execution and scheduling. It uses a Worker-Controller architecture which allows it to be deployed across multiple servers, where one server acts as the Controller and the others perform the work.
Artisan	A user who can publish, run, and share workflows on the Gallery.
Authentication Type	Alteryx Server supports a built-in authentication scheme, integrated Windows authentication (with or without Kerberos), and SAML.
Base Address	The URL that users will use to go to the Gallery. It is also used in the email content when links to workflows are made available and it is what the underlying WCF technology will use to see if it needs to handle requests coming in.
Built-in Authentication	Allows users to access the Gallery using an email address and password.
Controller	Responsible for the management of the service settings and the delegation of work to the Workers. In a typical deployment there would be only one machine enabled as the Controller and it would be set up to act as a Worker as well.
Controller Token	The secret auto-generated key that is used to configure a Worker machine to communicate with the Controller machine.
Default Gallery Administrator	The person who is set up to be the initial Gallery Administrator and given permission to access the Gallery and manage studios, users, and workflows. If using <i>Built-in Authentication</i> , it is the email address and password of the site administrator. If using <i>Windows Authentication</i> , it is the user name of a domain user.
Environment	A component of System Settings that includes the settings for identifying the type of configuration for the machine, as well as a global workspace for other components to use as a root location for file storage.
Logging	Information about certain system events, such as services being started, shut downs, execution requests, etc, are logged and stored.
Member	A user who can run workflows in Studios and Collections they have been added to.
Persistence	A part of the Alteryx Service that stores information critical to the functioning of the service, such as Alteryx application files, the job queue,

	and result data. There are two different persistence mechanisms: SQLite and MongoDB.
Predictive Tools	A set of tools that use R, an open-source code base used for statistical and predictive analysis. Selecting to install predictive tools during the server installation will launch the Alteryx R Installer and install the R program and the predictive tools that use R as part of the Designer.
Quality of Service	The Quality of Service (QoS) setting is used to manage resource allocation in an environment where multiple workers are deployed by restricting which jobs will be run by each Worker. The QoS value for a Worker can be set higher for specific types of jobs to allow Worker resource to be reserved for higher priority requests.
SAML Authentication	Allows users to access the Gallery with Identity Provider (IDP) credentials.
Scheduler	Allows users to schedule workflows, to execute at predetermined times or at specific intervals. The Scheduler connects to either a local or remote instance of the Alteryx Service where the job will be queued for execution at the appropriate time.
SMTP server	The Server sends out email notifications for various events, such as registering your Gallery account, changing your password, or sharing a workflow. To enable email notifications from the Gallery, enter the From Email, Host, Port, Username, and Password information for your SMTP server in the server configuration windows. (The From Email, Host, and Port are required, while Username and Password are only required if the SMTP server configuration requires it.)
System Settings	The various settings, including the Environment, Controller, Worker, Gallery, and Engine components that can be configured after the Alteryx Server has been installed.
Viewer	A user who can run workflows in the Public Gallery
Windows Authentication	Allows users to access the Alteryx Gallery with internal network credentials.
Windows Authentication with Kerberos	Allows users to access the Gallery with internal network credentials using Kerberos authentication protocols.
Worker	The Alteryx Service Worker is responsible for executing analytic workflows. There must be at least one machine enabled as a Worker in order to execute applications through the Service and you configure the same machine to be both the Controller and a Worker. The actual number of Workers needed will depend upon the required performance for the system.