



StreamServe Persuasion SP5 StreamStudio

Administrator's Guide

Rev B

StreamServe Persuasion SP5 StreamStudio Administrator's Guide
Rev B
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About StreamStudio

StreamStudio contains web applications which provide an interface to the StreamServer applications, repositories, and user directories.

For example, via this interface a StreamStudio user can:

- Manage content in business documents by writing personalized texts and adding images.
- Select a business document that was processed by a StreamServer application and re-send this document via a suitable channel, for example email or printer.
- Select distribution method, for example email or fax, for a specific document type sent to a specific user.

About this document

This document gives an overview of the StreamStudio web applications, the involved components, and the tasks to be carried out before using StreamStudio in a business environment. Any tasks and configurations covered in other documentation are clearly referenced to.

In this section

- [StreamStudio web applications](#) on page 6.
- [Component overview](#) on page 7.
- [StreamStudio user profiles](#) on page 10.
- [StreamStudio communication](#) on page 12.
- [StreamStudio security](#) on page 13.
- [StreamStudio administrator's tasks](#) on page 14.

StreamStudio web applications

The StreamStudio portal includes the following web applications:

- **Composition Center** – For adding messages to output documents. The message can include dynamic texts (for example, customer name) and images based on different conditions.
- **Collector** – For viewing, re-sending, and deleting stored documents. The user can also add annotations to stored documents.
- **Reporter** – For viewing, reprocessing, and deleting jobs.
- **Dispatcher** – For distributing documents via different channels based on user preferences.
- **Composer** – For adding short messages to the documents based on different conditions.
- **Customers** – For administering external users and associating roles with external users.
- **Administrator** – For administering internal users and associating roles with internal users.

For information on how to use the StreamStudio web applications, see the *StreamStudio* online help.

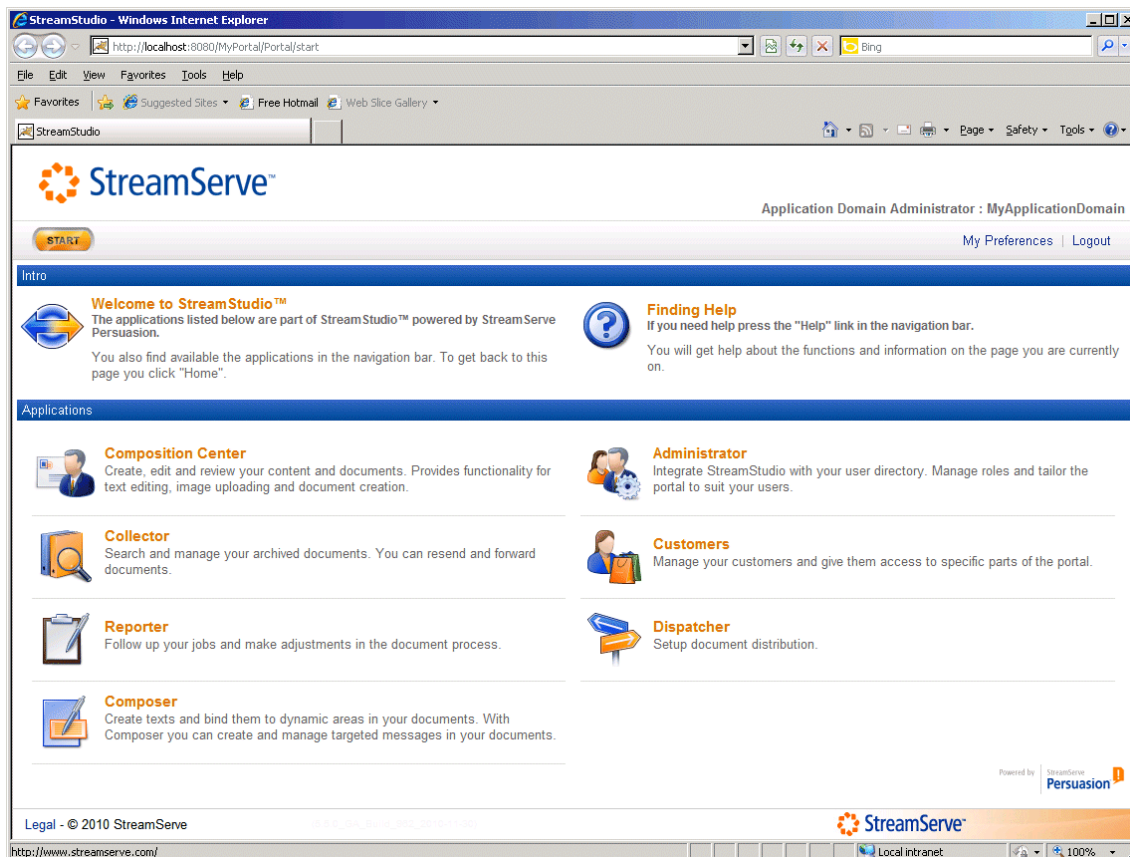


Figure 1 StreamStudio web portal

Component overview

This section gives an overview of the basic components used when running StreamStudio. For detailed description of each component and for a complete overview of all components involved when running the StreamServe software, see the *Control Center* documentation.

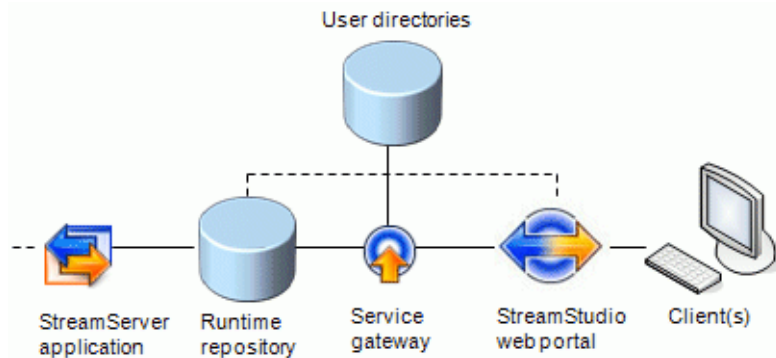


Figure 2 StreamStudio components

StreamStudio web portal

The StreamStudio web portal contains the StreamStudio web applications. The web applications are based on Java code and must be deployed to a Java application server, for example Apache Tomcat.

User directories

The user directories contain user profiles. The user profiles are used to access the StreamStudio web applications via the web portal. The user directories are connected to directory servers, which must support the LDAP protocol.

Note: You can also access StreamStudio without a user directory. For more information, see [StreamStudio user profiles](#) on page 10.

Runtime repository

The runtime repository stores jobs and job related information. The repository also stores security profiles and web access information for the StreamStudio web applications.

The runtime repository includes the following repositories:

- **Queue** – Stores jobs and job information in queues.
- **Security** – Stores security settings, for example StreamStudio roles for the user profiles in the user directory.
- **Web Access** – Stores access information for the roles, for example which web applications and documents each role can access.

StreamServer application

The StreamServer application runs an exported Design Center Project. Each Design Center Project requires a separate StreamServer application.

Service gateway

The service gateway is used to access the user directories, the runtime repository and the StreamServe archive from StreamStudio.

When a user logs on to StreamStudio, the service gateway authenticates the user credentials in the user directory and in the Security repository. The service gateway then gives the user access to certain web applications and documents as defined in the Web Access repository.

Note: Some web applications, for example Administrator and Reporter, communicate directly with the runtime repository, without passing the service gateway. However, to enable log on to StreamStudio, a service gateway is still required.

Collector specific components

To run StreamStudio Collector, you need a StreamServe archive and an Archiver application in addition to the basic StreamStudio components.

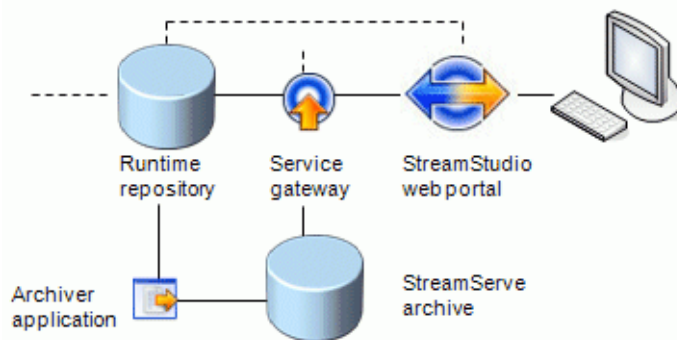


Figure 3 StreamStudio Collector components

StreamServe archive

The StreamServe archive stores output documents and related metadata that are accessed from the Collector web application. When a user searches for documents in the StreamServe archive, all requests and responses are sent through the service gateway.

When a user stores searches, these are stored on the runtime repository.

Archiver application

The Archiver application transfers output documents and metadata from the runtime repository to the StreamServe archive according to a specified schedule.

Composition Center specific components

To run StreamStudio Composition Center, you need a web content repository in addition to the basic StreamStudio components.

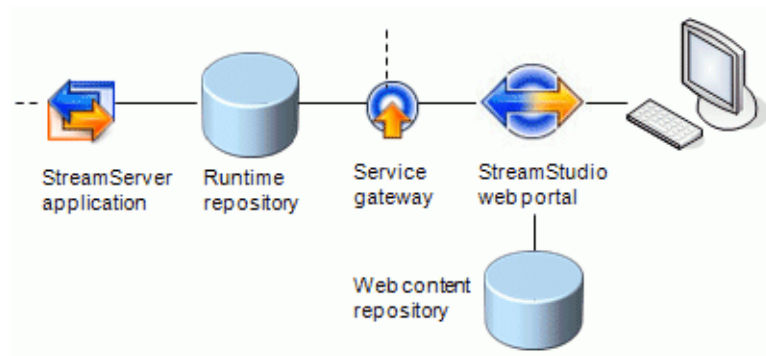


Figure 4 StreamStudio Composition Center components

The web content repository is used by the Composition Center web application for storing document definitions, resources, and rules during the document design phase.

When a document definition is approved, the document definition together with its resources and rules is copied from the web content repository to the runtime repository, where it is available to the StreamServer application that produces the document.

HTTP web server as front-end proxy

You can use an HTTP web server as a front-end proxy between the clients and the Java application server on which StreamStudio runs.

For example, if you have many concurrent users, the web server may enhance performance. The web server can also be used to provide static content, such as illustrations, which it normally does faster than the Java application server.

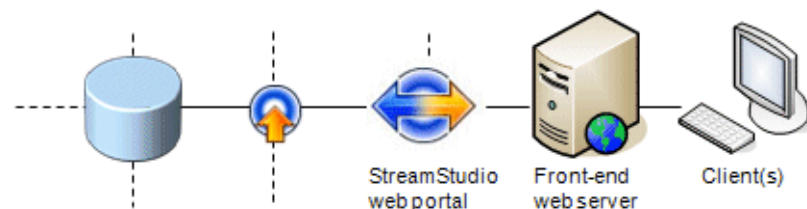


Figure 5 Client(s) and web server when running StreamStudio

StreamStudio user profiles

StreamStudio user profiles are used to access the StreamStudio web applications via the StreamStudio web portal.

The StreamStudio user profiles are stored in user directories. However, you can also access StreamStudio without a user directory. For example, if the company is small and does not have a user directory, or if you want to demonstrate StreamStudio without a directory connection. In this case, the only available user is the application domain administrator. See *Application domain administrator with System Manager role* below.

User directories

Most often, the StreamStudio user profiles are stored in user directories, connected to directory servers. The directory servers must support the LDAP protocol. You can either use Microsoft Active Directory or a generic LDAPv3 compliant directory, for example OpenDS.

Internal and external users

The users are either internal users (for example, company employees), or external users (for example, company customers). StreamStudio can authenticate users from a single user directory (with internal and external users in separate locations) or from multiple user directories (with internal and external users in different user directories).

You configure the user directories for the internal and external users in Control Center. For more information, see the *Control Center* documentation.

Associating users with roles

You must associate the user profiles with roles, for example administrator, call center personnel, etc. Depending on role, the users have different access rights to the StreamStudio web applications and to stored documents.

For internal users, you define the roles using the Administrator web application. For external users, you define the roles in the Customers web application. For more information, see the *StreamStudio* online help.

Defining access for roles

Each role has either no access, full access, or basic access to the StreamStudio web applications. The default basic accesses to the web applications are listed in the *StreamStudio* online help.

You can modify the basic accesses using the Administrator and Customers web applications. For example, you can define a role that only has access to the Collector web application and to invoices sent to certain customers. For more information, see the *StreamStudio* online help.

Application domain administrator with System Manager role

To define roles and accesses, you must log on to the StreamStudio web portal.

The first time you log on, you must log on as the StreamServe application domain administrator. This administrator is defined in Control Center, and is by default assigned the System Manager role in StreamStudio. For more information, see the *Control Center* documentation.

When logged on as the application domain administrator, you can define new roles. For example, you can define a role with StreamStudio System Manager rights and assign this role to a user in the user directory.

Note: The application domain administrator can be used as an emergency user, since the administrator is available even if all other users are locked out.

StreamStudio communication

StreamStudio uses web services (WS) and JDBC when communicating with the service gateway, the runtime repository, and the web content repository. The service gateway, in turn, uses ODBC when retrieving data from the runtime repository and from the StreamServe archive.

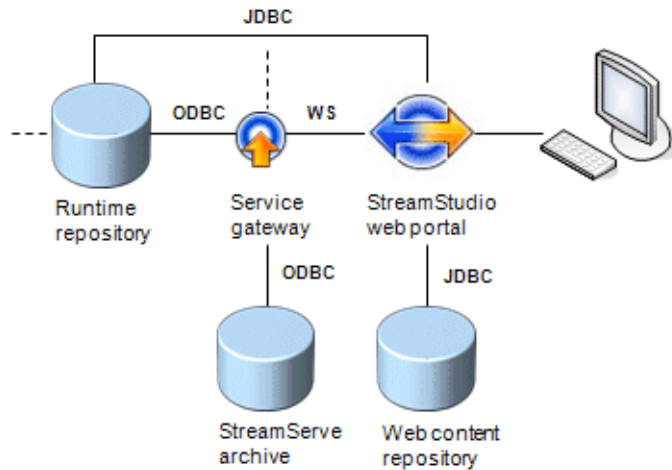


Figure 6 StreamStudio communication

Web services

Web services are used when StreamStudio communicates with the service gateway.

You configure the service gateway web services in Control Center. Some additional configurations can be done in the property file for the web services (`ws.properties`). For example, in this file you can load balance two service gateways. See *Advanced StreamStudio configurations* on page 21.

JDBC

StreamStudio uses JDBC stored procedures when retrieving data directly from the runtime repository and the web content repository. The required drivers (JTDS driver for Microsoft SQL Server and DataDirect JDBC for Oracle) are provided by the StreamStudio setup.

The property files for SQL Server (`sql_jdbc.properties`) and Oracle (`oracle_jdbc.properties`) are pre-configured and installed together with the StreamStudio setup. Normally, you do not have to edit these files. However, if you set up StreamServe for Oracle Real Application Clusters (RAC), you must generate a new `oracle_jdbc.properties`. (To set up StreamServe for Oracle RAC, there are also some other configurations that must be carried out. For more information, see the *Cluster Guidelines*)

StreamStudio security

There are several ways in which you can enhance the security of the StreamStudio installation. For example, you can use web service security and set up Trusted Communication Channels (TCC). You can also run in isolated environments with firewalls in between.

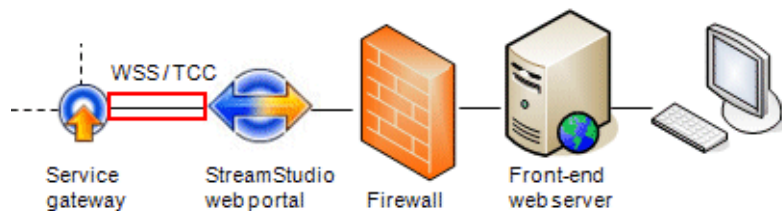


Figure 7 Example, web service security (WSS), TCC, and firewall

Web service security

In Control Center, you can specify that all web service requests from StreamStudio to the service gateway are authenticated with the credentials of the user logged in to StreamStudio. For more information, see the *Control Center* documentation.

Trusted Communication Channel (TCC)

If you use web service security, it is recommended to encrypt the communication between StreamStudio to the service gateway by configuring a Trusted Communication Channel (TCC). For more information, see the *Security* documentation, available at StreamShare.

Firewalls

You can also enhance security by using isolated environments with firewalls in between. The company environment decides where to put the firewalls. For example:

- If a company has an existing front-end web server, you can use a separate computer for the Java application server (on which StreamStudio runs) and install a firewall in between.
- If a company exposes the web services, a firewall between the Java application server and the service gateway may be suitable.

Note: If you combine a firewall between the Java application server and the service gateway with a TCC, you must make sure the SSL packages are sent without parsing.

HTTPS for maximum security

For maximum security, you should use HTTPS for the end-users that access StreamStudio. This is configured in the Java application server. For SAP NetWeaver, see the *SAP NetWeaver Application Server Java Security Guide*.

StreamStudio administrator's tasks

This section gives an overview of the StreamStudio specific tasks that must be carried out before StreamStudio can be used in a business environment.

StreamStudio tasks

- 1 Install StreamStudio. See [StreamStudio installations](#) on page 15.
- 2 Carry out the required Project preparations in Design Center. See:
 - [Composition Center](#) documentation.
 - [Collector](#) documentation.
 - [Reporter](#) documentation.
 - [Dispatcher](#) documentation.
 - [Composer](#) documentation.
- 3 Configure the StreamStudio environment in Control Center. For example, configure the application domain for StreamStudio, deploy the StreamStudio web application archive file to the Java application server, etc. See the [Control Center](#) documentation.



Running in isolated environments

If Control Center and Framework is installed on a different computer than the Java application server, you can still configure the StreamStudio environment in Control Center. Then you must manually copy the web application archive file and the web portal configuration file to the computer where the Java application server is installed. See [Running in isolated environments](#) on page 19.

-
- 4 Carry out any advanced configurations not covered in Control Center. See [Advanced StreamStudio configurations](#) on page 21.
 - 5 Run StreamStudio (access and log on to StreamStudio, check status of involved services, etc.). See [Running StreamStudio](#) on page 25.
 - 6 Associate the users in the user directory with roles and configure accesses for the roles. See the [StreamStudio](#) online help.

StreamStudio installations

The StreamStudio web applications are based on Java code and must be deployed to a Java application server. The application server executes distributed application code, such as Java beans and servlets.

Deploy StreamStudio from Control Center

You deploy the StreamStudio web portal to the Java application server from Control Center. In Control Center, you specify the directory (that is, the portal root) on the Java application server to which you want to deploy the StreamStudio web application archive file. The management gateway copies the file to the specified portal root from where the file can be unpacked.

Deploy several StreamStudio web portals

Several StreamStudio web portals can be deployed to the same Java application server. This enables you to run StreamStudio Persuasion SP4 and later Persuasion versions on the same application server. The earliest release must be installed first.



Deploying several StreamStudio web portals to the same Java application server is resource intensive (i.e. memory) and may result in decreased performance.

For memory allocation recommendations, see [Recommended JVM memory settings](#) on page 18.

Deploy manually in isolated environments

A common production scenario is that Framework and Control Center is installed on a different computer than the Java application server. In such a scenario, you can still configure the StreamStudio environment in Control Center. Then you must manually copy the web application archive file and the web portal configuration file to the computer where the Java application server is installed.

In this section

- [Installation requirements](#) on page 17.
- [Running in isolated environments](#) on page 19.

Related topics

For information about:

- Supported software and versions, see the *Supported platforms and software* documentation.
- How to install Framework and Control Center and the StreamStudio software, see the *Installation Guide*.
- How to configure and deploy the StreamStudio web portal, see the *Control Center* documentation.

Installation requirements

To run StreamStudio, you must install the following:

- Framework and Control Center.
- StreamStudio.
- A Java application server.
- Java Runtime Environment (included in the Framework and Control Center setup). The Java Runtime Environment must be installed on the same computer as the Java application server.
- A web browser and PDF reader (for Composition Center preview).

You can also install the following:

- A directory server (optional). If no directory server is installed, the only available StreamStudio user is the application domain administrator.
- An HTTP front-end web server (optional).
- Firewalls (optional).

In this section

- [Recommended screen resolution](#) on page 17.
- [Recommended JVM memory settings](#) on page 18.

Recommended screen resolution

The following applies for optimal viewing of the StreamStudio web applications:

- Recommended screen resolution – At least 1280 x 1024 pixels
- Minimum screen resolution – 1024 x 768 pixels
- Run the applications in a maximized browser window.

Recommended JVM memory settings

You must make sure there is enough memory allocated for StreamStudio on the JVM (Java Virtual Machine). The amount of memory required depends on the current deployment scenario. For example, deploying several StreamStudio web portals to the same Java application server requires more memory than deploying a single web portal.

StreamServe recommends the following memory settings when deploying a single StreamStudio web portal to a Java application server:

```
-Xmx768m
```

```
-XX:MaxPermSize=256m
```

For information on how to specify the memory settings, see the user guide for the Java application server.

Note: If you run StreamStudio on a 64-bit system with 4 GB (4096 MB) or less memory, it is recommended to use 32-bit JVM. A 64-bit JVM is not recommended unless you have more memory (you might need twice as much memory on a 64-bit system as on a 32-bit system to achieve the same performance).

Running in isolated environments

A common production scenario is that Framework and Control Center is installed on a different computer than the Java application server, with a firewall in between. Since the Java application server computer has no management gateway installed, you cannot deploy the StreamStudio web application archive file or access the configuration file for the StreamStudio web portal.

To solve this, you configure the StreamStudio environment in Control Center. Then you must manually copy the web application archive file to the computer where the Java application server is installed. Finally you copy the web portal configuration file to the Java application server computer.

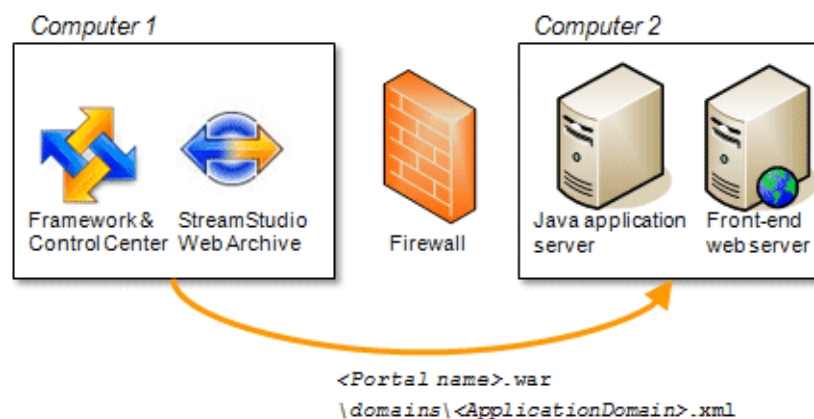


Figure 8 Running StreamStudio in isolated environments

To copy and deploy the StreamStudio web application archive file

- 1 Configure the StreamStudio environment in Control Center.

Note: When you configure StreamStudio web portal in Control Center, you must select the **Manual deploy** option.

- 2 Copy the `<Portal name>.war` file from following directory on the Control Center computer:

```
<Base Directory>\<Version>\root\etc\unmanagedportals
```

Where `<Base directory>` is the path specified for StreamServe Projects during the Framework and Control Center installation.

For example: `C:\ManagementGateway`

- 3 Paste the file into the following directory on the Java application server computer:

```
<Portal root>
```

Where `<Portal root>` is the directory for the web application archive file.

For example, for Apache Tomcat: `<TOMCAT_HOME>\webapps\`

- 4 Unpack the web application archive file. See the user documentation for the Java application server. For Apache Tomcat, the file may be unpacked automatically if you restart the Apache Tomcat service.

To copy the StreamStudio configuration file

- 1 Copy the `domains` folder, containing the web portal configuration file, from the following directory on the Control Center computer:

```
<Base Directory>\<Version>\root\etc\unmanagedportals\<Portal name>\
```

Note: Do not copy the complete `<Portal name>` folder, since this catalogue is created by the Java application server when the web application archive file is unpacked.

- 2 Paste the `domains` folder into the following directory on the Java application server computer:

```
<Portal root>\<Portal name>
```

Where:

- `<Portal root>` – Is the directory for the web application archive file. For example, for Apache Tomcat: `<TOMCAT_HOME>\webapps\`
- `<Portal name>` – Is the web portal name as specified in Control Center.

Advanced StreamStudio configurations

This section contains advanced StreamStudio configurations, which cannot be configured in Control Center. For example:

- If you want to load balance the primary and secondary service gateways specified in Control Center, you must edit the property file (`ws.properties`) for the web services.
- If you expect the size of your Composition Center documents to be larger than 2.5 MB, you can either increase the size of the MTOM cache, or create a maintenance job that continuously deletes released documents from disk.

In this section

- [Load-balancing service gateways](#) on page 22.
- [Increasing the size of the MTOM cache](#) on page 23.

Load-balancing service gateways

In Control Center, you can specify a primary and a secondary service gateway.

The secondary service gateway is used only if the primary service gateway becomes unavailable. Instead of this default behavior, you can load balance the gateways. The Java application server then connects to the service gateway that was used at the last occasion. This is suitable if you have two or more Java application servers hosting StreamStudio and want to minimize the load on one specific service gateway.

You can also modify the following timeout values:

- The time that a failed service gateway will be unavailable for connection retries if there are two or more available service gateways. The default value is 300 000 ms (5 minutes).
- The time that a failed service gateway will be unavailable for connection retries if there is only one or no other available service gateway. The default value is 500 ms.

To configure load balancing of service gateways

- 1 Open the `ws.properties` file, located in the following directory:
`<Portal root>\<Portal name>\WEB-INF\spring\properties`
For example, for Apache Tomcat:
`<TOMCAT_HOME>\webapps\<Portal name>\WEB-INF\spring\properties`
- 2 Change the `ws.servicegateway.url.lb.roundrobin` property to `true`.
When set to `false`, the service gateways act in the default primary and secondary gateway configuration.

To modify the service gateway timeout values

- 1 Open the `ws.properties` file, located in the following directory:
`<Portal root>\<Portal name>\WEB-INF\spring\properties`
For example, for Apache Tomcat:
`<TOMCAT_HOME>\webapps\<Portal name>\WEB-INF\spring\properties`
- 2 Modify the following values:
 - `ws.servicegateway.bad.reputation.long=300000`
 - `ws.servicegateway.bad.reputation.short=500`

Increasing the size of the MTOM cache

The size threshold for caching a single Composition Center document is specified in the MTOM (Message Transmission Optimization Mechanism) cache setting, the default value is 2.5 MB. As long as the size of a single Composition Center document is less than the threshold value, the document remains in the memory.

However, if the threshold value is exceeded for a single Composition Center document, the document is cached to disk. Since the document remains on disk after being processed and released, this results in lost disk space.

If you expect the size of your Composition Center documents to be larger than the threshold value, you can either increase the size of the MTOM cache, or create a maintenance job that continuously deletes released documents from disk.



Increasing the size of the MTOM cache consumes more memory, which may result in decreased performance.

To increase the size of the MTOM cache

- 1 Open the following file:

```
<Portal root>\<Portal name>\WEB-INF\spring\properties\ws.properties
```

For example, for Apache Tomcat:

```
<TOMCAT_HOME>\webapps\<StreamStudio>\WEB-INF\spring\properties\ws.properties
```

- 2 Go to the following lines:

```
# Cache settings  
ws.axis2.cache.attachments.size_threshold=250000  
ws.mtom.cache.dir=${web.framework.root}/WEB-INF/mtom.cache
```

- 3 Increase the threshold value for the MTOM cache.
- 4 Save and close the file.

24 | Increasing the size of the MTOM cache Advanced StreamStudio configurations

Running StreamStudio

This section covers how to access the StreamStudio web portal and how to check the services StreamStudio is depending upon. For trouble-shooting, you can view the StreamStudio log file.

In this section

- [Accessing and logging on to StreamStudio](#) on page 26.
- [Monitoring StreamStudio](#) on page 28.

Accessing and logging on to StreamStudio

You access StreamStudio directly in the web browser.

In the user directories, StreamStudio users are associated with application domains. A user can only access the application domains that the user is associated with. When logging on to StreamStudio, the user enters user name and password, and selects an application domain. In the list of available application domains, all domains that the StreamStudio web portal is connected to are displayed (that is, not only the ones that the specific user is associated with).

To facilitate the login, you can add the application domain to the URL used when starting StreamStudio. The user then enters user name and password and is automatically directed to the specified domain.

Single sign-on

StreamStudio has support for single sign-on, that is it can handle a remote secure token (that is, a `REMOTE_USER`). For more information, see the user documentation for the front-end web server.

In this section

- [URL to access StreamStudio](#) on page 26.
- [Logging on to StreamStudio](#) on page 27.

URL to access StreamStudio

You access StreamStudio directly in the web browser, using the following URL:

```
http://<host>:<port>/<Portal name>/Portal/  
start?domain=<Application domain>
```

Where:

- `<host>` – Is the server that runs the Java application server.
- `<port>` – Is the port that the Java application server listens to (by default, 8080).
- If you have a front-end HTTP server on port 80, you do not have to specify the port number.
- `<Portal name>` – Is the name of the web portal as specified in Control Center.
- `?domain=<Application domain>` – Optional. Add to direct the user to a certain application domain called `<Application domain>`.

For example:

```
http://localhost:8080/MyWebPortal/Portal/start?domain=Production
```

Logging on to StreamStudio

To be able to log on to StreamStudio, a user must be assigned membership to a role.

By default, the application domain administrator is assigned the System Manager role in StreamStudio and has full access to the web applications. The first time you log on to StreamStudio, you must log on as the application domain administrator. You can then define other roles and accesses using the Administrator and Customers web applications and assign StreamStudio users membership to the roles.

The application domain administrator is configured in Control Center. The administrator can be used for StreamStudio log on, regardless of user directory vendor or if no user directory is available.



Default StreamServe users for test and demonstration

If you install a user directory for test or demonstration purposes, you can populate the directory with the following default users:

- User name: `strsAdmin`
 Password: `insecure`
- User name: `strsReader`
 Password: `insecure`

These users are installed during the StreamServe Framework and Control Center setup and must be imported to the user directory during the directory server installation.

Before you can log on with one of these default users, you must assign the user membership to a role.

Related topics

For information about:

- How to configure the application domain administrator, see the *Control Center* documentation.
- How to import the default StreamServe users to an OpenDS user directory, see the *Installation Guide > Installing OpenDS*.

Monitoring StreamStudio

This section contains information about the services StreamStudio is depending upon and the log file to be monitored when running StreamStudio.

In this section

- [Checking status for StreamStudio](#) on page 28.
- [Using the StreamStudio log file](#) on page 28.
- [Enabling SOAP logging for the service gateway](#) on page 29.

Checking status for StreamStudio

To access StreamStudio, the following must be fulfilled:

- The service gateway must be running in the application domain.
- The services required by StreamStudio must be started.

To check that the service gateway is running

- 1 In Control Center, right-click the service gateway application in your application domain and select **Refresh**.
- 2 Check that the **State** property is **Running**.

To check that the required services are started

In your operational system, check that the following services are started:

- StreamServe Management Gateway.
- StreamServe Management Nanny.
- The service for the service gateway.
- The service for the directory server.
- The service for the Java application server. For example, Apache Tomcat.

Using the StreamStudio log file

StreamStudio generates a log file (`streamstudio.log`) containing information about the web applications. The file is located in the following directory:

```
<Java_application_server_home>\logs
```

For example, for Apache Tomcat:

```
<TOMCAT_HOME>\logs
```

Log levels

The StreamStudio log has four different levels for the severity of the content:

- `ERROR` – Displays severe errors.
- `WARN` – Displays non-fatal errors that might need investigation.

- INFO – Displays informational messages.
- DEBUG – Mainly for developers.

The settings can be changed in the `log4j.properties` file, located in the following directory:

```
<Portal root>\<Portal name>\WEB-INF
```

For example, for Apache Tomcat:

```
<TOMCAT_HOME>\webapps\<Portal name>\WEB-INF
```

After changing these settings, you must restart the Java application server.

Enabling SOAP logging for the service gateway

If you experience an error and you cannot find the cause in the ordinary log files, you can enable SOAP (Simple Object Access Protocol) logging for the service gateway.

In the SOAP logs, you find information related to the web services that are hosted by the specific service gateway. All inbound and outbound data traffic between the service gateway and any clients accessing the service gateway (for example StreamStudio) is logged.

The SOAP log files are located in the working directory for the service gateway application:

```
<Base directory>\<Version>\root\applications\<SGW>\wd\<SOAP_RECV.log or SOAP_SENT.log>
```

Where:

- `<Base directory>` – Is the path specified for StreamServe Projects during the Framework and Control Center installation.
For example: `C:\ManagementGateway`
- `<SGW>` – Is the name of the service gateway application specified in Control Center.
- `<SOAP_RECV.log>` – Is the name of the SOAP log file for inbound traffic.
- `<SOAP_SENT.log>` – Is the name of the SOAP log file for outbound traffic.

To enable SOAP logging for the service gateway

1 Open the following file:

```
<StreamServe installation>\Applications\Service Gateway\<Version>\bin\semper.xml
```

2 Uncomment the following line:

```
<!-- <soapdebug recvlog="SOAP_RECV.log" sentlog="SOAP_SENT.log"/> -->
```

3 Save and close the file.

4 In Control Center, restart the service gateway.

