SYBASE®
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Installation Guide

Sybase Event Stream Processor 5.0

Linux

DOCUMENT ID: DC01710-01-0500-04
LAST REVISED: June 2012

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Planning Your Installation

Before you install or upgrade, prepare your environment.

- Identify the components and options to install or upgrade.
- Obtain a license.
- Ensure your system meets all requirements for your installation scenario and planned use.

Obtaining a License

Before installing your product, choose a SySAM license model, determine license server information, and obtain license files.

Sybase® Event Stream Processor (ESP) is licensed through SySAM and supports both served and unserved licenses as well as sub-capacity licensing. Sub-capacity licensing is useful in virtualized environments or to license a subset of the processors available in a multiprocessor machine.

These steps summarize the actions required to install a Sybase Software Asset Management (SySAM) license. Refer to the *Sybase Software Asset Management Users Guide* for details.

1. Choose a SySAM license model.

License model	Description
Unserved license model	Licenses are obtained directly from a license file. If you are using an unserved license, save the license file to the machine on which you install the product.
Served license model	A license server manages the allocation of licenses among multiple machines.

2. For the served license model, decide whether to use an existing or new license server.

   The license server and your product installation do not need to share the same machine, operating system, or architecture.
3. If you chose the served license model, do one of the following:
   - Install the new license server on a machine that does not have an existing license server.
   - To install on a machine that is running a SySAM 1 license server, follow migration instructions in the *Sybase Software Asset Management User's Guide* to migrate to SySAM 2.
4. Before installing your product, obtain license files:

- If you purchased your product from Sybase or an authorized Sybase reseller, go to the secure Sybase Product Download Center (SPDC) at *https://sybase.subscribenet.com* and log in to generate license keys. The license generation process may vary slightly, depending on whether you ordered directly from Sybase or from a Sybase reseller.
- If you ordered your product under an SAP® contract and were directed to download from SAP Service Marketplace (SMP), you can use SMP at *http://service.sap.com/licensekeys* to generate license keys for Sybase products that use SySAM 2-based licenses.

Note: If your license is incorrectly generated or copied to an incorrect location, Event Stream Processor automatically enters a 30-day grace period. License errors or warnings, or both, appear only in the cluster log (not in the server log). When the 30-day grace period ends, Event Stream Processor cannot run until a suitable license is provided. For production environments, Sybase strongly recommends that you configure e-mail alerts during installation so you receive messages regarding license errors or warnings before the grace period ends.

Next

For more information on SySAM licensing, see the *Sybase Software Asset Management Users Guide* on the Sybase Product Manuals Web site at *http://sybooks.sybase.com*.

Available Licenses

Sybase Event Stream Processor runs on various licenses that apply to the Server, the Studio, and most adapters. Some adapters are licensable, which means they require separate licenses in addition to a base license.

Table 1. Available Server License Types

License	Description
CP	Production
SF	Standby
DT	Develop and Test
AC	OEM Production
BC	OEM Standby
EV	Evaluation
Unknown	Select if you are unsure of the license type needed

Some licensable adapters support the standard SySAM 30-day grace period while others do not. If an adapter supports the grace period, you can use it unlicensed for a 30 day period.

When the grace period expires, the adapter stops functioning unless you provide a valid license key.

Licensable adapters include:

Adapter	License Key	Grace Period?
Reuters Marketfeed	SY_ESP_TR_MF	No
Reuters OMM	SY_ESP_TR_OMM	No
Open	SY_ESP_OPEN	Yes
NYSE Technologies	SY_ESP_WMB	No
FIX	SY_ESP_FIX	Yes

Supported Operating Systems

Sybase Event Stream Processor Server and Studio run on specific platforms and operating systems.

Platform	Supported OS	Compiler	JDK Version
Linux-64 (AMD/Intel)	RHEL 5.2 RHEL 6.0 SUSE 11.0 (with termcap-2.0.8-892.2 or higher installed)	gcc 4.2.1	1.6 update 26

The required **glibc** version for all supported operating systems is 4.2.1.

Versions Supported for SDKs
APIs for creating custom adapters support C/C++, Java 1.6, and .NET4.

Disk Space and Memory Requirements

To ensure optimal performance, install Event Stream Processor on a server machine that meets or exceeds the minimum disk space and memory requirements.

The Event Stream Processor installer relies on temporary files it copies to your machine. Ensure you have enough disk space to accommodate these temporary files as well as the installed program files.

The following table lists approximate disk space requirements for Event Stream Processor, taking into account both the temporary files and the installed program files.

	ESP Server	ESP Studio
Linux-64 (AMD/Intel)	500MB	350MB

Note: The installer requires 500MB of temporary disk space as part of the installation process. This applies to all platforms.

These disk requirements do not take into account the sizes of your Event Stream Processor project-related files.

Memory requirements vary, depending on the size, number, and complexity of projects you run and on whether ESP Server and Studio are installed on the same machine or on different machines. In general, Sybase recommends that you allocate at least 1GB free memory for Event Stream Processor-related activities.

Updates to Environment Variables

The Event Stream Processor installation process creates and updates environment variables on your system.

The installer creates an environment variable—ESP_HOME—to represent the directory where you installed Event Stream Processor. Specifically, the value of ESP_HOME is:

```
$install_location/ESP
```

Use this environment variable when referencing file paths relative to the Event Stream Processor installation directory.

The installer modifies the PATH environment variable by appending the following:

```
$install_location/ESP/lib/jre/bin
```

The installer creates the environment variable `LD_PRELOAD` to prevent problems with signal handling between the ESP server process and the JVM at runtime.

`LD_PRELOAD` points to `$ESP_HOME/lib/jre/lib/amd64/libjsig.so`.

For both internal and external adapters, the environment variable `JAVA_HOME` must be set to the JRE version 1.6.0_26, or a later version.

Temporary Installation Files

The installer relies on temporary files it copies to your machine. Ensure you have enough space allocated to accommodate these temporary files.

The temporary files require approximately 220 MB of free space. By default, the installer copies the files to your `/tmp` directory.

You can install the files to a different location by setting the environment variable *IATEMPDIR* to point to a different directory.

Whether you use the default `/tmp` directory or an alternate directory, you can safely delete files remaining after installation to free up disk space.

Installed Directory Structure

An explanation of files and folders created by the installer.

A number of folders are created after installation and contain important files. These files and folders exist in the install folder you selected during installation.

Directory or File	Description
ESP	Contains the folders: • adapters – holds files that relate to the configuration of adapters, examples, and batch files. • bin – holds the executable files that make up Event Stream Processor (with the exception of Studio), including the command line tools. On Windows platforms it also contains the `.dll` files used by ESP. • cluster – holds cluster configuration XML examples and node information. • doc – holds a PDF version of the terms and conditions file. • etc – holds `.xsd` files and the FIX data dictionary. • examples – holds CCL examples, as well as examples for the C, Java, and `.NET` SDKs (`.NET` on Windows platforms only). • include – holds header files for C SDK. • java – holds JAR files. • lib – holds adapter `.cnxml` and library files, as well as JRE used by ESP Server. On Unix, it also holds the `.so` files used by ESP. • net – holds files pertaining to the `.NET` SDK (On Windows platforms only). • security – holds XML files for all security options (Kerberos, LDAP, RSA, Keystore RSA, and No Security). • studio – holds files and folders relating to Studio, including examples for the learning perspective. • sysam – holds SYSAM licensing information.
jre32	Contains the JRE that is used by the installer and uninstaller.
log	Contains the installer log files.

Directory or File	Description
Sybase_Install_Registry	Contains the install registry.
sybuninstall	Contains the folders: • comp – holds the executable files for uninstalling specific components of the product. • ESP - holds the executable file for performing a complete uninstall of the product.
SYSAM-2_0	Contains SYSAM licensing tools and a license file.
SYBASE.bat	Used to set the ESP_HOME environment variable on Windows platforms.
SYBASE.env	Used to set the ESP_HOME environment variable on Unix platforms.

An additional directory is created when installing the Studio. The `workspaces` directory contains the files for the Studio workspace. Specify the location for the workspaces directory at install-time.

Before You Reinstall

Back up important information before reinstalling Sybase ESP Server or Sybase ESP Studio. Information that is not backed up is overwritten or deleted.

Before reinstalling the Server or the Studio in the same folder as an existing installation, ensure that the backups include:

- All custom library `.so` files
- All `.cnxml` files
- All service configuration (`services.xml`) files
- All project (`.ccl`) files

Finally, to ensure examples run cleanly in the new installation, remove any examples you have previously loaded into a workspace.

To remove a project from a workspace, within Studio, right-click the project name in the file explorer and select **Remove from workspace**.

Installation Scenarios

Sybase Event Stream Processor offers typical and custom installations. A custom installation lets you select which components you install. A typical installation includes all components.

Sybase Event Stream Processor includes:

- Server – performs the core analytics and processing of stream data.
- Base adapters – the base Event Stream Processor license includes both internal and external adapters. Internal adapters run inside server processes, while external adapters access server processes through external APIs such as the Java SDK. Both types of adapters either read data from external sources and convert them to Event Stream Processor format, or convert data from Event Stream Processor format and write it to external sources. Internal adapters automatically install with the server. You can choose to install external adapters with the server, or on another machine entirely.
- Studio – provides a graphic view of an Event Stream Processor project, allowing you to create, modify, and monitor projects without programming knowledge.

In addition to base adapters, you can also purchase separately licensed enterprise adapters.

- Reuters Marketfeed adapter
- Reuters OMM adapter
- Open adapter
- NYSE Technologies adapter
- FIX adapter

The NYSE Technologies enterprise adapter, Reuters Marketfeed adapter, and Reuters OMM adapter are provided with their own installation media when you purchase licenses for them. The Open and FIX adapters are provided on the installation media for Event Stream Processor (accessed through the Custom install option), but require an additional license to run. You can install enterprise adapters on any machine that has network access to the machine hosting the server.

A typical installation installs the Server, Studio, and adapters on a single machine. You can distribute your installation by installing the Server and Studio on several machines, then use an Event Stream Processor server cluster to run projects from the remote machines.

Whether you install a typical or distributed system, you can create a server cluster during the installation. A server cluster lets you run multiple projects simultaneously, provides failover, and lets you configure centralized security for your system.

Your network infrastructure, geographic setup, and overall event processing needs will determine the type of installation that is best for you.

You can use either the graphic installer or the console (command line) installer for both typical and distributed installations.

You can also use the silent installer to install multiple instances of the Server and Studio.

Cluster Configuration

You can configure a server cluster for your Event Stream Processor environment. You can then deploy projects to the cluster to run them securely and with high availability.

During installation, you are prompted to provide information for a server cluster. The installer uses the information you provide to configure a server cluster for your installation.

Before providing cluster information, develop a basic understanding of server clustering in Event Stream Processor so you can optimize your configuration.

In Event Stream Processor, server clusters:

- Let you run multiple projects simultaneously
- Distribute load across network resources and provide failover
- Provide a single interface for security functions such as authentication and authorization

When configuring your server cluster at install time, you are prompted for a host and port for the cluster. Select a machine that users can access from within your network and that can handle the traffic associated with running multiple projects.

You must also enter an authentication mechanism. Event Stream Processor does not require proprietary authentication. Instead, you can tie Event Stream Processor security in with your existing RSA, Kerberos, or LDAP authentication infrastructure. If you do configure authentication, users are required to provide credentials when accessing projects within the server cluster. The required credentials depend on the authentication mechanism you use.

If you use LDAP for your security infrastructure, you can also restrict access to specific project functions such as starting and stopping projects based on user role.

For detailed information on clusters and security, see the *Event Stream Processor Administrators Guide*.

Performing a Typical Installation

In a typical installation, install the base adapters, ESP Server, and ESP Studio on a single machine.

Sybase recommends a typical installation only for evaluating Event Stream Processor or testing your implementation.

To install enterprise adapters in a typical installation, run the standalone installer for your adapters or, in the case of the FIX or Open, re-run the Event Stream Processor installer in advanced mode to access the adapter-only installation process.

Note: If your license is incorrectly generated or copied to an incorrect location, Event Stream Processor automatically enters a 30-day grace period. License errors or warnings, or both,

appear only in the cluster log (not in the server log). When the 30-day grace period ends, Event Stream Processor cannot run until a suitable license is provided. For production environments, Sybase strongly recommends that you configure e-mail alerts during installation so you receive messages regarding license errors or warnings before the grace period ends.

Performing a Typical Installation Using the Installer

Install the Event Stream Processor base adapters, the Server, and the Studio in a single process on a single machine.

1. Click the installer file, `setup.bin`. On the Introduction screen, click **Next**.
2. Select an installation folder. Change the default folder by typing the filepath to the desired folder or by clicking **Choose** and selecting a folder. When finished, click **Next**.

   If the selected folder does not exist, click **Yes** when prompted to create the folder. If the folder already exists, you see a warning that any software in the folder will be replaced. Click **Next** to proceed with the installation in the existing folder.
3. Choose the **Typical** install set, which installs the Event Stream Processor Server, base adapters, and the Event Stream Processor Studio. Click **Next**.
4. Select to either install a licensed copy or an evaluation version.

   Note: If you install the evaluation version, the software is active for 30 days, after which you are prompted for a valid license key. Proceed to step 8.
5. If you selected to install a licensed version, select one of these options:

   Specify License Keys, **Use Previously Deployed License Server**, or **Continue Installation Without a License Key**.

License Type	Process
Specify License Keys	• Enter the license key manually or browse for and load a license key. • Click **Next**. If you are using a served license and receive an error that the installer detects a SySAM server already running on your machine, click **Previous** to return to the SySAM License Entry panel and select the Previously Deployed License Server option. If you enter an invalid license key, you receive a warning message but can continue with the installation. The software is active for a 30-day grace period, after which you are prompted to enter a valid key.

License Type	Process
Previously Deployed License Server	Enter the host name and port number or IP address. If the license server file is not found, you receive a warning message indicating that the installer cannot verify a license server running on the selected host. Reenter the host name and port number. If the installer cannot verify the license server, select a different licensing option to continue with the installation.
Continue Without a License Key	The software will be active for a 30-day grace period, after which you are prompted for a valid license key.

6. From the drop-down list, select the type of product license you want to configure and click **Next**.
7. Select **Yes** or **No** to indicate whether to configure e-mail alerts about SySAM events that may require an administrator's attention.

   If you select **Yes**, enter the SMTP server host name, SMTP server port number, sender e-mail address, recipient e-mail address, and message severity, or accept the defaults. Click **Next**.

   Note: To change the SySAM alert settings after installation, edit these lines in the `ESP_HOME/sysam/esp_license.prop` file:

   - `email.smtp.host`=smtp
   - `email.smtp.port`=25
   - `email.sender`=sender@domain.com
   - `email.recipients`=user@domain.com
   - `email.severity`=INFORMATIONAL

   Setting `email.severity` to NONE disables e-mail alerts, causing all other lines to be ignored. To enable e-mail alerts, set `email.severity` with ERROR, WARNING, or INFORMATIONAL. Replace SMTP with your SMTP host name, *25* with the port number of your SMTP mail server, *sender@domain.com* with your e-mail address, and *user@domain.com* with e-mail recipients. Separate multiple e-mail recipients with a comma (,).

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8. Use the drop-down list to select your geographic location and view the corresponding End-User License Agreement. Accept the terms and conditions to continue. Click **Next**.
9. Configure cluster information. The installation creates a single-node cluster:
   a) Provide a name for the cluster.
   b) Provide a name for the single node in the cluster.
   c) Enter the cache port the cluster will use. The cluster cache is an internal cache for sharing cluster state and configuration information.

d) Enter the host name of the machine hosting the node, or localhost if the node will run on the local (that is, installation) machine.
e) Enter the RPC port for the node you are configuring.
f) Indicate whether the RPC port supports connections through Secure Sockets Layer (SSL) or not. When you enable SSL, connections to the cluster use HTTPS rather than HTTP.
g) Click **Next.**

Note: After installation, you can modify your cluster configuration to add additional nodes and clusters. For information, see the *Administrators Guide*.

10. Select **Yes** or **No** to indicate whether you want to configure a password for the cluster. If you select **No**, you are prompted for the cluster password at startup.

11. Configure security for the cluster, then click **Next**:

Authentication Type	Description
None	Provides open security, which allows any name and password combination to log in. No additional configuration is required.
LDAP	Provides LDAP authentication. Enter the following information as determined by your LDAP implementation: • Server type • Provider URL • Default search base • Authentication scope
Kerberos	Provides Kerberos authentication. Enter the following information as determined by your Kerberos implementation: • Realm • KDC
RSA	Provides RSA authentication.

12. Set the keystore properties for the cluster. A keystore is a third-party application that generates encryption keys. These keys encrypt/decrypt data within Event Stream Processor, such as passwords required to read or write to databases:

a) Indicate the location of the keystore file. Event Stream Processor accesses the keystore for encryption/decryption.
b) Select **Yes** or **No** to indicate whether you want to enter a password to access the keystore file and key. If you select **No**, you are prompted for the password at startup.
c) (Optional) Enter and confirm the password for the keystore.
d) Click **Next**.

13. Select a workspace folder where Studio will store projects. Change the default folder by typing the filepath to the desired folder or by clicking **Choose** and selecting a folder. When finished, click **Next**.
14. Review installation information before continuing. Click **Previous** to go back and make changes. Click **Install** to proceed with the installation.
15. A message indicates that the installation was successful. Click **Next**.
16. Indicate whether to start Studio immediately. Click **Done** to finish the installation.

Tip: If Studio does not start, try manually deleting the `.metadata` folder in the workspace directory.

Performing a Typical Installation using the Console

Install and configure Sybase Event Stream Processor Server from the command line, without using the graphical user interface.

1. From the command line, navigate to the directory where the installation file (`setup.bin`) resides.
2. Type `./setup.bin -i console` and press **Enter.**
3. When prompted, press **Enter** to continue.
4. Select the installation location. To accept the default location, press **Enter**. To specify a custom location:
   a) Enter an absolute path to the location. Select a file path that does not contain any spaces.
   b) Press **Enter**.
   c) Type **Y** or **N** to indicate whether the location is correct.

      Note: The console accepts both **Y** and **Yes** as affirmative, and everything else as a negative response.

   d) If the directory you specified does not exist, the installer asks if you want to create it. Press **Y**. If the directory already exists, the installer warns you that any software in the folder will be replaced.

      In either case, press **Enter** to continue.
5. Enter **1** to select a typical installation, which installs the base adapters, Event Stream Processor Server, and the Event Stream Processor Studio. Press **Enter**.

   If you have a previous version installed in the selected location, you can either uninstall the previous version, or overwrite it. Enter your selection and press **Enter**.
6. Indicate whether to install a licensed version or an evaluation version and press **Enter**.

   Note: If you install the evaluation version, the software is active for 30 days, after which you are prompted for a valid license key. Proceed to step 10.

7. If you are installing a licensed version, indicate the licensing model you want to use:

License Type	Process
Specify License Keys	• Type **1** and press **Enter**. • Specify the absolute path to the license file and press **Enter**, or press **Enter** to accept the default. If you are using a served license and receive an error that the installer detects a SySAM server already running on your machine, click **Previous** to return to the SySAM License Entry panel and select the Previously Deployed License Server option. If you enter an invalid key, you are prompted by a warning message. You cannot proceed until you enter a valid key or select a different licensing option.
Previously Deployed License Server	• Type **2** and press **Enter**. • Press **Enter** to accept the default host name, or enter the **Host Name** and **Port Number**. If the license server file is not found, you receive a warning message indicating that the installer cannot verify a license server running on the selected host. When prompted, enter **Y** to reenter the license server or n to select a different licensing option.
Continue Without a License Key	Type **3** and press **Enter**. At the prompt asking if you want to continue, press **Enter**. The software will be active for a 30-day grace period, after which you are prompted for a valid license key in order to use the software.

8. Enter the number corresponding to the license type you want to configure. Press **Enter**.
9. Indicate whether to configure alerts about SySAM events that may require an administrator's attention. To configure alerts:
   a) Enter **Y** to indicate that you want to configure alerts.
   b) Enter the SMTP server host that handles your e-mail messages.
   c) Enter the SMTP server port.
   d) Enter the default e-mail address of the person or group from which e-mail messages are sent.
   e) Enter the e-mail addresses of the default recipients.
   f) Enter the default severity level (informational, warning, or error) for e-mail messages.

Note: To change the SySAM alert settings after installation, edit the lines in the `ESP_HOME/sysam/esp_license.prop` file:

- `email.smtp.host`=smtp

- `email.smtp.port`=25
- `email.sender`=sender@domain.com
- `email.recipients`=user@domain.com
- `email.severity`=INFORMATIONAL

Setting `email.severity` to NONE disables e-mail alerts, causing all other lines to be ignored. To enable e-mail alerts, set `email.severity` with ERROR, WARNING, or INFORMATIONAL. Replace SMTP with your SMTP host name, *25* with the port number of your SMTP mail server, *sender@domain.com* with your e-mail address, and *user@domain.com* with e-mail recipients. Separate multiple e-mail recipients with a comma (,).

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10. Enter the number corresponding to your geographic location and press **Enter**.

11. Read through the license agreement. Press **Enter** as necessary to move through the text. Stop reading the text at any point by typing `back` and pressing **Enter**.

12. Indicate that you agree to the license terms and press **Enter**.

13. Configure cluster information. The installation creates a single-node cluster:

a) Enter a name for the cluster node, or press **Enter** to select the default.
b) Enter the host name of the machine hosting the node, or press **Enter** to accept the default (localhost).
c) Enter the RPC port for the node you are configuring or press **Enter** to accept the default.
d) Indicate whether the RPC port supports connections through secure socket layers (SSL) or not. When you enable SSL, connections to the cluster use HTTPS rather than HTTP.
e) Enter the port number for the cluster cache, or press **Enter** to accept the default.
f) Provide a name for the cluster.
g) Indicate whether you want to provide a password for accessing the cluster now. All nodes within the cluster use the same password. If you select **No**, you must provide a password when you start the cluster node. If you select **Yes**, enter a password for the cluster.
h) Enter the number corresponding to the security type to apply to your cluster:

   1 - LDAP: Provides LDAP authentication. Enter information for the following fields as determined by your LDAP implementation:

   - Server type
   - Provider URL
   - Default search base
   - Authentication scope

   2 - Kerberos: Provides Kerberos authentication. Enter information for the following fields as determined by your Kerberos implementation:

   - Realm

- KDC

3 - RSA: Provides RSA authentication. The following RSA values are set by default:

- Digester
- Provider
- Algorithm

4 - None: Provides open security, which allows any name and password combination to log in. Therefore, no additional configuration is required.

Note: After installation, you can modify your cluster configuration to add additional nodes and clusters. For information, see the *Administrators Guide*.

14. Indicate the location of the keystore file or press **Enter** to accept the default.

    A keystore is a third-party application that generates encryption keys. These keys encrypt/decrypt data within Event Stream Processor, such as passwords required to read or write to databases. By default, the keystore type is set to JKS and the algorithm is RSA.
15. Indicate whether you want to provide a password to access the keystore file and key. If you select **No**, you are prompted for one at startup. If you select **Yes**, enter a password for the keystore.
16. Enter an absolute path to the workspace location for Studio projects, or press **Enter** to accept the default location.
17. At the preinstallation summary, confirm that you have enough disk space for the installation. Press **Enter** to continue.
18. Press **Enter** to install the files.
19. When installation is complete, press **Enter**.
20. Indicate whether to run Event Stream Processor Studio immediately or later. Press **Enter**.

    If you run the Studio immediately, the Studio launches and you exit the installer. If you select to run the Studio later, you exit the installer.

Tip: If Studio does not start, try manually deleting the `.metadata` folder in the workspace directory.

Performing a Distributed Installation

In a distributed installation, install Event Stream Processor to different machines. On each machine, you can install the Server and Studio only; the Server and Studio with any combination of external and enterprise adapters; or any combination of external and enterprise adapters without the Server and Studio.

Note: Always install the SySAM License Utilities unless they have already been installed on the target machine. For example, if the machine hosts other Sybase products, you may have already installed the SySAM License Utilities.

Internal adapters are always installed with the server, whereas external and enterprise adapters can reside on any machine that has network access to an instance of the Event Stream Processor server.

Sybase recommends distributed installations for production environments. The architecture of your installation—the number and location of server and Studio instances, the number enterprise adapters, and so on—depends on your specific needs.

The steps involved in a distributed installation are largely the same as those in a typical installation. However, in a distributed installation, you select only the components you want to install. In addition, when installing the Server and Studio, you have the option of configuring a local cluster on the installation machine, or of connecting to an existing cluster on a different host.

Note: If your license is incorrectly generated or copied to an incorrect location, Event Stream Processor automatically enters a 30-day grace period. License errors or warnings, or both, appear only in the cluster log (not in the server log). When the 30-day grace period ends, Event Stream Processor cannot run until a suitable license is provided. For production environments, Sybase strongly recommends that you configure e-mail alerts during installation so you receive messages regarding license errors or warnings before the grace period ends.

Installing in a Distributed Environment Using the Installer

Install the ESP Server and Studio with any combination of external and enterprise adapters on various machines within your network.

1. Click the installer file, `setup.bin`. On the Introduction screen, click **Next**.
2. Select an installation folder. Change the default folder by typing the filepath to the desired folder or by clicking **Choose** and selecting a folder. When finished, click **Next**.

   If the selected folder does not exist, click **Yes** when prompted to create the folder. If the folder already exists, you see a warning that any software in the folder will be replaced. Click **Next** to proceed with the installation in the existing folder.
3. Choose the **Custom** install set. Click **Next.**
4. Select the options you want to install and clear the options you don't. However, if you select the Studio, also select the Server.

   Note: If the target installation machine hosts other Sybase products, you may have already installed the SySAM License Utilities. You need not install them again.
5. Click **Next**.

   If, in step 4, you selected external adapters only (no enterprise adapters, Server, or Studio), the installer summarizes your installation preferences and prompts you to install. Click **Install** to complete the installation. Otherwise, continue to step 6.
6. Select to install either a licensed copy or an evaluation version.

Note: If you install the evaluation version, the software is active for 30 days, after which you are prompted for a valid license key. Proceed to step 10.

7. If you are installing a licensed version, select one of these options:

   Specify License Keys, **Use Previously Deployed License Server**, or **Continue Installation Without a License Key**.

License Type	Process
Specify License Keys	• Enter the license key manually or browse for and load a license key. • Click **Next**. If you are using a served license and receive an error that the installer detects a SySAM server already running on your machine, click **Previous** to return to the SySAM License Entry panel and select the Previously Deployed License Server option. If the license server file is not found, you receive a warning message indicating that the installer cannot verify a license server running on the selected host, and prompting you to reenter the host name and port number you provided. If the installer cannot verify the license server, select a different licensing option to continue with the installation.
Previously Deployed License Server	Enter the host name and port number or IP address. If the license server file is not found, you receive a warning message indicating that the installer cannot verify a license server running on the selected host. Reenter the host name and port number. If the installer cannot verify the license server, select a different licensing option to continue with the installation.
Continue Without a License Key	The software will be active for a 30-day grace period, after which you are prompted for a valid license key.

8. From the drop-down list, select the type of product license you want to configure and click **Next**.
9. Select **Yes** or **No** to indicate whether you want to configure e-mail alerts about SySAM events that may require an administrator's attention.

   If you select **Yes**, enter the SMTP server host name, SMTP server port number, sender e-mail address, recipient e-mail address, and message severity, or accept the defaults. Click **Next**.

Note: To change the SySAM alert settings after installation, edit these lines in the `ESP_HOME/sysam/esp_license.prop` file:

- `email.smtp.host`=smtp

- `email.smtp.port`=25
- `email.sender`=sender@domain.com
- `email.recipients`=user@domain.com
- `email.severity`=INFORMATIONAL

Setting `email.severity` to NONE disables e-mail alerts, causing all other lines to be ignored. To enable e-mail alerts, set `email.severity` with ERROR, WARNING, or INFORMATIONAL. Replace SMTP with your SMTP host name, *25* with the port number of your SMTP mail server, *sender@domain.com* with your e-mail address, and *user@domain.com* with e-mail recipients. Separate multiple e-mail recipients with a comma (,).

10. Use the drop-down list to select your geographic location and to view the corresponding End-User License Agreement. Accept the terms and conditions to continue. Click **Next**.

Note: If you are installing enterprise adapters only, repeat steps 6 through 10 for each enterprise adapter you are installing. Then proceed to step 16.

11. Configure cluster information:
    a) Create a name for your new cluster, or enter the name of an existing cluster.
    b) Create a name for the new node. If the node will be part of an existing multi-node cluster, all nodes names in the cluster must be unique.
    c) Enter the cache port for the node. The cluster cache is an internal cache for sharing cluster state and configuration information. It is for internal use only.
    d) Enter the host name of the machine hosting this cluster node. Use the default localhost only if this is a single node cluster that will only be accessed from within the machine you are installing on.
    e) Enter the RPC port for the cluster node. The Studio, SDK, and various other product tools use this port to access the cluster.
    f) Indicate whether the RPC port supports connections through Secure Sockets Layer (SSL) or not. When you enable SSL, connections to the cluster use HTTPS rather than HTTP. If you are creating a new cluster, you can decide whether you want to use SSL or not. If you are connecting to an existing cluster, ensure this selection matches the configuration of the existing cluster.
    g) Click **Next**.

Note: After installation, you can modify your cluster configuration to add additional nodes and clusters. For information, see the *Administrators Guide*.

12. Indicate whether you want to specify a password for the cluster now or when you start the cluster. All nodes within a cluster have the same cluster password. To set a password now, select **Yes**, then enter the password. If you are connecting to an existing cluster, use the password defined for that cluster.
13. Configure security for the cluster, then click **Next**. If you are connecting to an existing cluster, select the security type the existing cluster uses, and provide credentials for that cluster:

Authentication Type	Description
None	Provides open security, which allows any name and password combination to log in. No additional configuration is required.
LDAP	Provides LDAP authentication. Enter the following information as determined by your LDAP implementation: • Server type • Provider URL • Default search base • Authentication scope
Kerberos	Provides Kerberos authentication. Enter the following information as determined by your Kerberos implementation: • Realm • KDC
RSA	Provides RSA authentication.

14. Set the keystore properties for the cluster. A keystore is a third-party application that generates encryption keys. These keys encrypt/decrypt data within Event Stream Processor, such as passwords required to read or write to databases. If you are connecting to an existing cluster, use the keystore properties already defined for that cluster:
    a) Indicate the location of the keystore file. Event Stream Processor needs access to the keystore for encryption/decryption.
    b) Select **Yes** or **No** to indicate whether you want to enter a password to access the keystore file and key. If you select **No**, you are prompted for the password at startup.
    c) (Optional) Enter and confirm the password for the keystore.
    d) Click **Next**.
15. Select a workspace folder to store projects. Change the default folder by typing the filepath to the desired folder or by clicking **Choose** and selecting a folder. When finished, click **Next**.

    If you are installing enterprise adapters, repeat steps 6 through 10 for each adapter.
16. Review installation information before continuing. Click **Previous** to go back and make changes. Click **Install** to proceed with the installation.
17. A message indicates that the installation was successful. Click **Next**.
18. If you installed Studio, indicate whether to start it immediately. Click **Done** to finish the installation.

Tip: If Studio does not start, try manually deleting the `.metadata` folder in the workspace directory.

Installing in a Distributed Environment Using the Console

Install the ESP Server and Studio with any combination of external and enterprise adapters on various machines within your network.

1. From the command line, navigate to the directory where the installation file (`setup.bin`) resides.
2. Type `./setup.bin -i console` and press **Enter.**
3. When prompted, press **Enter** to continue.
4. Select the installation location. To accept the default location, press **Enter**. To specify a custom location:
   a) Enter an absolute path to the location. Select a file path that does not contain any spaces.
   b) Press **Enter**.
   c) Type **Y** or **N** to indicate whether the location is correct.

      Note: The console accepts both **Y** and **Yes** as affirmative, and everything else as a negative response.

   d) If the directory you specified does not exist, the installer asks if you want to create it. Press **Y**. If the directory already exists, the installer warns you that any software in the folder will be replaced.

      In either case, press **Enter** to continue.
5. Enter **2** to select the **Custom** install set. Press **Enter**.
6. Enter the numbers corresponding to the features you want to select or deselect for installation, separated by a comma with no space. If you select the Studio for installation, also select the Server.

   The installer selects specific components by default. Selected components are indicated by an X, deselected components are indicated by a blank. Enter the number of a component to toggle the current selection. When finished, press **Enter.**

   Note: If the target installation machine hosts other Sybase products, you may have already installed the SySAM License Utilities. You need not install them again.
7. If, in step 6, you selected external adapters only (no enterprise adapters, Server, or Studio), the installer summarizes your installation preferences and prompts you to install. Click **Enter** to continue, then **Enter** again to complete the installation. Otherwise, continue to step 8.
8. If you have a previous version installed to the selected location, a message indicates that you can uninstall the previous version, or overwrite it. Enter your selection and press **Enter.**
9. Indicate whether you want to install a licensed version or an evaluation version and press **Enter.**

Note: If you install the evaluation version, the software is active for 30 days, after which you will be prompted for a valid license key. Proceed to step 13.

10. If you are installing a licensed version, select one of these options:

License Type	Process
Specify License Keys	• Type **1** and press **Enter**. • Enter the license key. • Press **Enter**. • Once your license key is validated successfully, press **Enter** to continue installation. If you are using a served license and receive an error that the installer detects a SySAM server already running on your machine, click **Previous** to return to the SySAM License Entry panel and select the Previously Deployed License Server option. If you enter an invalid key, you are prompted by a warning message. You cannot proceed until you provide a valid key or select a different licensing option.
Previously Deployed License Server	• Type **2** and press **Enter**. • Press **Enter** to accept the default host name, or enter the **Host Name** and **Port Number**. If the license server file is not found, you receive a warning message indicating that the installer cannot verify a license server running on the selected host. When prompted, enter **Y** to reenter the license server or n to select a different licensing option.
Continue Without a License Key	Type **3** and press **Enter**. At the prompt asking if you want to continue, press **Enter.** The software is active for a 30-day grace period, after which you are prompted for a valid license key.

11. Indicate the product license type you want to configure and press **Enter.**

12. Indicate whether you want to configure SySAM e-mail alerts. To configure alerts:

a) Enter the SMTP server host that handles your e-mail.
b) Enter the SMTP server port.
c) Enter the e-mail address of the person or group from which e-mail messages are sent.
d) Enter the e-mail addresses of the default recipients.
e) Enter the default severity level (informational, warning, or error) for e-mail messages.

Note: To change the SySAM alert settings after installation, edit the lines in the `ESP_HOME/sysam/esp_license.prop` file:

- `email.smtp.host`=smtp
- `email.smtp.port`=25
- `email.sender`=sender@domain.com
- `email.recipients`=user@domain.com
- `email.severity`=INFORMATIONAL

Setting `email.severity` to NONE disables e-mail alerts, causing all other lines to be ignored. To enable e-mail alerts, set `email.severity` with ERROR, WARNING, or INFORMATIONAL. Replace SMTP with your SMTP host name, *25* with the port number of your SMTP mail server, *sender@domain.com* with your e-mail address, and *user@domain.com* with e-mail recipients. Separate multiple e-mail recipients with a comma (,).

13. Enter the number corresponding to your geographic location and press **Enter.**
14. Read through the license agreement. Press **Enter** as necessary to move through the text. Stop reading the text at any point by typing `back` and pressing **Enter**.
15. Indicate that you agree to the license terms and press **Enter.**

Note: If you are installing enterprise adapters only, repeat steps 9 through 15 for each enterprise adapter you are installing. Then proceed to step 20.

16. Configure cluster information:
    a) Create a name for the new node. If the node will be part of an existing multi-node cluster, all nodes names in the cluster must be unique.
    b) Enter the host name of the machine hosting this cluster node. Use the default localhost only if this is a single node cluster that will only be accessed from within the machine you are installing on.
    c) Enter the RPC port for the cluster node. The Studio, SDK, and various other product tools use this port to access the cluster.
    d) Indicate whether the RPC port supports connections through Secure Sockets Layer (SSL) or not. When you enable SSL, connections to the cluster use HTTPS rather than HTTP. If you are creating a new cluster, you can decide whether you want to use SSL or not. If you are connecting to an existing cluster, ensure this selection matches the configuration of the existing cluster.
    e) Enter the cache port for the node. The cluster cache is an internal cache for sharing cluster state and configuration information. It is for internal use only.
    f) Create a name for your new cluster, or enter the name of an existing cluster.
    g) Indicate whether you want to provide a password for accessing the cluster now. All nodes within the cluster use the same password. If you select **No**, you are prompted to provide a password when you start the cluster node.
    If you select **Yes**, enter a password for the cluster and press **Enter**. If you are connecting to an existing cluster, use the password defined for that cluster.

h) Enter the number corresponding to the security type to apply to your cluster If you are connecting to an existing cluster, select the security type the existing cluster uses, and provide credentials for that cluster:

1 - LDAP: Provides LDAP authentication. Enter information for the following fields as determined by your LDAP implementation:

- Server type
- Provider URL
- Default search base
- Authentication scope

2 - Kerberos: Provides Kerberos authentication. Enter the following information as determined by your Kerberos implementation:

- Realm
- KDC

3 - RSA: Provides RSA authentication. The following RSA values are set by default:

- Digester
- Provider
- Algorithm

4 - None: Provides open security, which allows any name and password combination to log in. Therefore, no additional configuration is required.

Note: After installation, you can modify your cluster configuration to add additional nodes and clusters. For information, see the *Administrators Guide*.

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17. Indicate the location of the keystore file or press **Enter** to accept the default.

A keystore is a third-party application that generates encryption keys. These keys encrypt/decrypt data within Event Stream Processor, such as passwords required to read or write to databases. By default, the keystore type is set to JKS and the algorithm is RSA.

18. Indicate whether you want to provide a password to access the keystore file and key. If you select **No**, you are prompted for one at startup. If you select **Yes**, enter a password for the keystore. If you are connecting to an existing cluster, use the keystore password already defined for that cluster.

19. Enter an absolute path to the workspace location for Studio projects, or press **Enter** to accept the default location.

20. If you are installing enterprise adapters, repeat steps 9 through 15 for each adapter. Otherwise, continue to step 22.

21. At the pre-installation summary, confirm that you have enough disk space for the installation. Press **Enter** to continue.

22. Press **Enter** to install the files.

23. When installation is complete, press **Enter**.

24. If you installed the Studio, indicate whether you want to run it immediately or not. Press **Enter.**

If you run the Studio immediately, the Studio launches and you exit the installer. If you select to run the Studio later, you exit the installer.

Tip: If Studio does not start, try manually deleting the `.metadata` folder in the workspace directory.

Running a Silent Installation

A silent installation installs Sybase ESP Server and Sybase ESP Studio without the conventional prompts used in a standard installation.

Sybase recommends a silent installation for installing multiple identical or near-identical copies of the Server and the Studio. You can install these components silently:

- The Server, internal adapters, and the Studio
- The Server and internal adapters only
- The Studio only
- One or more external or enterprise adapters (either by themselves or with any server installation)

Once you have created a silent installation response file, you can run it as many times as necessary to install multiple copies of the software.

Creating a Response File

Run the installer in interactive mode to capture your installation preferences in a response file. Then use the response file to reproduce your installation preferences.

Sybase Event Stream Processor provides a response file called `installer.properties.template` in the same directory as the installer. Populate this file with your installation preferences or use it as a template to create a custom response file. When creating a response file, save it in the same directory as the installer, and name it `installer.properties`. For multiple different installations, name each response file `installer_<name>.properties` where `<name>` is a user-defined identifier that distinguishes different installation settings.

You can input your installation preferences directly into the response file or you can run the interactive (GUI) installer:

1. From a command line, navigate to the directory where the installation file (`setup.bin`) resides.
2. At the command line, run: **./setup.bin -r <response file> -i silent** where `<response file>` is the name of the response file. The specified file name should be an absolute path.

This command launches the GUI installer and creates a response file. The response file saves the selections you make while installing with the GUI installer.

3. (Optional) Modify the response file to correct any errors made during installation.

Using a Response File

Use the silent installation response file to install Sybase Event Stream Processor on multiple computers.

Run a response file as often as necessary to install the Sybase Event Stream Processor on the required number of machines.

On the target machine, for each installation, enter the following command at the command line:

```
setup.bin -i silent -f <response_file> -DRUN_SILENT=true -
DAGREE_TO_SYBASE_LICENSE=true
```

where *<response file>* is the input response file.

The specified file name must be an absolute path.

If you do not specify a response file, the `installer.properties` file located in the same directory as the installation file is used. If an `installer.properties` file does not reside within this directory, the installer does not launch properly.

Tip: If Studio does not start, try manually deleting the `.metadata` folder within the workspace directory.

Uninstalling using the Graphic Uninstaller

Uninstall Event Stream Processor from a test or production environment to ensure all components are fully removed.

Prerequisites

Backup any important project, cluster, and service configuration files. Specifically, create a back up of:

- $ESP/security folder
- $ESP_HOME/bin/service.xml
- the cluster configuration file (for example, `node1.xml`)

Task

To use the graphic uninstaller:

1. Navigate to `ESP_Home/sybuninstall/ESP/main` and double-click `uninstall.bin` to launch the uninstaller.
2. To start uninstalling, click **Next**.
3. Choose either:

Type	Description
Complete Uninstall	Removes all installed features and components of Sybase Event Stream Processor.
Uninstall Specific Features	Select specific features of Sybase Event Stream Processor to uninstall.

4. If you are uninstalling specific features, select the features to remove and click **Next**.

   Note: If you are performing a complete uninstallation, proceed to step 5.

5. A summary screen lists the components selected for uninstallation. To uninstall the files, click **Next.**
6. (Optional) During a complete uninstall, a Delete User File screen lists all user files and folders created within the `ESP_Home` directory since installation. To uninstall these files, select **Delete all of these files**. Click **Next**.
7. Click **Done**.

   Note: If you reinstall Sybase Event Stream Processor, copy all backup files into your new installation location.

Next

Manually delete all files, folders, and subdirectories that remain after uninstalling if you no longer need them. When deleting files, ensure that they are not needed by another Sybase product installed on your machine.

Uninstalling using the Console

Uninstall Event Stream Processor from a test or production environment to ensure all components are fully removed.

Prerequisites

Backup any important project, cluster, and service configuration files. Specifically, create a back up of:

- $ESP/security folder
- $ESP_HOME/bin/service.xml
- the cluster configuration file (for example, `node1.xml`)

Task

To uninstall using the console:

1. From the command-line, navigate to `ESP_Home/sybuninstall/ESP/main`.
2. Type **./uninstall -i console** and press **Enter**.
3. A new window opens. Press **Enter** to continue.
4. Select an uninstall option by entering `1` (complete uninstall) or `2` (custom uninstall). Press **Enter**.

   If you select a complete unintsall, the uninstaller summarizes the components to be removed. To revert to a custom uninstall, type `back` and press **Enter** to make your selection again.

   Note: If you select a complete uinstall, proceed to step 6.
5. If you select a custom uninstall, enter the number of the component you want to select or deselect for uninstallation. Selected components are indicated by an X; unselected components are indicated by a blank. Enter the number of the component to toggle its status as selected or unselected. When you have made your selections, press **Enter.**
6. Review the pre-uninstall summary. To uninstall the files, press **Enter**.
7. After uninstalling all files created by the installer, a prompt appears to delete remaining user files that were created outside of the installer. Select `Y` or `N`. Press **Enter** to complete the uninstallation.

   Note: If you reinstall Sybase Event Stream Processor, copy all backup files into your new installation location.

Next

Manually delete all files, folders, and subdirectories that remain after uninstalling if you no longer need them. When deleting files, ensure that they are not needed by another Sybase product installed on your machine.

Troubleshooting

Common techniques for troubleshooting issues you may encounter.

SySAM Logging

By default, when you are using a served license, all license server status and error messages are written to the SYBASE.log debug log file in the log directory.

SYBASE.log is used to diagnose issues with the license server. For information on messages written to this log file, see *The Debug Log File* in the *FLEXnet Licensing End User Guide* provided with your SySAM documentation.

Over time, the debug log can become large and the value of older messages decreases. Sybase recommends that you periodically truncate the debug log file:

1. On the license server machine, enter:
   ```
   lmutil lmswitch -c license_directory_location SYBASE tmp.log
   ```
2. Delete or archive SYBASE.log.
3. To return to using SYBASE.log, enter:
   ```
   lmutil lmswitch -c license_directory_location SYBASE SYBASE.log
   ```
4. Delete the temporary file tmp.log.
   For more information on SySAM logging, see *Troubleshooting SySAM Errors* in the *SySAM Users Guide*.

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