

Embedded Analytics Deployment

SYSPRO 8

Reference Guide

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SYSPRO Embedded Analytics Deployment

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SYSPRO Embedded Analytics Deployment

The following deployment areas are covered within this guide:

- Technology prerequisites
- SYSPRO licensing requirements
- PostgreSQL Installation
- SYSPRO Application Gateway installation and related SYSPRO configuration
- SYSPRO Embedded Analytics installation and related SYSPRO configuration
- Designer operator permissions



The **SYSPRO Embedded Analytics** feature provides analytical dashboards and visualization capabilities that help you manage core aspects of the business's operations, without needing third-party business intelligence solutions.

View the [SYSPRO Embedded Analytics](#) topic for more holistic information about the **SYSPRO Embedded Analytics** module.

Prerequisites

Technology

To use this feature, the following technology prerequisites are required:

- SYSPRO Application Gateway service
- PostgreSQL 12 (Configured server-side)
- Microsoft Edge WebView2

This controller must be installed on the SYSPRO Desktop Client for SYSPRO users to be able to design and deploy dashboards.



This is built into the Client install from SYSPRO 8 2022 onwards.

Recommendations:

We recommend using **Windows Server 2019** or higher, with at least 16GB RAM and 4 cores.

Licensing

To use this feature, the following module(s) must be installed according to the terms of your software license agreement:

- SYSPRO Embedded Analytics

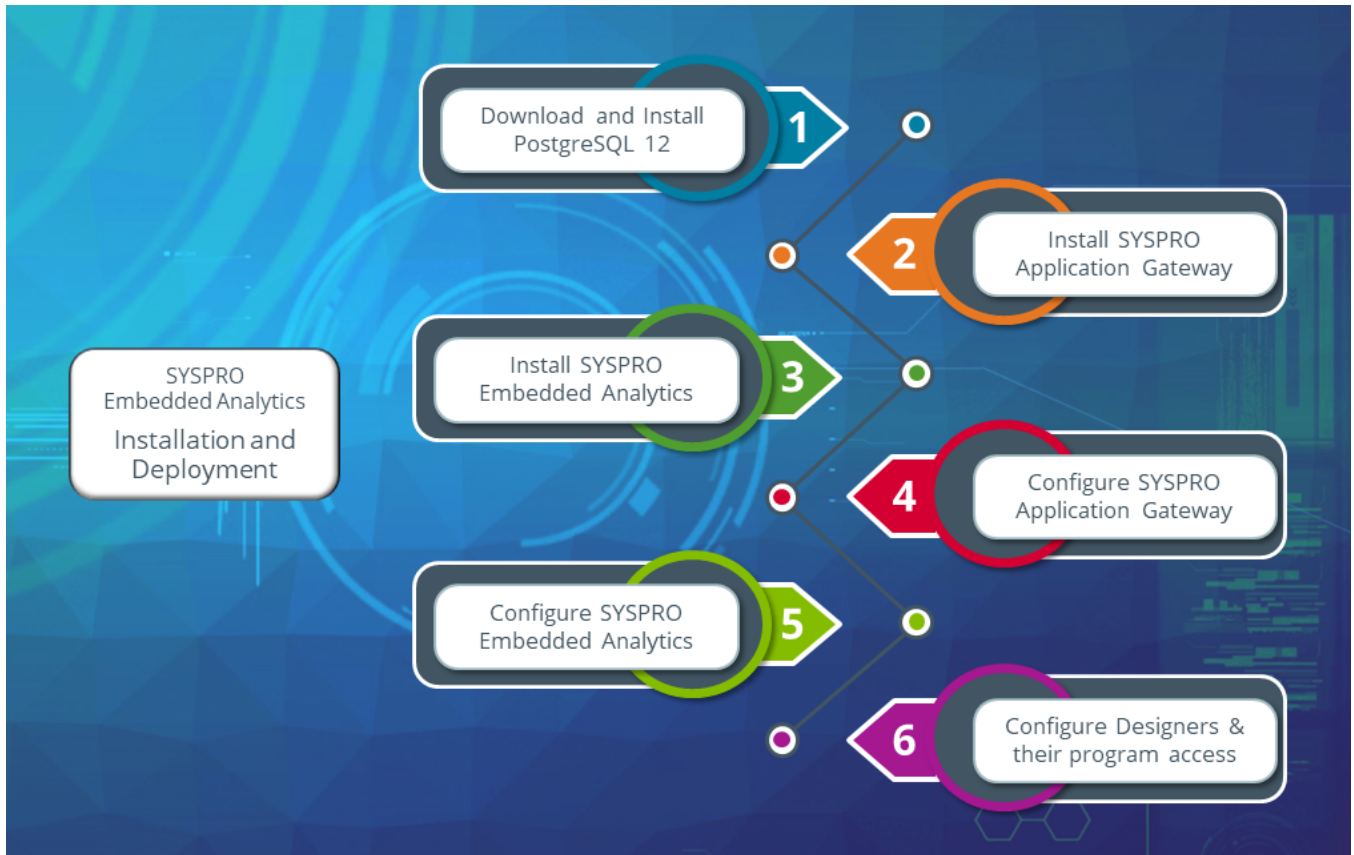


In addition, you must have licensed Embedded Analytics designer seats configured within your SYSPRO license.

Additionally, to gain the most benefit from this feature, you should ideally be utilizing the following modules:

- System Administration
- Sales Orders
- Purchase Orders
- Inventory Control
- Work in Progress
- General Ledger

Deploying



Step 1. Download & Install PostgreSQL



Disclaimer:

The following steps for installing **PostgreSQL** are accurate to the best of our knowledge at the time of publication. However, please be aware that **PostgreSQL** is third-party software and the software company may change their installation processes or user interface at any time.

Therefore, while we have made every effort to ensure that the information presented is up-to-date, it's possible that certain elements may become outdated in the future. We recommend that readers regularly check the **PostgreSQL** documentation for updates and changes to their installation process.

1. Download **PostgreSQL 12**:

- a. Navigate to the following URL:

<https://www.enterprisedb.com/downloads/postgres-postgresql-downloads>

- b. From the installer listing, locate the latest **Version 12** (e.g. 12.14) and select the download icon within the **Windows x86-64** column.

The `postgresql-12.xx-x-windows-x64.exe` install file (where `xx-x` indicates the selected version) is placed within your `Downloads` folder, unless you defined otherwise.

2. Install **PostgreSQL 12**:



During the install you will be prompted for a PostgreSQL **Password** and **Port**.

Ensure that you take note of these entries as they are required later during the **SYSPRO Embedded Analytics** install.

- a. Launch the installer from the downloaded `exe` file.
- b. From the **Installation Directory** window, define the installation directory by accepting the default path (or change to suit your requirements).
- c. From the **Select Components** window, accept the default components enabled:
 - PostgreSQL Server
 - pgAdmin 4
 - Stack Builder
 - Command Line Tools
- d. From the **Data Directory** window, accept the default pathing provided (or change to suit your requirements).

- e. From the **Password** window, enter and confirm your preferred password. Make sure that there aren't any extra spaces within your entry.



Ensure that you take note of this password as it is required later during the **SYSPRO Embedded Analytics** install.

- f. From the **Port** window, accept the default port provided as 5432 (or change to suit your requirements).



Ensure that you take note of this port number as it is required later during the **SYSPRO Embedded Analytics** install.

- g. From the **Advanced Options** window, accept the default provided and select **Next** to proceed.
- h. After reviewing the pre-installation summary, proceed with the install.

Upon completion, a confirmation screen is displayed and you are given the option to install the **Stack Builder**.



The **Stack Builder** is not needed as it has no relation to **SYSPRO Embedded Analytics**. It merely provides a graphical interface that simplifies the download and installation process for modules that complement the PostgreSQL installation.


Disable the **Stack Builder** install option and confirm to close the installation wizard.

Step 2. Install the SYSPRO Application Gateway


1. Launch the **SYSPRO Installer Application**.
2. Once a connection is made to the **SYSPRO Deployment Service**, login using your **InfoZone** credentials.
If you are a partner or super-user, enter the applicable Customer ID for the customer being installed.
3. From the **SYSPRO Installer Application** home screen, select the **SYSPRO ERP Software** option.
4. From the **Deployment Groups** screen, select the relevant Deployment Group.
5. From the **Release Selection** screen, select the SYSPRO 8 2022 (or later) release.
6. From the **Product Selection** screen, select the SYSPRO Application Gateway service.

The **SYSPRO Installer** verifies your system against all prerequisites required for the products you select to install. Should any product fail a prerequisite check at this stage, the **Prerequisites** screen is displayed.

7. From the **Review Product Parameters** screen, review all parameters required for the service:

| Parameter | Description and considerations |
|-----------------------------------|--|
| HTTP Port | Indicate if you want to use an HTTP port. Default port number provided: 30800 Accept the default provided or change manually to match your preference. |
| Add HTTP port to firewall | For best practice, enable this option to ensure that the port number is added to your firewall. |
| HTTPS Port | Indicate if you want to use an HTTPS port. Default port number provided: 30801 Accept the default provided or change manually to match your preference. <div style="border: 1px solid #0070C0; border-radius: 10px; padding: 10px; margin-top: 10px;"> SSL certificate details are required when selecting this port type.</div> |
| Add HTTPS port to firewall | For best practice, enable this option to ensure that the port number is added to your firewall. |

| Parameter | Description and considerations |
|---|--|
| Certificate Store | <p>This indicates the SSL certificate store found against your system.</p> <div style="border: 1px solid green; border-radius: 10px; padding: 5px;">  This field is read only and can't be changed. </div> |
| Certificate Subject | <p>Select the Browse icon to retrieve the relevant SSL certificate to use for running your web client.</p> <p>This launches the Parameter Certificate Browser screen with the valid and current SSL certificates available under the default stores.</p> <div style="border: 1px solid green; border-radius: 10px; padding: 5px;">  The selection defaults to the first item found in the Store list which subsequently loads the Subjects (also defaulting to the first item in the list). </div> <p>From here you can browse for and select the applicable SSL certificate.</p> |
| Certificate Subject Overwrite | <p>This indicates the current SSL certificate subject, if the Overwrite Subject option was enabled within the Parameter Certificate Browser screen.</p> <div style="border: 1px solid green; border-radius: 10px; padding: 5px;">  This field is read only and can't be changed. </div> |
| Please enter the SYSPRO Gateway Read Only Authentication key | <p>Enter a read-only authentication key for the SYSPRO Application Gateway service.</p> <div style="border: 1px solid gray; padding: 5px; margin: 5px 0;"> <p>FOR EXAMPLE:</p> <p>AppGateWayPass123</p> </div> <p>You can define any password, pass-phrase or secret for this authentication key, and once defined its stored in the Gateway's configuration as a hashed value.</p> <div style="border: 1px solid blue; border-radius: 10px; padding: 5px;">  Ensure that you take note of this key as it is required later when configuring the gateway in the Setup Options program. </div> |

| Parameter | Description and considerations |
|---|---|
| Please enter the SYSPRO Gateway Authentication key | <p>Enter a value for the SYSPRO Application Gateway authentication key.</p> <p>FOR EXAMPLE: AppGatewayKey321</p> <p>You can define any password, pass-phrase or secret for this authentication key, and once defined its stored in the Gateway's configuration as a hashed value.</p> <div style="border: 1px solid #0070C0; padding: 10px; margin-top: 10px;"> <p> If you plan on installing the SYSPRO Embedded Analytics module:</p> <p>Ensure that you take note of this key as it will be required during the install for SYSPRO Embedded Analytics, as well as within the Setup Options program when configuring your environment.</p> </div> |
| Destination Folder | <p>Default provided: C:\Program Files\SYSPRO\SYSPRO Application Gateway</p> <p>Accept the default provided or change manually to match your preference.</p> |

8. From the **SYSPRO License Agreement** screen, read and accept the license terms and conditions before continuing with the install.
9. A summary of all products to be installed is displayed for you to review.
Once you are satisfied with the list, continue by selecting the **Begin Install** button.
10. The **Install Complete** screen is displayed with a summary of all products installed.




When installing any service that requires a port number entry, ensure that you configure your firewall appropriately to allow access through your selected port (s).

Step 3. Install SYSPRO Embedded Analytics

1. Launch the **SYSPRO Installer Application**.
2. Once a connection is made to the **SYSPRO Deployment Service**, login using your **InfoZone** credentials.
If you are a partner or super-user, enter the applicable Customer ID for the customer being installed.
3. From the **SYSPRO Installer** home screen, select the **SYSPRO Additional Software** option.
4. From the **Additional Software Packages** screen, select the **SYSPRO Embedded Analytics** option.
5. The **SYSPRO Embedded Analytics** screen is displayed, indicating the files to be installed.
The **SYSPRO Installer** verifies your system against all prerequisites required for the products you select to install. Should any product fail a prerequisite check at this stage, the **Prerequisites** screen is displayed.
6. From the **Review Product Parameters** screen, review all parameters required for the product:

| Parameter | Description and considerations |
|----------------------------|---|
| PostgreSQL Hostname | This indicates the name of the machine on which the PostgreSQL service is hosted. |
| PostgreSQL Port | This indicates the port on which the PostgreSQL service is running. Default port number provided: 5432 Accept the default provided or change manually to match your preference. |
| PostgreSQL Password | Enter the password for the database super user (postgres) which you defined when installing PostgreSQL. This enables access to the PostgreSQL database. |

| Parameter | Description and considerations |
|--|--|
| SYSPRO Embedded Analytics Hosting Port | <p>Indicate the port on which the SYSPRO Embedded Analytics endpoint will be hosted.</p> <p>Default port number provided: 8090</p> <p>Accept the default provided or change manually to match your preference.</p> <div style="border: 1px solid #0070C0; padding: 10px; margin-top: 10px;">  If the SYSPRO Application Gateway and SYSPRO Embedded Analytics are installed on different machines, ensure that you add port 8090 to your firewall to ensure successful communication between them. </div> |
| SYSPRO Application Gateway Endpoint | This indicates the hosting endpoint for the SYSPRO Application Gateway service. |
| SYSPRO Application Gateway Authentication Key | <p>Enter the authentication key for the SYSPRO Application Gateway, as defined during the install of the SYSPRO Application Gateway service.</p> <div style="border: 1px solid #0070C0; padding: 5px; margin-top: 10px;"> <p>FOR EXAMPLE:</p> <p>AppGatewayKey321</p> </div> |

7. From the **SYSPRO License Agreement** screen, read and accept the license terms and conditions before continuing with the install.
8. A summary of all products to be installed is displayed for you to review.
Once you are satisfied with the list, continue by selecting the **Begin Install** button.
9. The **Install Complete** screen is displayed with a summary of all products installed.



When installing any service that requires a port number entry, ensure that you configure your firewall appropriately to allow access through your selected port (s).

Step 4. Configure SYSPRO Application Gateway

1. Launch SYSPRO 8 2022 (or a later version).
2. Open the **Setup Options** program (*SYSPRO Ribbon bar > Setup*).
3. Navigate to the **Connectivity System Setup** form (*Setup Options > System Setup > Connectivity*).
4. Enable the **USE APPLICATION GATEWAY SERVICE** option.
5. Enter the service endpoint for the **APPLICATION GATEWAY SERVICE ENDPOINT**.

FOR EXAMPLE:

```
http://localhost:30800
```

6. At the **AUTHENTICATION KEY** field, enter the **SYSPRO Gateway Authentication key** which you used when installing the SYSPRO Application Gateway service.

FOR EXAMPLE:

```
AppGateWayPass123
```

7. Select the **TEST CONNECTION** function to confirm all details captured are correct and that you can connect to the service successfully.
8. Save your changes and exit the program.
9. Exit SYSPRO.

Step 5. Configure SYSPRO Embedded Analytics

1. Launch SYSPRO 8 2022 (or a later version).
2. Open the **Setup Options** program (*SYSPRO Ribbon bar > Setup*).
3. Navigate to the **Connectivity System Setup** form (*Setup Options > System Setup > Connectivity*).
4. At the **ENDPOINT** field within the **EMBEDDED ANALYTICS** section, you should see that entry has already been configured based on your install.

FOR EXAMPLE: `http://localhost:30800/composer`

5. Select the **TEST CONNECTION** function to confirm that you can connect to Embedded Analytics successfully.
6. Select the **CONFIGURE** function to setup the Embedded Analytics environment for use within SYSPRO.

The system then performs various functions in the background, including:

- Configure the SYSPRO Embedded Analytics user interface.
- Change default passwords against the default admin and supervisor users that are shipped with the product.
- Import and apply OEM licensing and SYSPRO branding.
- Setup SYSPRO Embedded Analytics instance and accounts
- Create trusted access client for authentication.
- Configure initial Data Source.
- Add security groups for dashboards consumers and creators.



Users that only view data are added to the dashboard consumer group and users that create dashboards are added to the dashboard creator group.

- Create SQL login with read access to all of your SYSPRO companies and system wide dataset.
- Create default connections in the Embedded Analytics environment.



These are used for the sample dashboard packs shipped with the product and can be used by you to create dashboards that will show data for any SYSPRO company.

7. Save your changes and exit the program.
8. Restart SYSPRO for your changes to take affect.

Step 6. Define Operators as Designers

Operator Permissions

To design Embedded Analytics dashboards, a SYSPRO operator must be configured with the correct access:

1. Launch SYSPRO 8 2022 (or a later version).
2. Open the **Operator Maintenance** program (*SYSPRO Ribbon bar > Setup > Operators*).
3. Select the operator for whom you want to assign designer access for SYSPRO Embedded Analytics.
4. Navigate to the **Options** pane (in the *SYSPRO Desktop* UI) or the **Functions** pane (in the *SYSPRO Web UI (Avanti)*).
5. Enable the **EMBEDDED ANALYTICS DESIGNER** option.
6. Save your changes and exit the program.

The system then calls into the SYSPRO Embedded Analytics environment and creates a user linked to this operator with permissions to create dashboards.

7. Restart SYSPRO for your changes to take affect.

Designer Program Access

For Embedded Analytics Designers to be able to access the **Embedded Analytics Designer¹** program, access must be granted to either their group or role:

- To define **Embedded Analytics Designer²** access by role:

Apply access control against the operator's group within the **Operator Groups** program (*SYSPRO Ribbon bar > Setup*).

- To define **Embedded Analytics Designer³** access by group:

Apply access control against the operator's role within the **Role Management** program (*SYSPRO Ribbon bar > Setup*).

¹Program: SEADDS

²Program: SEADDS

³Program: SEADDS

FAQs

Installation and Services

What occurs during the installation of SYSPRO Embedded Analytics?

Once you have installed **PostgreSQL 12** and the **SYSPRO Application Gateway** service, the following indicates the processes which occur when you select to install SYSPRO Embedded Analytics using the **SYSPRO Installer Application**:

- The app collects all the required information for the install, ports, passwords, etc.
- The connection to PostgreSQL is validated.
- The required files are deployed.
- The applicable services are created.
- Property entries are updated.
- The app calls the SYSPRO Application Gateway and creates the applicable entry within the `C:\ProgramData\SYSPRO\Application.Gateway\appsettings.reverseProxy.json` file.
- The database and database user are created:

The `SYSPRO Embedded Analytics.msi` retrieves the properties passed to it to enable access to PostgreSQL and create the required databases, as well as a user called `zoomdata`.

- The services are started in the following order:
 - PostgreSQL (unless already running)
 - SYSPRO Application Gateway (unless already running)
 - `Zoomdata_consul`
 - `Zoomdata_edc_*` (i.e. data sources or connectors)
 - `Zoomdata_query_engine`
 - `Zoomdata_data_writer_postgresql`
 - `Zoomdata_screenshot_service`
 - `Zoomdata_service`
- Registry entries are written.
- The SYSPRO Deployment Database is updated.

What registry entries are created for SYSPRO Embedded Analytics?

The SYSPRO Install stores its registry keys under the following path:

HKEY_LOCAL_MACHINE\SOFTWARE\SYSPRO\Installs\SYSPRO Embedded Analytics



Do not edit the `zoomdata.properties` file manually (i.e. outside the install) as any changes you make will be lost when you perform a repair of the install.

What ports are used by SYSPRO Embedded Analytics?

The following ports are used:

| Port number | Service name | Comments |
|-------------|-----------------------------|--|
| 5432 | zoomdata-postgres | Composer metadata repository |
| 5580 | zoomdata-query-engine | Composer query engine microservice |
| 8090 | zoomdata | Composer server |
| 8081 | zoomdata-data-writer | Composer Data Writer microservice |
| 8083 | zoomdata-screenshot-service | Composer Screenshot microservice |
| 8100 | zoomdata-edc-mssql | Microsoft SQL Server connector |
| 8105 | zoomdata-edc-postgresql | PostgreSQL connector, Flat File uploads, and Upload API processing |
| 8300 | zoomdata-consul | Internal port used by the Consul for inter-node communication in a distributed environment |
| 8301 | zoomdata-consul | Internal port used by the Consul for inter-node communication in a distributed environment |
| 8302 | zoomdata-consul | Internal port used by the Consul for inter-node communication in a distributed environment |
| 8443 | zoomdata | Composer HTTPS requests |
| 8500 | zoomdata-consul | Consul |

How does the SYSPRO Application Gateway work with Embedded Analytics?

The **SYSPRO Application Gateway** ensures that any request within SYSPRO to display SYSPRO Embedded Analytics dashboards is communicated through this service.

In addition, this service enables the **SYSPRO Web UI (Avanti)** to be run in HTTPS when accessing SYSPRO Embedded Analytics dashboards. The reason for this is that, as you can't mix HTTP and HTTPS content in a web client, any analytical data requested needs to be provided over an HTTPS connection for security purposes.

How do I update SYSPRO Embedded Analytics when a new version becomes available?

As the **SYSPRO Embedded Analytics** module doesn't form part of the standard SYSPRO release cycle, the update process for this module is slightly different to other SYSPRO products.

Therefore, when an update is made available, proceed as follows:

1. Launch the **SYSPRO Installer Application**.
2. Once a connection is made to the **SYSPRO Deployment Service**, login using your **InfoZone** credentials.
If you are a partner or super-user, enter the applicable Customer ID for the customer being installed.
3. From the **SYSPRO Installer** home screen, select the **SYSPRO Additional Software** option.
4. From the **Additional Software Packages** screen, select the **SYSPRO Embedded Analytics** option.
5. If an update is available when the **SYSPRO Embedded Analytics** page loads, the existing local product files (including the related XML and install files) are deleted and the latest files are retrieved from Azure. This ensures that the latest files are always used.

The SYSPRO Embedded Analytics item is then marked as [UPDATE Available].

Select the **Continue** button to proceed with the update.

6. From the **SYSPRO License Agreement** screen, read and accept the license terms and conditions before continuing with the update.
7. A summary of all products to be updated is displayed for you to review.
Once you are satisfied with the list, continue by selecting the **Begin Install** button.
8. The **Install Complete** screen is displayed with a summary of all products installed.

What is the order in which the zoomdata services should be started?

If you need to restart the zoomdata services for any reason, ensure to start them in the following order:

1. Zoomdata_consul
2. Zoomdata_edc_* (i.e. data sources or connectors)
3. Zoomdata_query_engine
4. Zoomdata_data_writer_postgresql
5. Zoomdata_screenshot_service
6. Zoomdata_service

Troubleshooting

How do I stop the SYSPRO Embedded Analytics services?

Stopping the **zoomdata_consul** service should stop all other services as they are dependent on the **zoomdata_consul** service.

What should I do if one of the services fail to start?

After a new install or upgrade, you might not be able to access SYSPRO Embedded Analytics until the **zoomdata** service has completed its checks and database updates (which can take up to 15 minutes).

To verify if this is the cause for your services not starting, open the **Task Manager** and look for a high running java process that belongs to **zoomdata**. If present, wait for the process to calm down, after which you should be able to continue.

If however, this does not resolve the problem, check to see if the port is already in use by another application.



See the **What ports does SYSPRO Embedded Analytics use** FAQ for information regarding port numbers.

If the above doesn't resolve the issue either, proceed as follows:

1. Check the log files for any error recorded.
2. Stop all of the zoomdata services.
3. Delete the log files.
4. Restart the zoomdata services in correct sequence:
 - a. Zoomdata_consul
 - b. Zoomdata_edc_* (i.e. data sources or connectors)
 - c. Zoomdata_query_engine
 - d. Zoomdata_data_writer_postgresql
 - e. Zoomdata_screenshot_service
 - f. Zoomdata_service

What should I do if I can't connect to SYSPRO Embedded Analytics?

There are a few possible reasons for your not being able to connect to SYSPRO Embedded Analytics. Therefore, check each of the following:

1. SYSPRO Application Gateway service:
 - a. Check the configuration file of the SYSPRO Application Gateway for an Embedded Analytics entry.
2. PostgreSQL:
 - a. Check if anything has been changed in your PostgreSQL configuration.
 - b. Confirm that you have the correct version of PostgreSQL: PostgreSQL 12.
3. SYSPRO Configuration:
 - a. Validate your connection to the SYSPRO Embedded Analytics endpoint by using the **Test Connection** function against the **EMBEDDED ANALYTICS** setup option (*Setup Options > System Setup > Connectivity*).

What disaster recovery steps should I take to protect my data?

The following article provides guidelines on how to backup and restore your PostgreSQL data:

[SYSPRO Embedded Analytics: Disaster Recovery Guidelines](#)



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