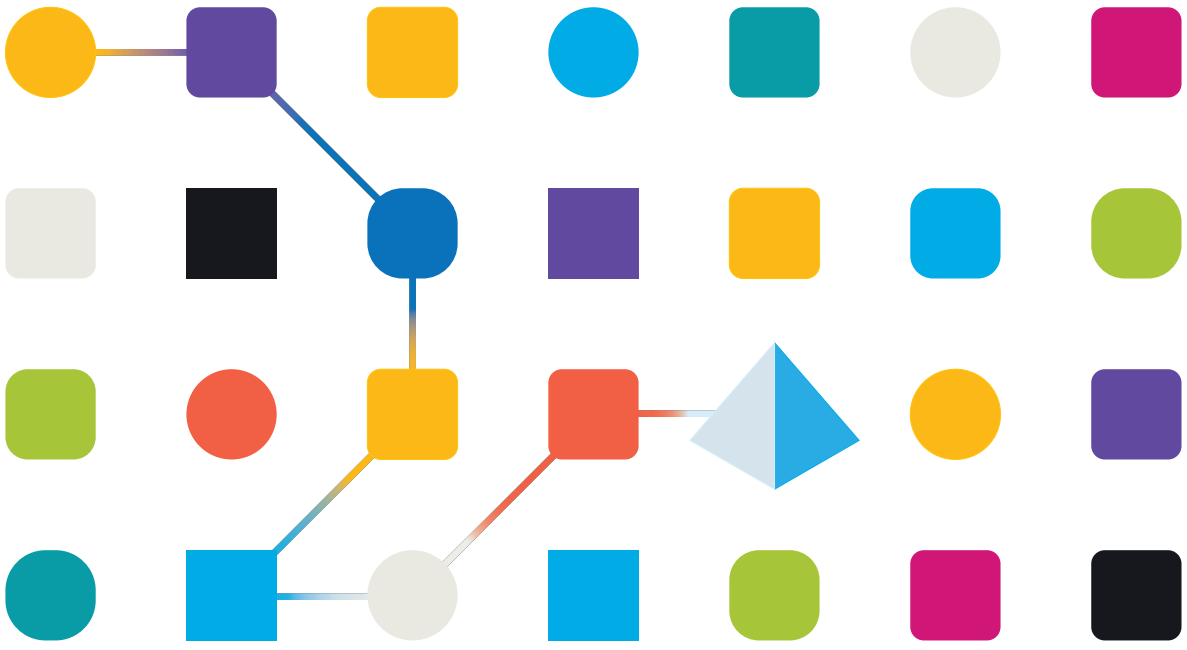
Decipher IDP 2.2

Installation and Configuration

Document Revision: 1.0



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Minimum requirements and components

Decipher IDP is a production ready IDP solution, closely integrated with Blue Prism. We recommend that you deploy Decipher IDP on dedicated hardware to better support scalability as your use of Decipher IDP increases. We also recommend installing and testing Decipher IDP in a non-production environment prior to using it in a live environment.

Decipher IDP is designed to provide an on-premise solution and is not supported in SS&C Blue Prism Cloud at this time.

Minimum requirements

Decipher IDP

The following minimum setup is required to run Decipher IDP on a standalone deployment:

- Administrator access to the devices on which Blue Prism is installed.
- CPU: Intel i7 3rd generation or above.
- Windows 10, or Windows Server 2012 or later.
- RAM: 6 GB (1 GB for the application server at a load of 10,000 pages per day, plus 3 GB for SQL Server, plus 2 GB for Windows).
- Hard drive space for image storage. The average file size is 1 MB per page and 1 TB per 1 million pages.

Natural Language Processing (NLP) Plugin

The NLP plugin is an optional Decipher IDP component and has the following minimum requirements:

- A graphics card with a Nvidia Graphics Processing Unit (GPU) on it – installed on the same machine as the Decipher automated client.
- 8 GB of RAM per each GPU.
- The version of the GPU driver must be 418.0 or later.

Supported browsers

Decipher IDP requires Google Chrome to be set as the default browser. Decipher IDP does not currently support any other browsers.

Decipher IDP supports:

- Google Chrome
- Microsoft Edge

Minimum SQL permissions

The minimum SQL permissions for the user required to connect to the database during the installation process must have the appropriate privileges to create or configure the databases from within the product, therefore an appropriate administrator account will need to be used when running the installation process:

- Create Database: dbcreator (server role) or sysadmin (server role)
- Configure Database: sysadmin (server role) or db_owner (database role)

The database user required to connect to the databases during normal operation must have the minimum SQL permissions to access the Decipher IDP databases. The required permissions are:

- db_datareader
- db_datawriter

For details on architecture and the projected performance, see the Sizing guide.

Required components

The following software and database components are required to use Decipher IDP.

Third-party components

The following additional database and software components must be installed before installing Decipher IDP. For details of these components, including download links, see Install/configure required software components.

- RabbitMQ and Erlang
- SQL Server Express 2012 (or later) as a minimum requirement

  > SQL Server Express is supported for proof of concept and evaluation purposes only. It is not recommended or supported for production use.

- SQL Server Management Studio
- Internet Information Server (IIS)

Blue Prism and Decipher IDP components

The following components need to be installed and configured for this release of Decipher IDP. Download the Decipher IDP components from the Decipher IDP page on the customer portal. For installation details, see Install Blue Prism, Decipher VBO, and DLL and Install Decipher IDP.

Component	Filename
Blue Prism	BluePrism6.6.0_x64.msi or BluePrism6.6.0_x86.msi or later
Decipher DLL	BluePrism.Decipher.VBO.Interop.dll
Blue Prism Decipher VBO	BPA Object - Decipher.xml
Decipher Licensing Service	Decipher Licensing Service 0.1.984.0.msi
Decipher Server	Decipher Server 2.22.10050.msi
Decipher Web Client	Decipher Web Client 2.23.02150.msi
Decipher Automated Clients	Decipher Automated Clients 2.23.02140.msi
Server Plugin	Decipher Server Plugin 0.1.984.0.msi
NLP plugin (optional)	Decipher NLP Plugin 2.23.02140.msi

Upgrade Decipher IDP

Blue Prism recommend that customers use the latest version of Decipher IDP. Download the required files from the Decipher IDP portal page and update as described below.

Before you upgrade

Blue Prism strongly advise that existing Decipher IDP environments and databases are fully backed up prior to upgrade, enabling the restoration of a working environment in the event of a failed installation. The backup should be a system or full volume backup and not a backup of specific files within Decipher IDP.

When a Decipher environment is upgraded, all existing data, templates (Data Form Definitions) and learning is retained. Once the upgrade is complete, all existing information is retained, but new functions and features are now available for use, whether with newly created or existing Data Form Definition files.

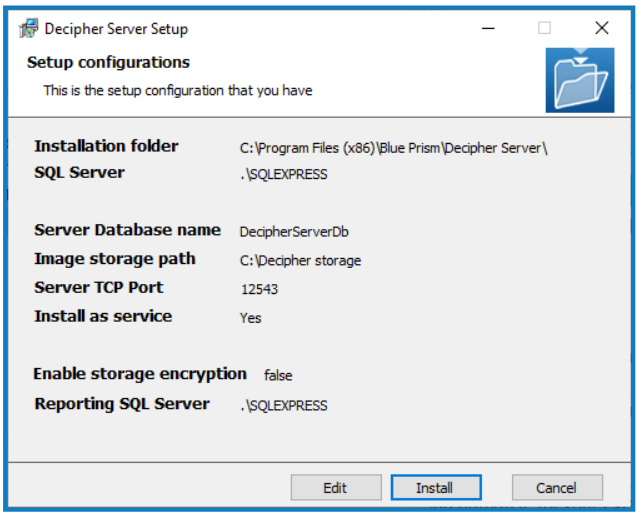
Upgrade Decipher IDP 2.1 to 2.2

To upgrade from Decipher IDP 2.1 to 2.2:

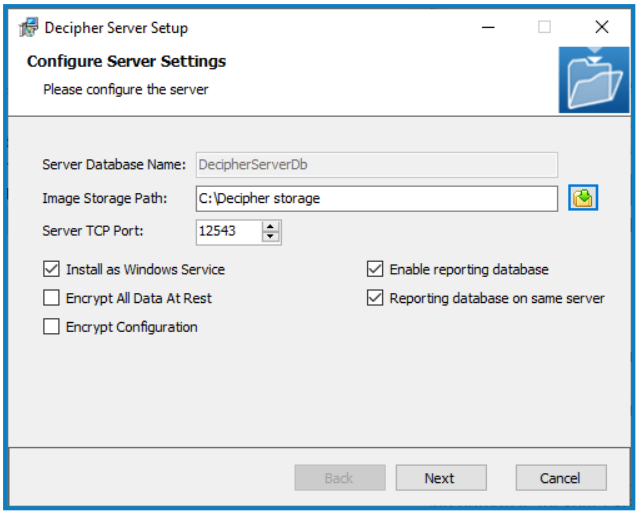
1. **Decipher Licensing Service** – Run the Decipher Licensing Service.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher licensing service for details.
2. **Decipher Server** – Run the Decipher Server 2.22.10050.msi and click through the installation wizard, following the on-screen instructions as prompted. The installation wizard will display your current settings. Click **Edit** to amend the settings or create a new reporting database (see below for details), or click **Install** to continue. See Install Decipher server for details.

   To create a new, separate reporting database as part of this Decipher IDP upgrade (optional):

   a. Click **Edit** on the Setup configurations summary screen.



b. The Configure Server Settings screen displays.



c. Select **Enable reporting database**.

d. Click **Install** to complete the installation, then **Finish** to exit the wizard.

3. **Decipher Web Client** – Run the Decipher Web Client 2.23.02150.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher web client for details.
4. **Decipher Automated Clients** – Run the Decipher Automated Clients 2.23.02140.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher automated clients for details.

   When upgrading Decipher Automated Clients, the destination folder and configuration settings are grayed out to ensure the existing installation configuration is retained.

5. **Decipher Server Plugin** – Run the Decipher Server Plugin.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher server plugin for details.

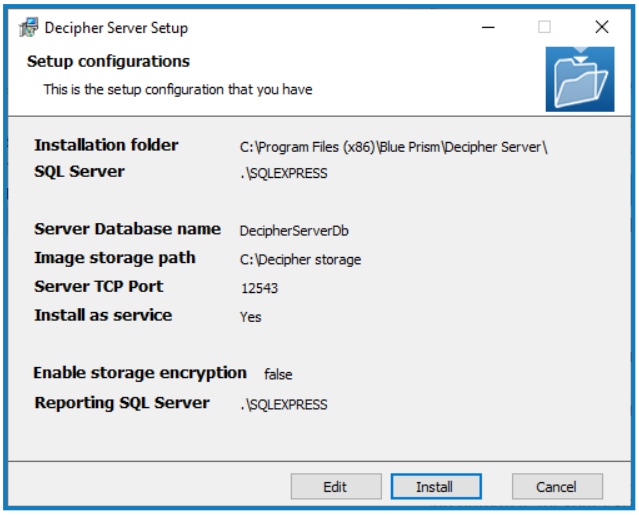
Upgrade Decipher IDP 1.2 to 2.2

To upgrade from Decipher IDP 1.2 to 2.2 :

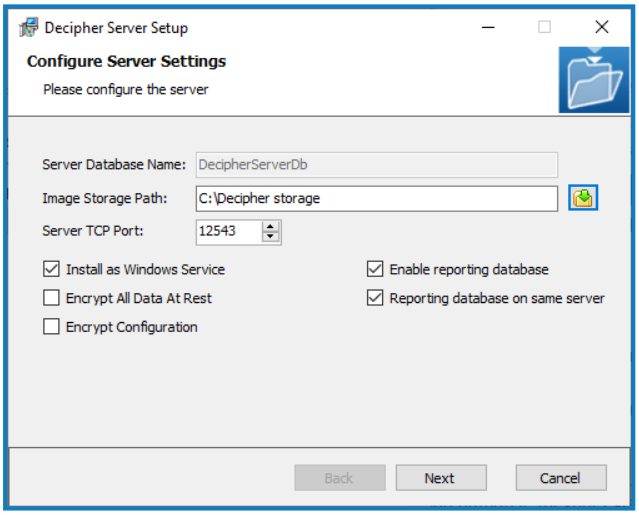
1. Import the latest Decipher VBO, BPA Object - Decipher.xml, into Blue Prism and overwrite the existing VBO.
2. Paste the BluePrismDecipher.VBO.Interop.dll file into C:\Program Files\Blue Prism Limited\Blue Prism Automate, and replace the existing file.
3. **Decipher Licensing Service** – Run the Decipher Licensing Service.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher licensing service for details.
4. **Decipher Server** – Run the Decipher Server 2.22.10050.msi and click through the installation wizard, following the on-screen instructions as prompted. The installation wizard will display your current settings. Click **Edit** to amend the settings or create a new reporting database (see below for details), or click **Install** to continue. See Install Decipher server for details.

   To create a new, separate reporting database as part of this Decipher IDP upgrade (optional):

a. Click **Edit** on the Setup configurations summary screen.



b. The Configure Server Settings screen displays.



c. Select **Enable reporting database**.
   - If the existing reporting database is on the same server as Decipher Server, but you want to create a database on a separate server, deselect **Reporting database on same server**. The Reporting Database Server Configuration screen displays. Add the location and credentials for the reporting database server and click **Next**.

d. Click **Install** to complete the installation, then **Finish** to exit the wizard.

5. **Decipher Web Client** - Run the Decipher Web Client 2.23.02150.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher web client for details.
6. **Decipher Automated Clients** - Run the Decipher Automated Clients 2.23.02140.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher automated clients for details.

   When upgrading Decipher Automated Clients, the destination folder and configuration settings are grayed out to ensure the existing installation configuration is retained.

7. **Decipher Server Plugin** - Run the Decipher Server Plugin.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher server plugin for details.

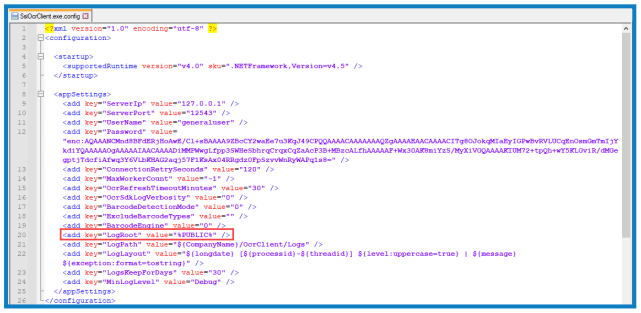
After upgrading to the latest version of the Decipher Server Plugin, the previous version will need to be manually removed. From the Windows Start menu, open **Settings** > **Apps**, select the **Decipher Server Plugin** and click **Uninstall**. This will be addressed in a future release.

Log locations

Decipher 2.1 introduced new default log locations for the Decipher clients. For details, see Decipher IDP 2.1 release notes. The log locations for existing installations upgrading from 1.2 to 2.2 will not be changed, but the client config files can be manually updated to use the new log location.

Follow the steps below to update the config files for the following clients: OCR, Classification, Capture, Export, Web client, Web SDK Service, and SDKWrapper.

1. Locate and open the config file as an Admin. For details on locations, see Default locations.
2. In the **appSettings** section, locate the `LogRoot` key and set to its value to `"%PUBLIC%"`.
3. Save the changes to the config file.



Upgrade Decipher IDP 1.1 to 2.2

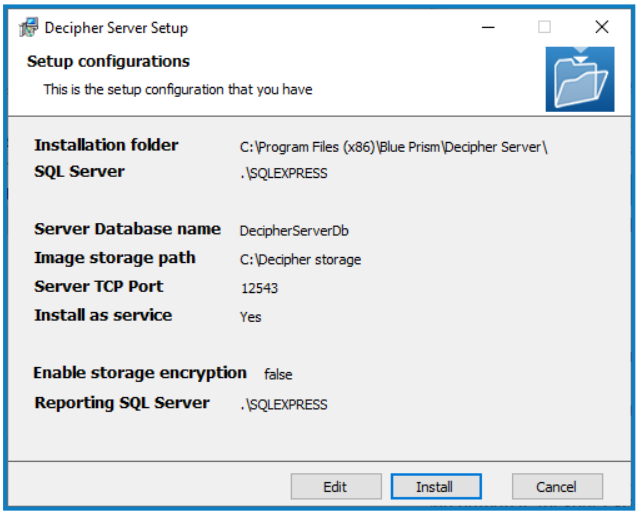
To upgrade from Decipher IDP 1.1 to 2.2:

1. Import the latest Decipher VBO, BPA Object - Decipher.xml, into Blue Prism and overwrite the existing VBO.
2. Paste the BluePrismDecipher.VBO.Interop.dll file into C:\Program Files\Blue Prism Limited\Blue Prism Automate, and replace the existing file.
3. **Decipher Licensing Service** – Run the Decipher Licensing Service.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher licensing service for details.
4. **Decipher Server** – Run the Decipher Server 2.22.10050.msi and click through the installation wizard, following the on-screen instructions as prompted. The installation wizard will display your current settings. Click **Edit** to amend the settings or create a new reporting database (see below for details), or click **Install** to continue. See Install Decipher server for details.

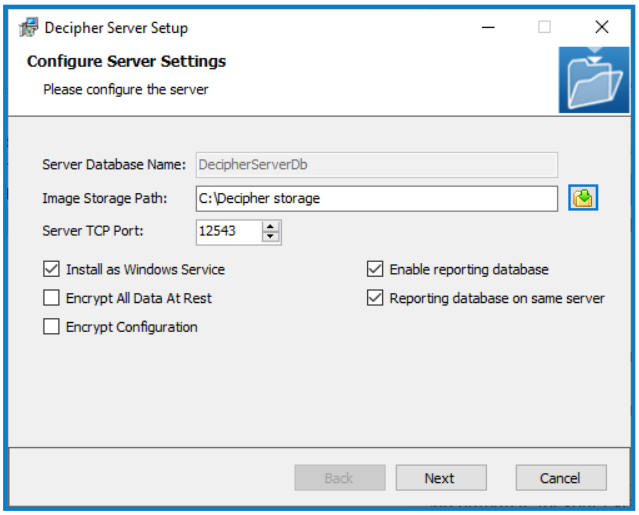
   > If required, the separate reporting database must be created when installing/upgrading the Decipher Server component.

   To create a new, separate reporting database as part of this Decipher IDP upgrade (optional):

   a. Click **Edit** on the Setup configurations summary screen.



   The Configure Server Settings screen displays.



b. Select **Enable reporting database**and click **Next**.

c. Click **Install** to complete the installation, then **Finish** to exit the wizard.

5. **Decipher Web Client** – Run the Decipher Web Client 2.23.02150.msi and click through the install wizard, following the on-screen instructions as prompted. See Install Decipher web client for details.
6. **Decipher Automated Clients** – Run the Decipher Automated Clients 2.23.02140.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher automated clients for details.
7. **Decipher Server Plugin** – Run the Decipher Server Plugin.msi and click through the install wizard. The install wizard will display your current settings. See Install Decipher server plugin for details.

Following upgrade

The following scenarios should be considered after upgrading Decipher IDP:

Scenario	Action
You created a separate reporting database as part of the upgrade process.	If you need to copy existing reporting data from the Decipher database to the new reporting database see Reporting database configuration for details.
You bound the Decipher IDP 1.1 website to HTTPS, via Internet Information Services (IIS) Manager.	Check whether the site setting has reverted to HTTP and rebind if necessary.
Caching issues are impacting the display of DFDs, document types, and batch types across multiple users.	Clear your browser cache following upgrade. This can be done by pressing **CTRL** + **F5**.

If you encounter any issues after you have followed every step above and referred to the relevant sections of this guide, please see Troubleshooting for further advice.

Standalone deployment

Follow the steps in this section for a standalone Decipher IDP installation.

Installation is a four-part process for a standalone deployment and must be installed and configured in the following order:

Steps

For both standalone and multi-device installations, Decipher IDP must be installed and configured in the following order. Each installation step has detailed instructions, or you can follow the relevant installation video, where available.

Instructional videos on how to install Decipher IDP and other Blue Prism products are available from: https://bpdocs.blueprism.com/en-us/video/installation.htm.

Installation Step	Link to instructional video (if available)
1. Install and configure third-party software • Erlang • RabbitMQ • SQL Server / SQL Server Express 2012 or later (minimum requirement) • SQL Server Management Studio (recommend, but not required) • Internet Information Server (IIS) • .NET framework	• Install Erlang • Install RabbitMQ The RabbitMQ management plugin does not need to be enabled, or a new user configured, for standalone deployments. • Install IIS • Install .NET framework
2. Install and configure Blue Prism • Install Blue Prism and create a Decipher database • Copy the Decipher DLL • Import the Decipher VBO - Blue Prism interactive client • Import the Decipher processes (release)	• Copy DLL • Import VBO
3. Install Decipher IDP • Decipher Licensing Service • Decipher Server • Decipher Web Client • Decipher Automated Clients • Decipher Server Plugin	• Install Decipher Licensing Service • Install Decipher Server • Install Decipher Web Client • Install Decipher Automated Clients • Install Decipher Server Plugin

Installation Step	Link to instructional video (if available)

4. Configure Decipher IDP
• Configure database access
  • Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only)
  • Configure Windows Authentication (production environments).
• Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments).
• Add Decipher SQL location to Web.config
• Check all Decipher services are running
• Activate Sites and Services for Decipher IDP
• Enable machine learning training (optional)
	• Configure database access – non-production environments
	• Configure database access – production environments
	• Add Decipher SQL location to Web.config
	• Activate Sites and Services for Decipher IDP

5. Log onto Decipher IDP • You are ready to get started with Decipher IDP	• Log onto Decipher IDP

Install and configure third-party software

You need to install and configure the following software and settings in the order listed below on a dedicated PC **before** installing Decipher IDP.

> Please ensure that you have read the minimum requirements section, including the browser details, before installing the third-party software and Decipher IDP components.

Erlang and RabbitMQ

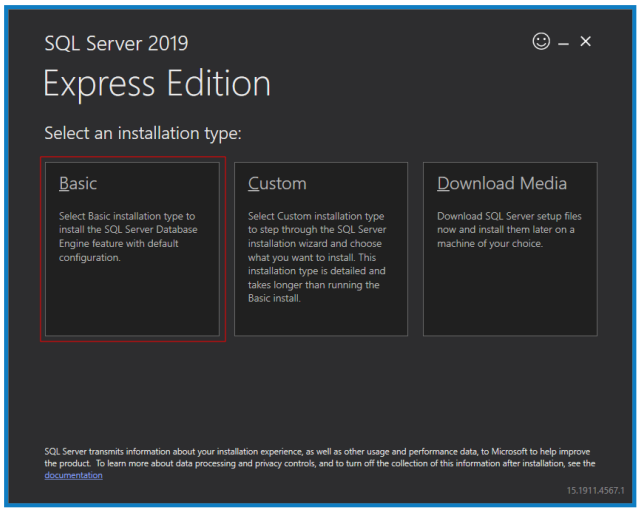
The following components must be installed before installing Decipher IDP:

- Erlang OTP version 25.1.2
- RabbitMQ version 3.11.4

Function	Erlang and RabbitMQ are required components and must be installed on the machine on which the Decipher Web Client will be installed. RabbitMQ is installed using a default username and password. These credentials are then automatically populated during the installation of the Decipher licensing service. If you do not want to use the default RabbitMQ credentials, you will need to amend them before installing Decipher licensing service and enter the new credentials during installation. For details on changing the default credentials, see RabbitMQ configuration.
Download	The version of Erlang that you require is dependent on the RabbitMQ version you intend to use. For more information, see RabbitMQ Erlang Version Requirements. https://www.erlang.org/downloads https://www.rabbitmq.com/download.html
Install	Run the installers and follow the instructions, accepting the default options when prompted.

SQL Server

Function	SQL Server Express 2012 is a minimum database requirement. SQL Server Express is supported for proof of concept and evaluation purposes only. It is not recommended or supported for production use.
Download	https://www.microsoft.com/en-us/sql-server/sql-server-downloads SQL Server Express 2012 (or later) is the minimum requirement for a standalone deployment of Decipher IDP.
Supported SQL Server versions	SQL Server Express 2012, 2016, 2017, 2019 SQL Server 2012, 2014, 2016, 2017, 2019

Install	Run the installer and when prompted, select the basic installation type.  The Blue Prism Decipher database should not be created at this stage of the installation process. See Create a Blue Prim database for Decipher IDP on page 64 for details.

SQL Server Management Studio

Function	This is not a requirement for Decipher IDP installation, but is recommended to configure and manage components within the SQL server. For multi-device installations this will need to be installed on a user's machine only where required.
Download	https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?redirectedfrom=MSDN&view=sql-server-ver15. Under Download SSMS, click **Download SQL Server Management Studio (SSMS)** to download the SSMS-Setup-ENU.exe.
Install	Run the installer and follow the instructions, accepting the default options when prompted.

Internet Information Server (IIS)

IIS needs to be configured on the web server. IIS settings are applied from the Windows control panel: **Programs** > **Programs and Features** > **Turn Windows Features on or off** and select **Internet Information Services**.

Ensure the following settings are applied:

IIS Setting	Sub Setting
Web Management Tools	IIS Management Console
World Wide Web Services	Application Development Features • .NET Extensibility 3.5 • .NET Extensibility 4.7 • ASP .NET 4.7 • ISAPI Extensions • ISAPI Filters Common HTTP Features • Default Document • Directory Browsing • HTTP Errors • Static Content
Health and Diagnostics	N/A
Performance Features	N/A
Security	N/A

Scripted installation

To apply the above settings automatically, run the command below using the PowerShell command prompt:

```
Install-WindowsFeature -Name Web-Mgmt-Console, Web-Net-Ext, Web-Net-Ext45, Web-Asp-Net45, Web-ISAPI-Ext, Web-ISAPI-Filter, Web-Default-Doc, Web-Dir-Browsing, Web-Http-Errors, Web-Static-Content -computerName localhost -Restart
```

.NET Core Components

Function	The .NET Core components must be downloaded and installed.
Download	Download the following components and store them in a temporary location, for example, C:\temp: • .NET Core Windows Server Hosting 3.1.3 https://dotnet.microsoft.com/en-us/download/dotnet/thank-you/runtime-aspnetcore-3.1.3-windows-hosting-bundle-installer • .NET Core Windows Desktop Runtime 3.1.3 https://dotnet.microsoft.com/en-us/download/dotnet/thank-you/runtime-desktop-3.1.3-windows-x64-installer • Visual C++ Redistributable 2012 (x64) **https://download.microsoft.com/download/1/6/B/16B06F60-3B20-4FF2-B699-5E9B7962F9AE/VSU_4/vcredist_x64.exe** • .NET Framework 4.7.2 **https://dotnet.microsoft.com/download/dotnet-framework/thank-you/net472-web-installer** This is installed by default on Windows Server 2019. You only need to install the .NET Framework if you are using Windows Server 2016.

Install	To install the .NET dependencies, run each of the following commands using the PowerShell command prompt, waiting until each completes, before running the next command:
	For Windows Server 2016:
	`start-process "C:\temp\dotnet-hosting-3.1.3-win.exe" /q -wait`
	`start-process "C:\temp\windowsdesktop-runtime-3.1.3-win-x64.exe" /q -wait`
	`start-process "C:\temp\vcredist_x64.exe" /q -wait`
	`start-process "C:\temp\NDP472-KB4054531-Web.exe" /q -wait`
	For Windows Server 2019:
	`start-process "C:\temp\dotnet-hosting-3.1.3-win.exe" /q -wait`
	`start-process "C:\temp\windowsdesktop-runtime-3.1.3-win-x64.exe" /q -wait`
	`start-process "C:\temp\vcredist_x64.exe" /q -wait`
	Ensure the file name and file path match the files that were stored in step 1.
	Restart your server before installing Decipher IDP to ensure the components are fully installed and registered.

RabbitMQ configuration

If required, you can amend the default RabbitMQ credentials.

Enable RabbitMQ management plugin

To create enable the RabbitMQ plugin:

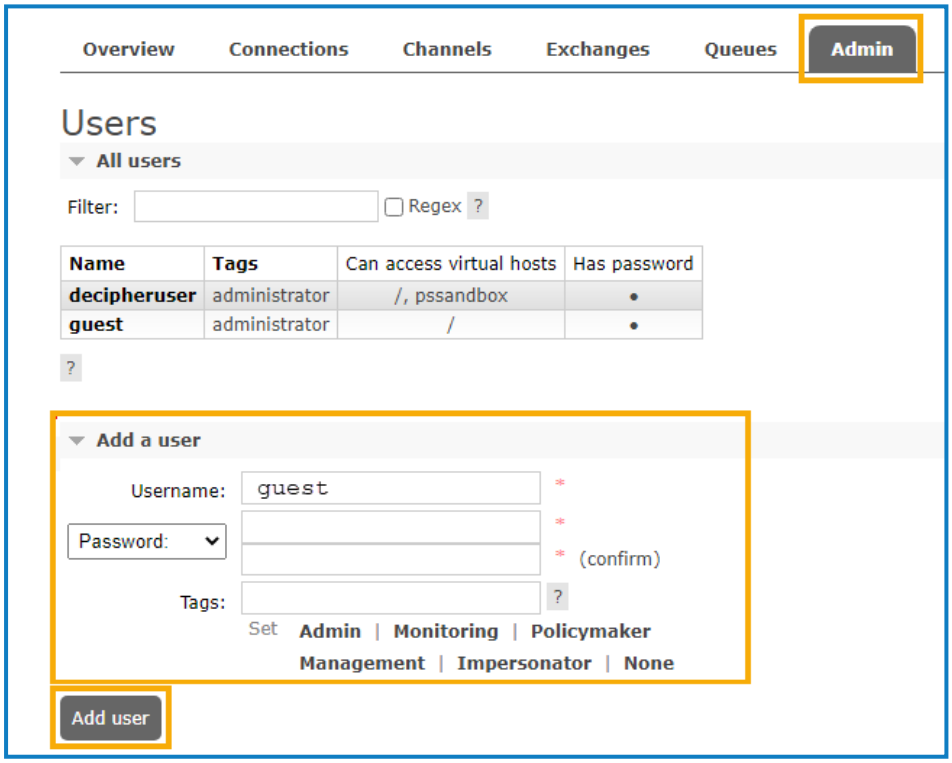
1. From the Start menu, under the RabbitMQ Server folder, select the RabbitMQ Command Prompt (sbin dir).
2. In the RabbitMQ Command Prompt window, type the following command:
   `rabbitmq-plugins enable rabbitmq_management`

Customize RabbitMQ credentials and set permissions

If you do not want to use the default RabbitMQ credentials, you can create a new user with custom credentials, or update the credentials used by the default RabbitMQ user:

1. Open a browser and navigate to *http://localhost:15672/*.

   The RabbitMQ Management login screen displays.
2. Log into RabbitMQ using *guest* as both the username and password.
3. Select the **Admin** tab and click **Add user**.



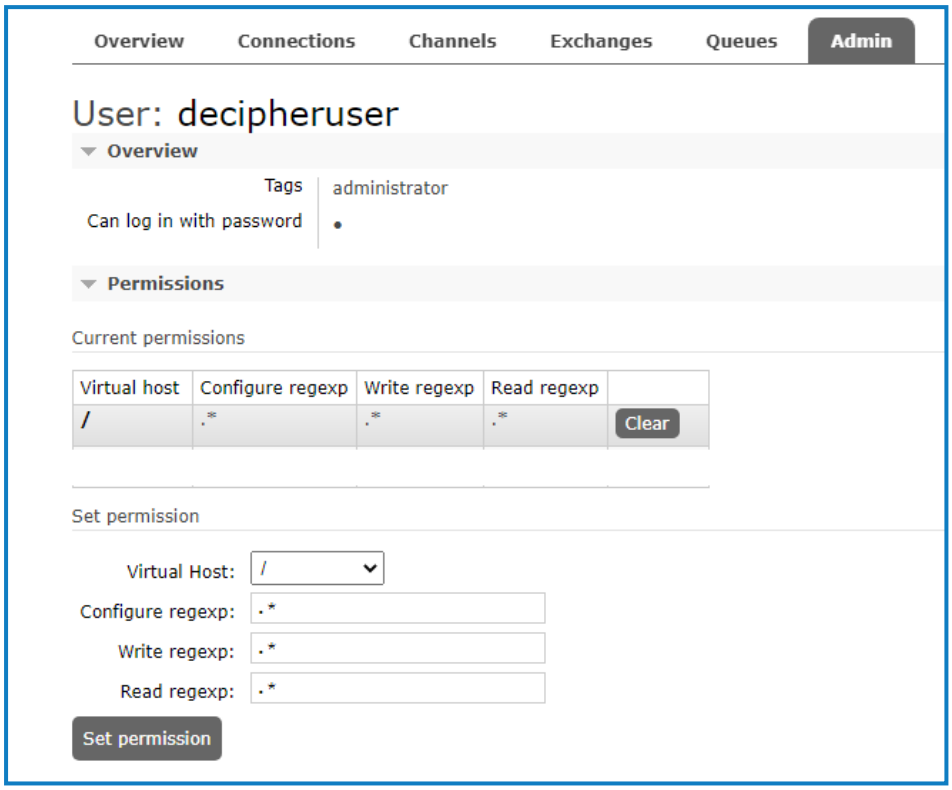
> If you do not want to create a new user, you can also change the username and password of the default RabbitMQ user.

4. Add the username and password for the user.
5. In the **Tags** field, enter *administrator*.
6. If adding a new user, click **Add user**.

   Once created, the new user will display in the All users list.

7. To grant administrator permissions, in the All users list, select the relevant user.

   The Permissions page for the selected user displays.



8. In the Set permission dialog, ensure the **Virtual Host** field contains the **/** character and do not amend the other default parameter settings.
9. Click **Set permission** to apply these permissions to the new user.
10. Run the installers for Decipher Licensing Service and Decipher Server. On the RabbitMQ connection configuration screen enter the RabbitMQ credentials as configured above. For details, see Install Decipher IDP components.
11. Run the installers for Decipher Web Client, Decipher Automated Clients, and Decipher Server Plugin.
12. Open the following config files, and in the appSettings node, populate the **RabbitMQHost** with just the hostname or IP address of the RabbitMQ server; and populate the **RabbitMQUsername** and **RabbitMQPassword** attributes with the relevant credentials and save the changes.

Config file	Default location
Web.config	C:\Program Files (x86)\Blue Prism\Decipher Web
Ssi.SdkService.exe.config	C:\Program Files (x86)\BluePrism\Decipher Web SDK Service
Ssi.SdkWrapper.exe.config	C:\Program Files (x86)\BluePrism\Decipher Web SDK Service\SdkWrapper

> Credentials are entered as plain text. For enhanced security, the credentials can be encrypted. For more information, see Encrypt credentials on the next page.

13. Open Internet Information Services (IIS) Manager and select the Decipher website from the navigation tree.

14. Under Manage Website in the right-hand pane, click **Restart**.
15. Using Windows Services, restart RabbitMQ and all Decipher Services (Decipher Licensing Service, Decipher Server, Decipher Web Client, and Decipher Automated Clients).
16. Restart your machine.

The RabbitMQ user is now set up and ready for use with Decipher IDP.

Encrypt credentials

As part of this configuration, RabbitMQ credentials are entered as plain text. While the Web.config automatically encrypts the credentials after first login, values are kept as plain text in the Ssi.SdkService.exe.config and Ssi.SdkWrapper.exe.config files. To be able to encrypt the credentials in all the files, the account running the Decipher Web SDK service must have write permissions to the Decipher installation folder. The default network service account will not have sufficient permissions. To change the account:

1. From Windows Services, right-click the Decipher Web SDK service and select **Properties**.
2. Click the **Log On** tab and select **This account**.
3. Enter the location and password of the relevant account, and click **OK**.
4. In Windows Services, restart the following Decipher services: Decipher Licensing Service, Decipher Server, Decipher Web Client, and Decipher Automated Clients.
5. Log into Decipher IDP.

Upon successful login to Decipher IDP, the credentials are encrypted in all three config files. If required, you can change the service to use the original account after the credentials have been encrypted.

Update default credentials for existing installations

If required, you can change the default credentials for existing installations:

1. From the Windows Start menu, open **Settings** > **Apps**, select the **Decipher Licensing Service** and click **Modify**. The Decipher Licensing Service Setup dialog displays.
2. On the Change, repair, or remove installation screen, click **Change**. Proceed through the wizard. On the RabbitMQ connection configuration screen, enter the new RabbitMQ credentials as configured above.
3. Uninstall and reinstall Decipher Server. During installation, on the Licensing screen, enter the new RabbitMQ credentials.
4. Open the following config files, and in the appSettings node, populate the **RabbitMQHost** with just the hostname or IP address of the RabbitMQ server; and populate the **RabbitMQUsername** and **RabbitMQPassword** attributes with the relevant credentials and save the changes.

Config file	Default location
Web.config	C:\Program Files (x86)\Blue Prism\Decipher Web
Ssi.SdkService.exe.config	C:\Program Files (x86)\BluePrism\Decipher Web SDK Service
Ssi.SdkWrapper.exe.config	C:\Program Files (x86)\BluePrism\Decipher Web SDK Service\SdkWrapper

Credentials are entered as plain text. For enhanced security, the credentials can be encrypted. For more information, see Encrypt credentials above.

5. Open Internet Information Services (IIS) Manager and select the Decipher website from the navigation tree.
6. Under Manage Website in the right-hand pane, click **Restart**.
7. Using Windows Services, restart RabbitMQ and all Decipher Services (Decipher Licensing Service, Decipher Server, Decipher Web Client, and Decipher Automated Clients).
8. Restart your machine.

The credentials used for RabbitMQ are now updated and ready for use with Decipher IDP.

Install and configure Blue Prism

The following components are required to complete the steps below:

- Blue Prism
- Decipher DLL
- Decipher VBO
- Decipher v2.2.bprelease

For details of component versions see the release notes.

Install Blue Prism and create a database

If you do not already have Blue Prism installed, you will need to install Blue Prism 6.6 or later. If you already have Blue Prism installed you just need to create a Blue Prism database for use with Decipher IDP - you will need to reference this when installing the Decipher Licensing Service.

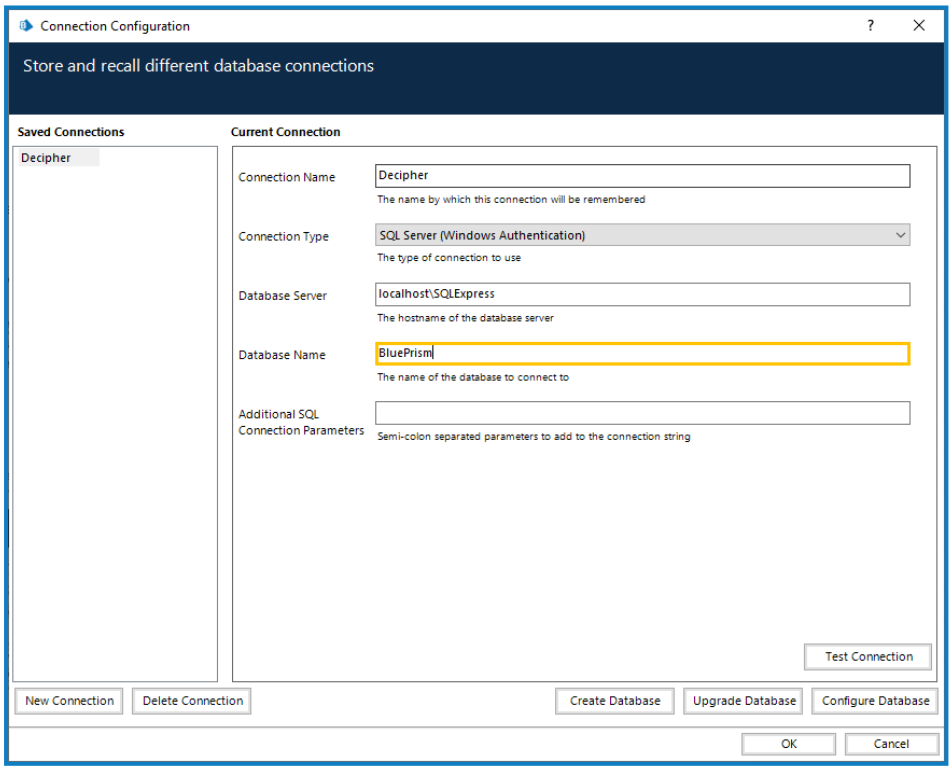
This is an overview of the steps required to install Blue Prism and create a database. You can find full instructions on how to install, configure, and use our product in the Blue Prism help.

Create a Blue Prim database for Decipher IDP

You need to create a new database for your Decipher IDP data.

1. Install and launch Blue Prism.
2. In the Sign in to Blue Prism screen, click **Configure connection** to launch the configure connection wizard.
3. Click **New Connection** followed by **Create Database**.
4. In the Connection Configuration screen complete the following details:

Connection Name	Enter an easily recognizable name for the connection.
Connection Type	Select **SQL Server (Windows Authentication)**.
Database Server	Enter the network location of the SQL server instance. If you have installed SQL Express as described in this guide, this will be localhost\SQLExpress.
Database Name	Enter a name for the new database, e.g. *BluePrism*. *BluePrism* is the default database name when installing the Decipher licensing service. If you create a database using a different name, you will need to enter this name when you install the Decipher licensing service.
Additional SQL Connection Parameters	This is not required.



5. Select your required user authentication method and click **OK** to create the database.

Add Decipher IDP license to SS&C Blue Prism

You need a Decipher IDP license to run Decipher. This must be added to Blue Prism before installing Decipher IDP.

1. Log into Blue Prism.

   > Ensure that you log into Blue Prism using the connection configured to use the database created for Decipher IDP. This is because Decipher licensing will not work unless you apply the license key to the Decipher database. You also need to ensure you specify this database when installing the Decipher Licensing Service.

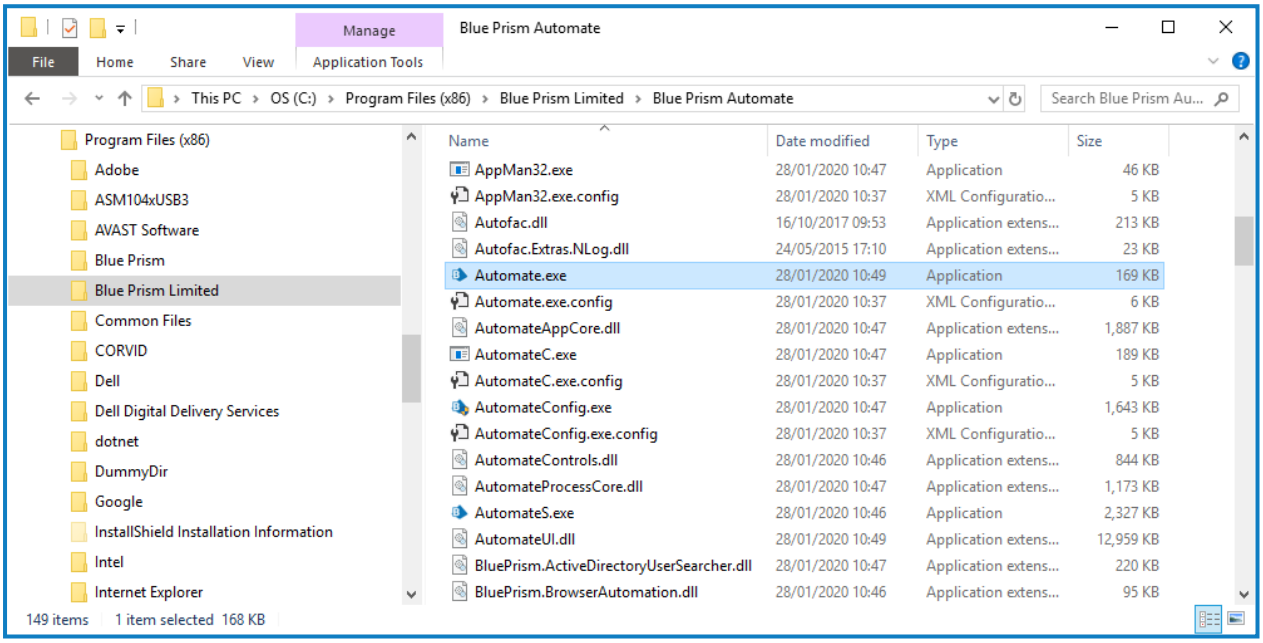
2. Click the **System** tab and select **System** > **License** from the navigation tree. Details of the active license are displayed and options are available to install new licenses and remove existing ones.
3. Click **Install new license** to add the Decipher license.

Add the Decipher DLL

For multi-device installations (any interactive client or runtime resource that will run the Decipher Blue Prism processes), this DLL needs to be copied to the Blue Prism install location for all Blue Prism interactive clients and runtime resources using Decipher IDP.

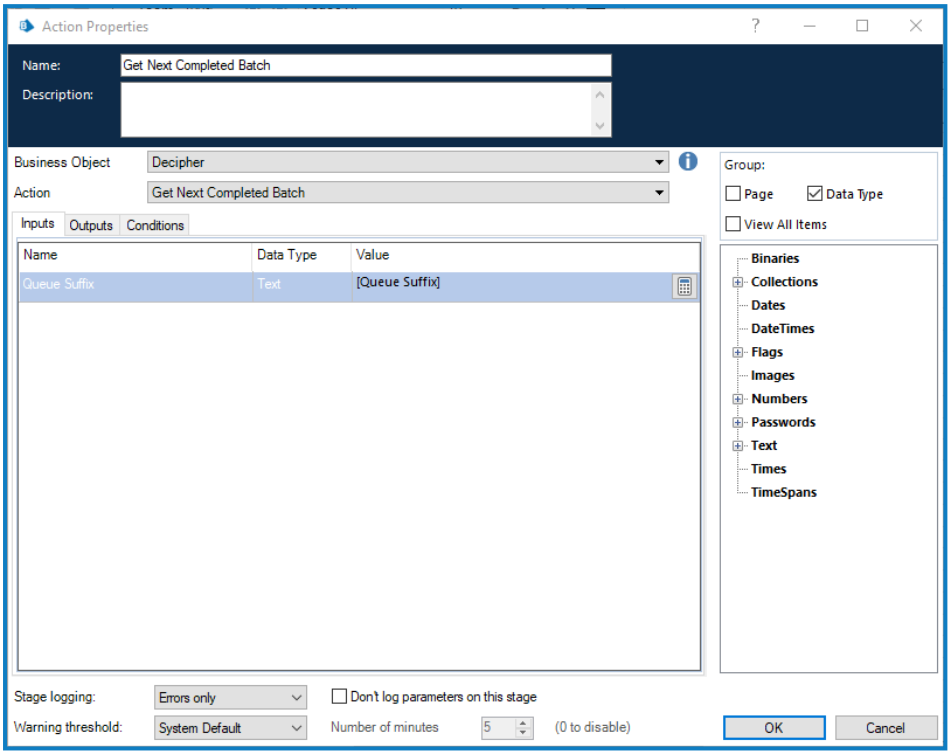
Paste the BluePrismDecipher.VBO.Interop.dll file into `C:\Program Files\Blue Prism Limited\Blue Prism Automate`.

This is the default install location so adjust it if you have used an alternative - just make sure it is in the same directory as Automate.exe.



Import the Decipher VBO

In Blue Prism select **File** > **Import** and import the *BPA Object - Decipher.xml*. This Decipher VBO can also be used to create your own processes.



Import the Decipher release

Import this release into each separate Blue Prism environment that needs to interact with Decipher IDP.

The Decipher v2.2.bprelease contains a number of pre-built processes to help you use Decipher IDP.

Process	Function	Details
Decipher - 01 Push Documents	Takes documents located in *C:\Invoices* and pushes them to Decipher IDP as a single batch.	Do not include more than 15 invoices in a batch.
Decipher - 02 Batches to Verify	Sample process to determine whether there are batches in Decipher IDP that require manual verification.	This returns True or False and can be used to build a process to send notifications to users.
Decipher - 03 Get Verified Documents	Sample process to retrieve verified documents from Decipher IDP and put in a Blue Prism work queue.	N/A
Decipher - 04 Get Decipher Item from BP Queue	Takes the document data from Blue Prism work queue and pushes data into collection.	N/A

Select **File** > **Import** and select the Decipher v2.2.bprelease you downloaded from the portal. The processes are added to the Processes\Default folder in Studio.

Install Decipher IDP components

Before installing the Decipher IDP components, you will need to apply a valid Decipher IDP license to the Decipher database in Blue Prism for Decipher IDP to work. See Decipher IDP licensing for details.

The following components are required to complete the Decipher IDP installation and steps below and must be installed in this order:

1. Decipher Licensing Service
2. Decipher Server
3. Decipher Web Client
4. Decipher Automated Clients
5. Decipher Server Plugin

If you have already installed the beta version of Decipher IDP, you will need to use Windows Add/Remove Programs to remove all of the (beta) Decipher components from all devices, before installing this release. To avoid any issues, please then follow these installation instructions when re-installing Decipher IDP.

You can download these files from the Decipher IDP product page of our customer portal. You can see the component versions for each release in the release notes.

Depending on your current system setup you may need to restart your computer following installation before Decipher IDP can be used.

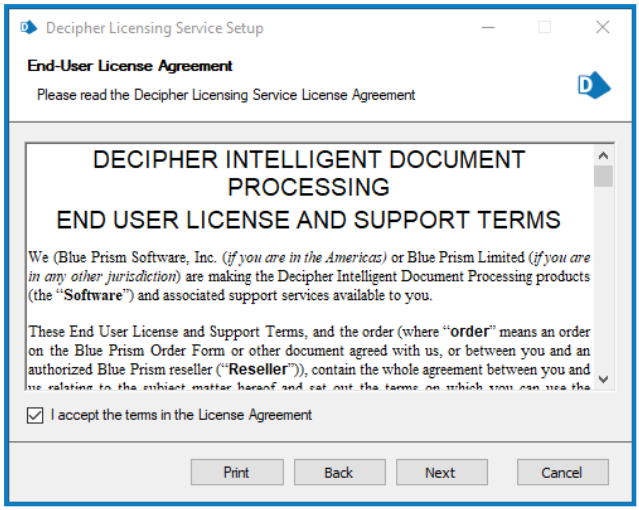
Install Decipher Licensing Service

RabbitMQ is installed using a default username and password. These credentials are then automatically populated during the installation of the Decipher licensing service. If you do not want to use the default RabbitMQ credentials, you will need to amend them before installing Decipher licensing service and enter the new credentials during installation. For details on changing the default credentials, see RabbitMQ configuration.

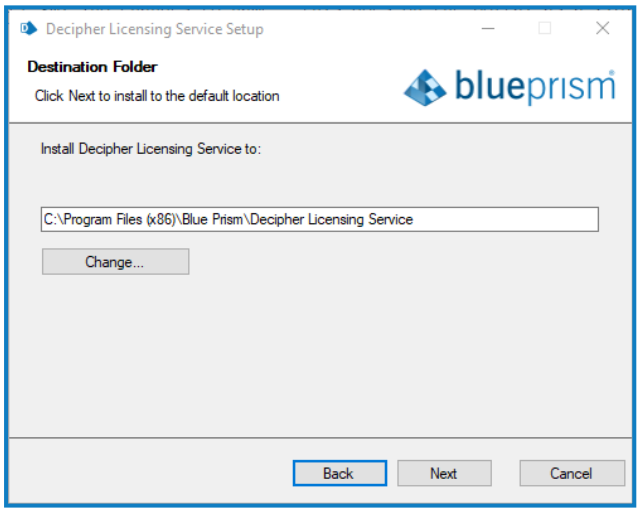
For multi-device installations, this needs to be installed on the Decipher Licensing Service.

1. Run the Decipher Licensing Service installer.
2. Click through the install wizard, following the on-screen instructions as prompted.

3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Licensing Service or click **Change** to specify a different location.

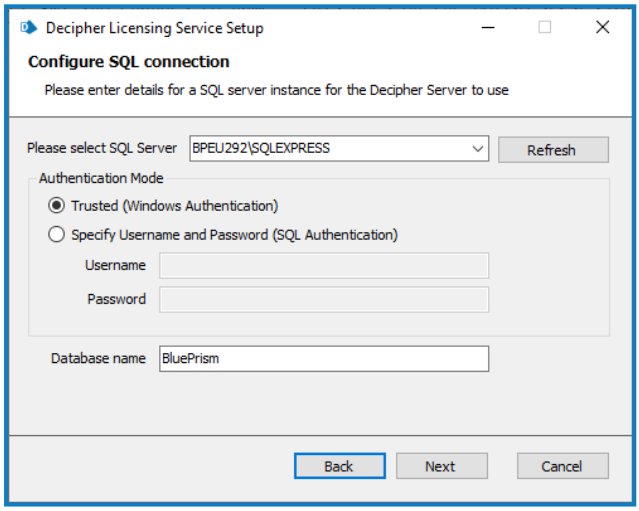


5. On the Configure SQL connection screen:
    a. Ensure the correct SQL server is specified.
    b. The Trusted (Windows Authentication) authentication mode is selected by default. This setting is recommended for Decipher IDP, but can be changed if required.

> ⚠ If using SQL Authentication, ensure your SQL password does not start with an equals (=) sign or a semi-colon (;) as they are not supported and may lead to a corrupted configuration file.

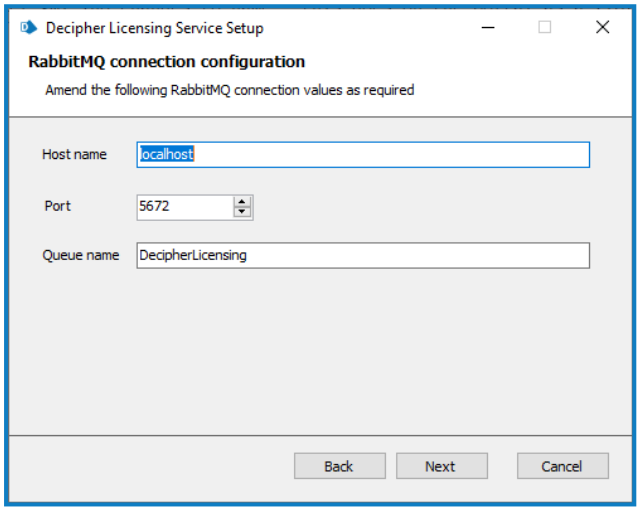
    c. Enter the name of your existing Blue Prism database. The Database name defaults to *BluePrism*. If you have already created a Blue Prism database for Decipher using a different name, enter that name in the **Database name** field.

> If you don't enter the correct Decipher database name during this part of the installation, as described above, Decipher IDP will not successfully run.



6. On the RabbitMQ connection configuration screen the following details are completed by default:

Host name	The hostname of your RabbitMQ server. Commonly in development environments, all components are installed on the same server, and therefore the default is *localhost*. For multi-device environments, you will need to enter the name of the RabbitMQ server.
Port	Defaults to *5672*.
Queue name	Defaults to *DecipherLicensing*.



7. Click **Next** to continue. A message displays notifying you that a queue using the name you have specified will be created in RabbitMQ. Click **Yes** to accept, or **No** if you want to go back and amend the name.
8. On the RabbitMQ connection configuration screen enter the username and password for RabbitMQ. The default is *guest*.

   The RabbitMQ username and password entered here must match the RabbitMQ account – the default RabbitMQ username and password are *guest*. For standalone deployments, the default credentials are sufficient. If you created a different RabbitMQ user, enter the credentials for the new user. You will be prompted to enter these credentials when installing the Decipher server.

9. Click **Next**.
10. On the Installation Summary screen, click **Install** to complete the installation, followed by **Finish** to exit the wizard.

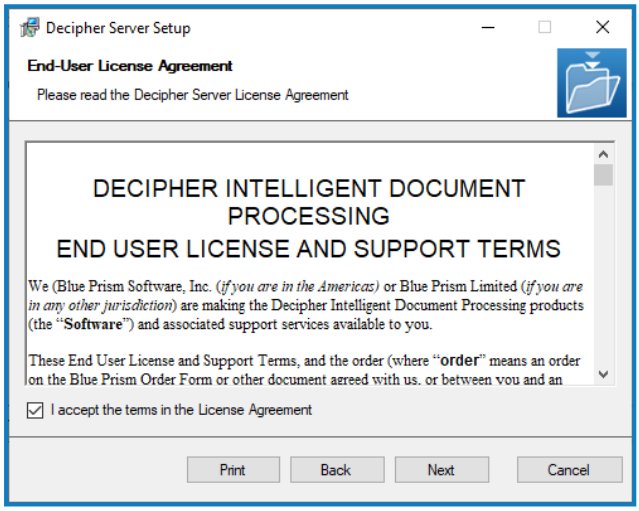
When the Decipher Licensing Service is installed, it is automatically configured with a default RabbitMQ connection timeout of 5 seconds. If required, you can update the timeout value. For more information, see Configure RabbitMQ connection timeout.

Install Decipher Server

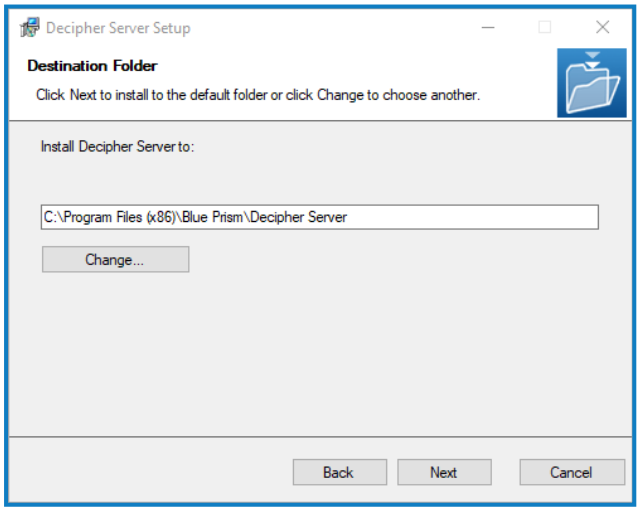
If required, the separate reporting database must be created when installing/upgrading the Decipher Server component.

For multi-device installations, this needs to be installed on the Decipher server.

1. Run the Decipher Server installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.

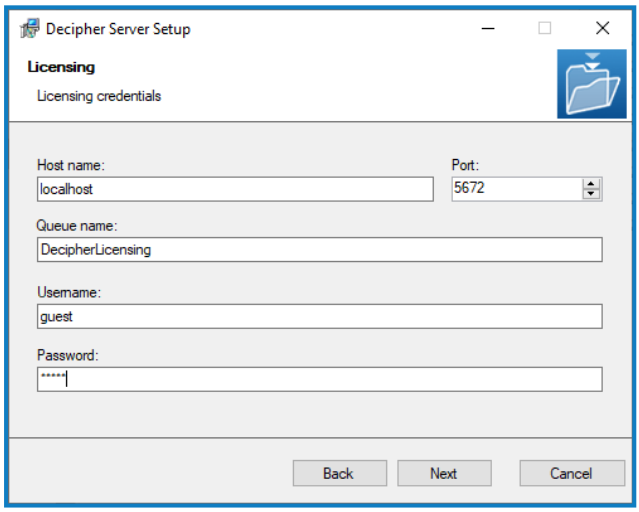


4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Server or click **Change** to specify a different location.



5. On the Licensing screen, enter the following licensing details:
   - **Host name** - The hostname of your RabbitMQ server. Commonly in development environments, all components are installed on the same server, and therefore the default is *localhost*. For multi-device environments, you will need to enter the name of the RabbitMQ server.
   - **Queue name** - The RabbitMQ queue name. The default is *DecipherLicensing*.
   - **Username and Password** - The username and password for the RabbitMQ account that you entered when installing the Decipher Licensing Service. The default RabbitMQ username and passwords are *guest*, these credentials can only be used for standalone deployments.

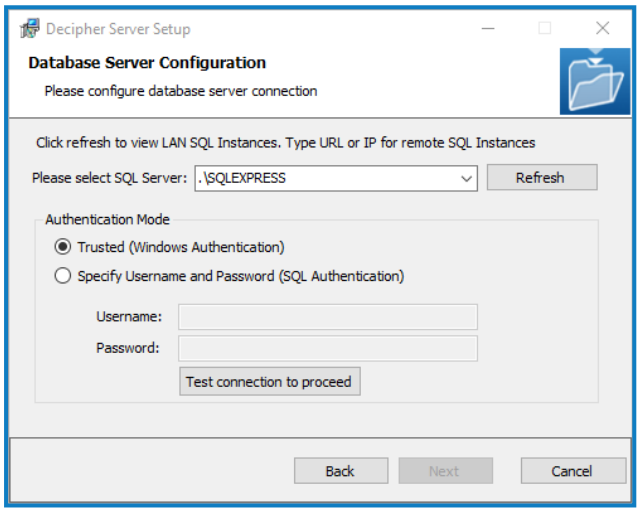
     For multi-device deployments, you will need to first create a new RabbitMQ user to access to RabbitMQ server remotely, see Create new RabbitMQ user and set permissions for details. You will also need to modify the RabbitMQ instance on the Decipher Server to configure remote access to the RabbitMQ server, see Modify the RabbitMQ instance on the Decipher Serverfor details.



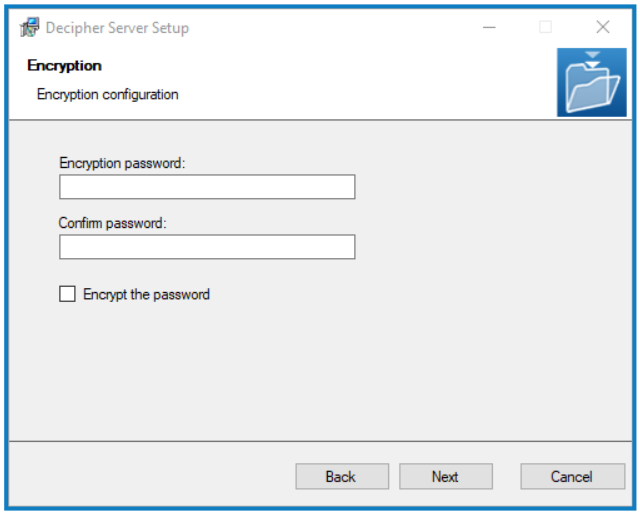
6. On the Database Server Configuration screen:
    a. Ensure the correct SQL server is specified.

    > If the SQL server is the MSSQLSERVER default instance, enter the machine name or *localhost*. Entering the full name will result in the server not being found. Alternatively, if you need to provide a different instance name, enter the machine name or *localhost*, followed by \ and the instance name.

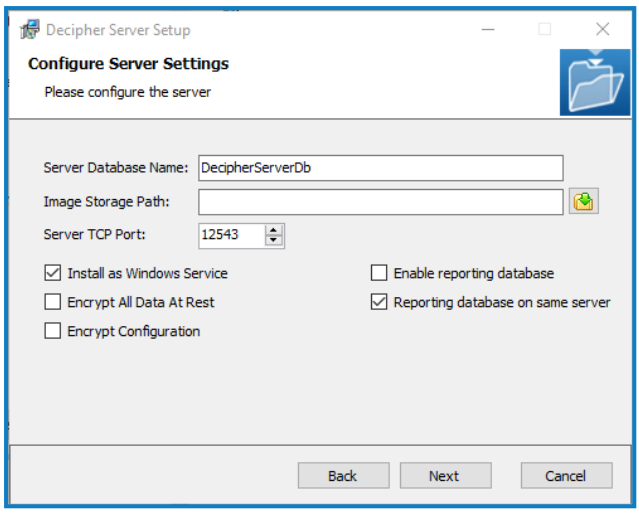
    b. The Trusted (Windows Authentication) authentication mode is selected by default. This setting is recommended for Decipher IDP, but can be changed if required.
    c. Click **Test connection to proceed**, followed by **Next** to continue.



7. On the Configure Server Settings screen complete the following details:

Server Database Name	Enter a new name for the server database, or accept the default *DecipherServerDb*.
Image Storage Path	Enter the location in which to store the documents after they have been processed. This can be any location, including OneDrive, SharePoint, or a local drive. For example *C:\Decipher storage*.
Server TCP Port	Accept the default TCP port, or enter a different port number if required. You will need to enter this port number when installing the Decipher Web Client.
Install as Windows Service	This option is selected by default. Do not deselect this option.
Encrypt All Data At Rest	Select this option if you want to store all completed documents as encrypted files. This is only necessary if the documents being processed are confidential. If enabled, you will need to configure an encryption password. If enhanced security is required, enable the **Encrypt the password** option. 
Encrypt Configuration	Select this option if you want to encrypt the server settings.
Enable reporting database	Select this option to create a separate reporting database. A separate reporting database enables you to retain report data for much longer. This is also required to populate the accuracy and automation rates reports. For details of how to copy any existing reporting data from the Decipher database to the new reporting database, see Reporting database configuration.
Reporting database on same server	If selected, the reporting database will be created on this server. This option is selected by default.

If required, the separate reporting database must be created when installing/upgrading the Decipher Server component.

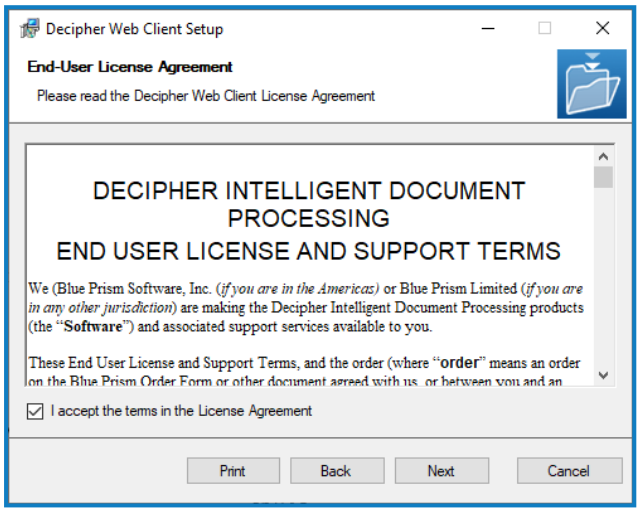


8. Click **Next**.
9. On the Installation Summary screen, click **Install** to complete the installation, followed by **Finish** to exit the wizard.

Install Decipher Web Client

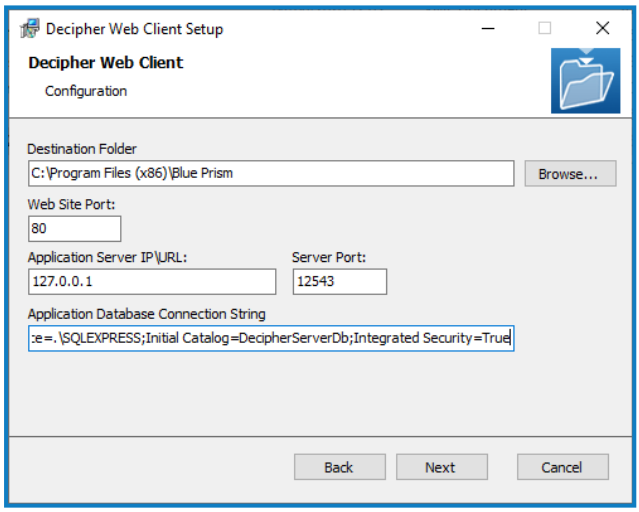
For multi-device installations, this needs to be installed on the Decipher web server.

1. Run the Decipher Web Client executable.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Configuration screen complete the following details:

Destination Folder	Accept the default install location.
Web Site Port	Accept the default web site port, or enter a different port number if required.
Application Server IP/URL	This IP address is required when you install the Decipher server.
Port	Ensure the same port number entered for Decipher Server is entered here.
Application Database Connection String	Enter the name of the SQL database connection. If you accepted the default settings whilst installing Decipher Server, this will be: `Data Source=.\SQLEXPRESS;Initial Catalog=DecipherServerDb;Integrated Security=True` If you didn't accept the default options, this can be found in the SsiServer.exe.config file, which is located in C:\Program Files (x86)\Blue Prism\Decipher Server by default.



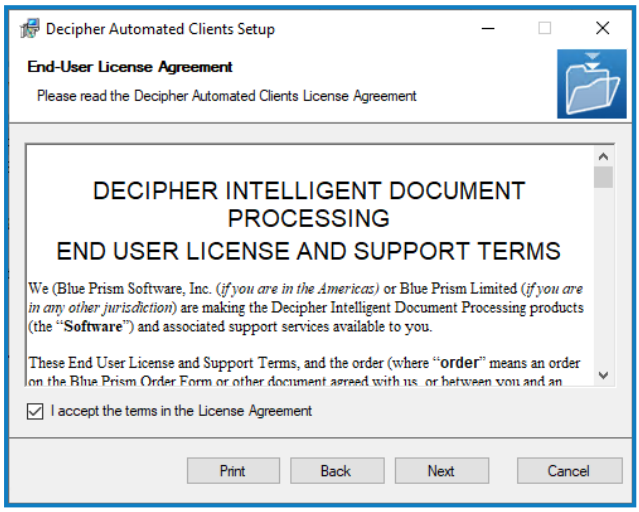
5. Click **OK** to save the settings.
6. Click **Install** to continue to install Decipher Web Client, which may take several minutes, followed by **Close** to exit the wizard.

Windows security alerts may display for the erl.exe and the epmd.exe. For Decipher IDP to work successfully you will need to allow them to communicate over your private networks.

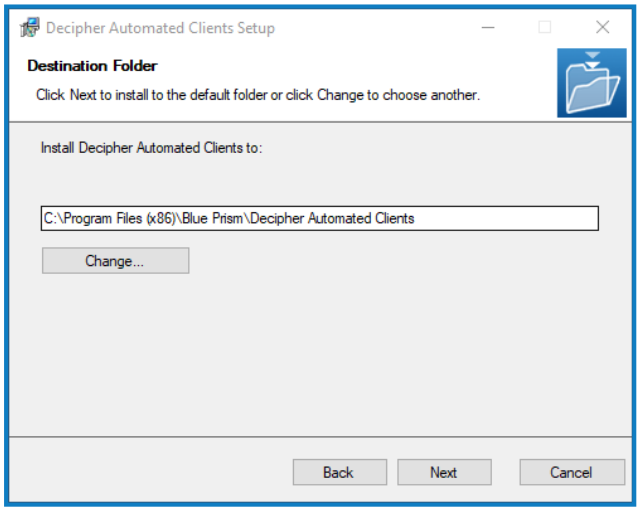
Install Decipher Automated Clients

For multi-device installations, this needs to be installed on the Decipher clients server.

1. Run the Decipher Automated Clients installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.

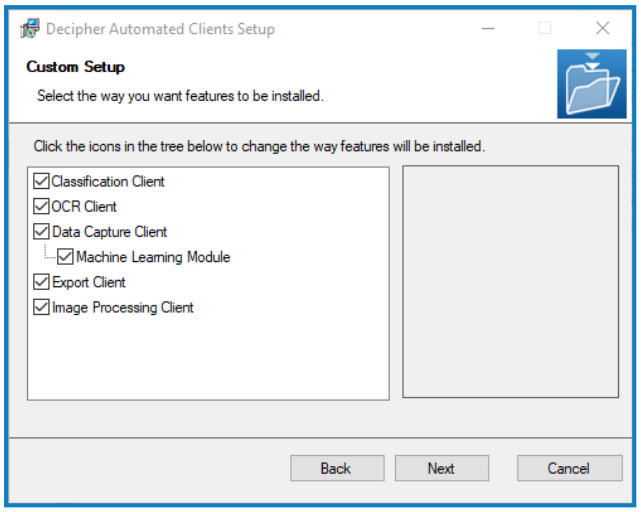


4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Automated Clients or click **Change** to specify a different location.



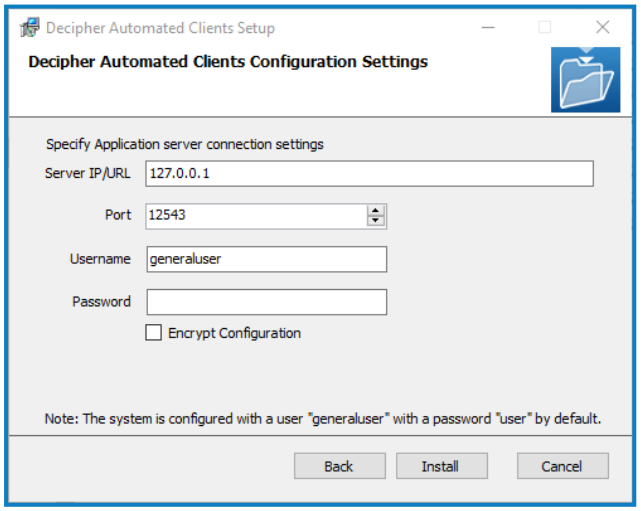
5. On the Custom Setup screen, select the relevant options.

   For standalone deployments, select every option. For multi-device deployments, with multiple automated clients, select only the features required for each installation.



6. On the Decipher Automated Clients Configuration Settings screen complete the following details:

Server IP/URL	Ensure the same IP address entered in the Decipher Server is entered here. The default IP address is *127.0.0.1*.
Port	Ensure the same port number entered for Decipher Server and the Decipher Web Client is entered here. The default port is *12543*.
Username	*generaluser* This is the Decipher user that will run the different modules to extract data from a document.
Password	*user*
Encrypt Configuration	Select this option to encrypt the Automated Client configuration settings.

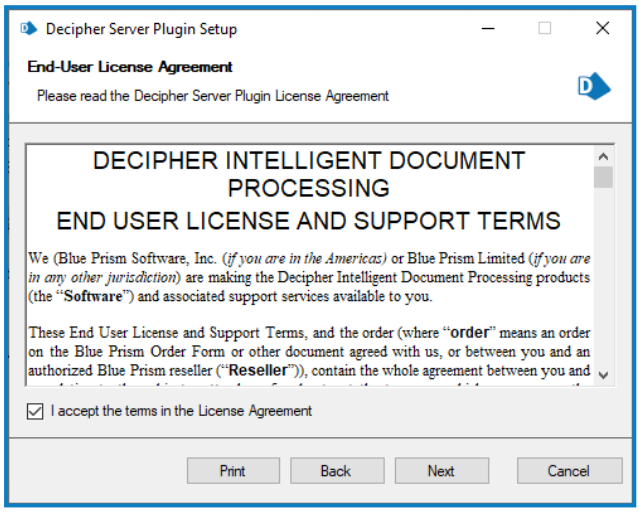


7. Click **Install** to complete the installation, followed by **Finish** to exit the wizard.

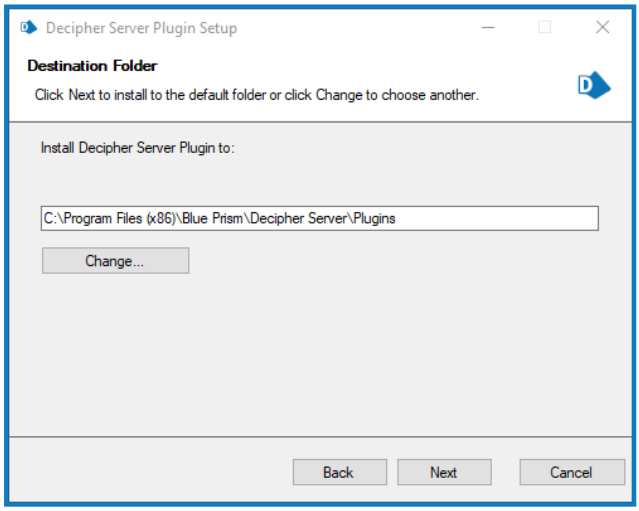
Install Decipher Server Plugin

For multi-device installations, this needs to be installed on the Decipher server.

1. Run the Decipher Server Plugin installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Server Plugin or click **Change** to specify a different location.



5. Click **Install** to complete the installation, followed by **Finish** to exit the wizard.

Configure Decipher IDP

When you have installed the SS&C Blue Prism and Decipher IDP components, you need to complete the following configuration steps before you can get started. These should be done in the following order:

1. Configure database access:
   - Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only)
   - Configure Windows Authentication (production environments)
2. Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments)
3. Ensure all Decipher services are running
4. Activate sites and services for Decipher IDP
5. Enable machine learning training (optional)
6. Update and encrypt database connection strings (optional)
7. Reporting database configuration (optional)
8. Configure RabbitMQ connection timeout (optional)

Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only)

This configuration applies to single-server, non-production environments only.

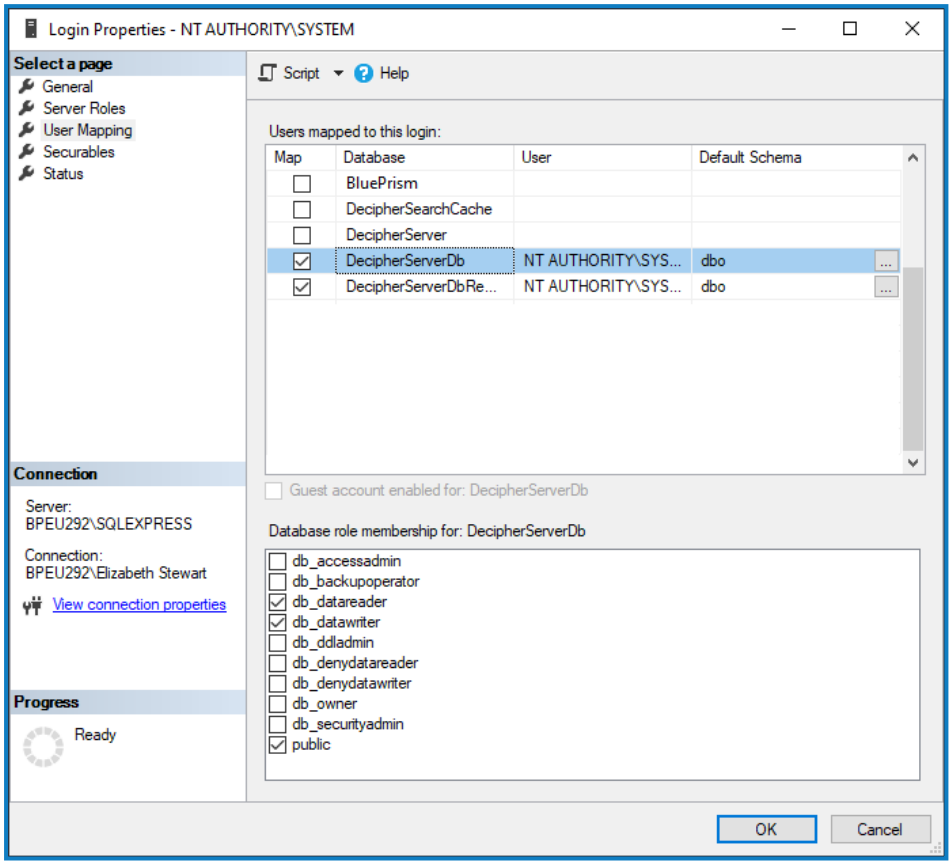
The Decipher server service runs under the local system account. In order to access the Decipher database, this user must be given access to the database. If you don't want to perform this step for the current user, you could set Decipher to run as another user who has access to the database. The user needs sufficient permissions to create the database and then read and write to it.

To give NT authority access to the Decipher database:

1. Open Microsoft SQL Server Management Studio and connect to the instance that is hosting your Decipher database. If you installed SQL Express, the default for this is .\SQLEXPRESS.
2. Click **Security** > **Logins** and double-click **NT AUTHORITY\SYSTEM**.

   The Login Properties dialog displays.

3. Click **User Mapping** and select the relevant the check boxes to ensure the user has db_datareader and db_datawriter access to the Decipher database and the Decipher reporting database, if applicable.



4. Click **OK** to save the changes.

Configure Windows Authentication (production environments)

For production environments, Blue Prism recommends the use of Windows Authentications using service accounts.

> The Decipher services and the website application pool must run under the context of a user that has access to the relevant databases.

Configure the Decipher services

The following Decipher services must be configured with database access:

Service name	Database	Required database permissions
Decipher Licensing Service	The Blue Prism database to which the Decipher license is applied.	db_datawriter / db_datareader
Decipher Server	The Decipher database.	db_datawriter / db_datareader
Decipher Web SDK	The Decipher database.	db_datawriter / db_datareader

To configure Windows authentication for each Decipher service listed above:

1. From Windows Services, right-click the Decipher service and select **Properties**.
2. Click the **Log On** tab and select **This account**.
3. Enter the location and password of your service account.
4. Perform this task for each Decipher service.
5. Restart the Decipher services.

Grant the service account access to Decipher folders

The service account used to access the Decipher databases also needs access to the following Decipher folders:

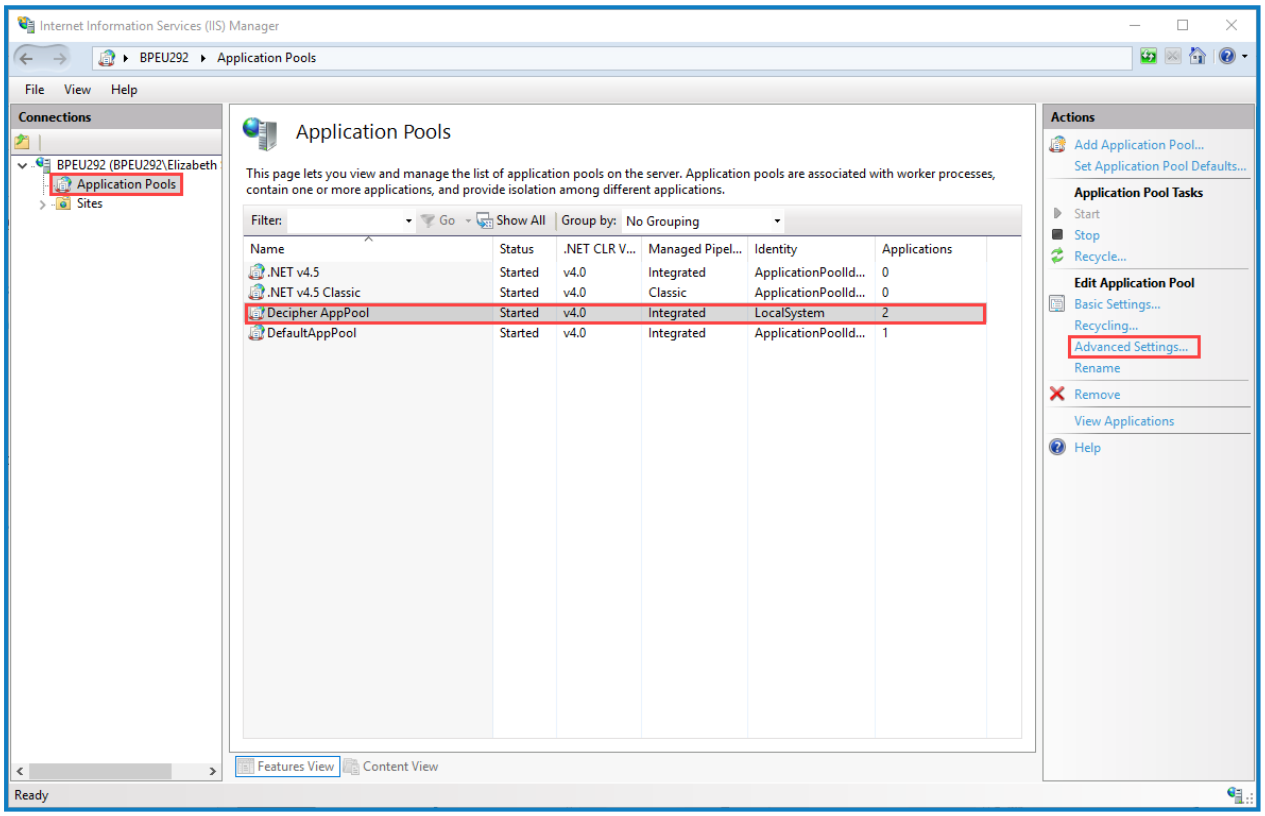
- **The Decipher Image Storage Path** - This location is defined during the Decipher Server installation and can be viewed in: `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config` under the "ImageStorageRoot" key.
- **The Decipher application files** - `C:\Program Files (x86)\Blue Prism\`
- **The default Decipher logging locations**:
  - `C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\Blue Prism`
  - `C:\Windows\System32\config\systemprofile\AppData\Local\Decipher`
  - `C:\Windows\System32\config\systemprofile\AppData\Local\Blue Prism`
- **The default website folder** - `C:\inetpub\wwwroot`

Configure the Decipher website identity

The Decipher website identity should be set to an account that has db_datareader and db_datawriter access to the Decipher database. The service account that was specified in the Service configuration can be used.

To change the application pool identity:

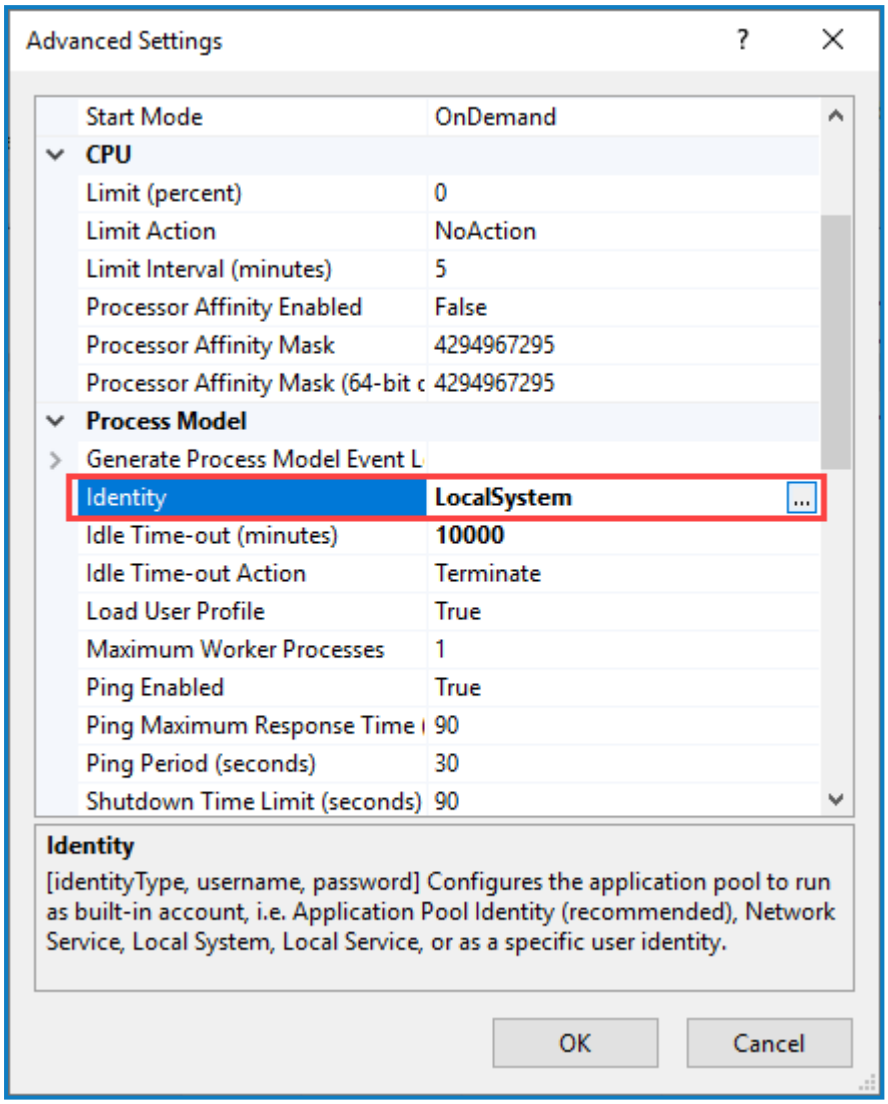
1. Open Internet Information Services (IIS) Manager.
2. On the left-hand pane, navigate to **Application Pools**.
3. Select **Decipher AppPool**.
4. On the right-hand pane, click **Advanced Settings**.



The Advanced Settings dialog displays.

5. Under **Process Model**, click **Identity**.

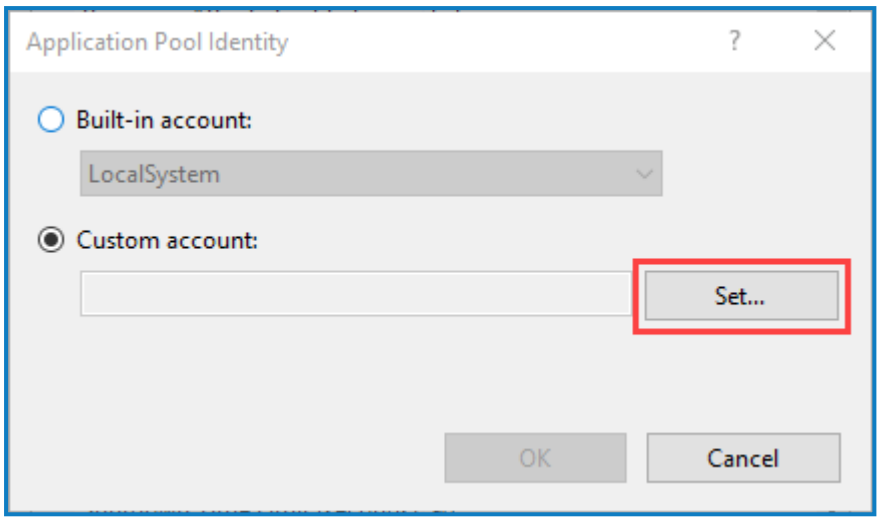
   The … (ellipsis) button displays.



6. Click the … (ellipsis) button.

   The Application Pool Identity dialog displays.

7. Select **Custom Account** and click **Set**.



8. Enter the account credentials, as prompted.
9. Once complete, navigate back to the **Application Pools** list.
10. Select **Decipher AppPool** and click the **Recycle** button.

⚠ Recycling the IIS logs will log the user out of the current Decipher IDP session. If frequent recycling of the IIS logs is required, it is recommended that this is scheduled for outside of operating hours.

Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments)

To secure your Decipher website to use an SSL certificate:

1. Open Internet Information Services (IIS) Manager.
2. On the left-hand pane, expand the **Sites** node and select **Decipher**.
3. Under **Edit Site** in the right-hand pane, click **Bindings**.

   The Site Bindings dialog displays.
4. Click **Add**.

   The Add Site Binding dialog displays.
5. From the **Type** drop-down, select **https**.
6. Add the host name of the Decipher Server to the **Host name** field.
7. Select an **SSL certificate**.

   The **SSL certificate** drop-down is populated with certificates from the personal certificate store on the local machine.
8. Click **OK** to accept the changes.
9. Navigate to the Decipher website and click **Restart**.

Any clients connecting to the Decipher website will have to trust the certificate that you selected in the above process. Self-signed certificates will need to be imported onto client machines, but it is more advisable to use a certificate from a certificate authority so that it is implicitly trusted by all clients.

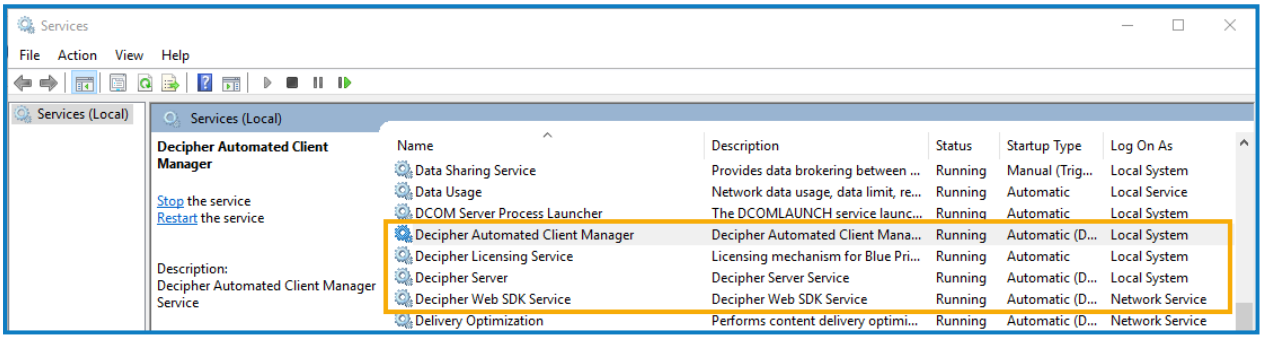
Check all Decipher services are running

Check that the necessary services exist and are running – you can do this by typing *services* into the Windows search bar and checking these services:

- Decipher Automated Client Manager
- Decipher Licensing Service
- Decipher Server

  > This service will not run until the LocalSystem user has been given access to the database; or the Decipher Licensing Service has started.

- Decipher Web SDK Service
- RabbitMQ

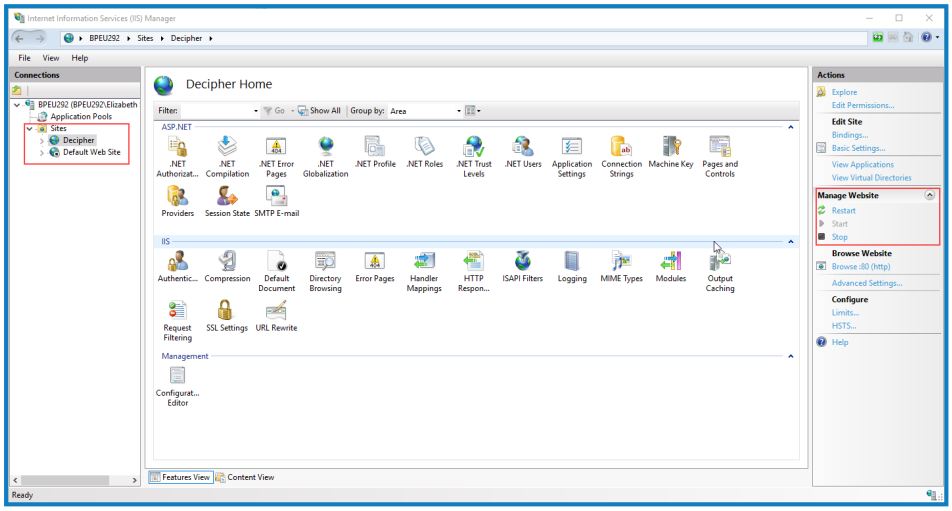


See Troubleshooting if you encounter any issues starting the services.

Activate sites and services for Decipher IDP

By default, IIS creates a website on port 80. If you want Decipher IDP to run on port 80, then this default web site must be disabled or moved to avoid it conflicting with Decipher. To do this:

1. Open IIS and click the **Sites** folder in the Connections panel.



2. Select **Default Web Site** and click **Stop** on the Actions > Manage Website panel.
3. Select **Decipher** and click **Start** or **Restart**.

See Log on and set up Decipher IDP admin for next steps.

Enable machine learning training (optional)

Machine learning training can be switched on and off in the Decipher IDP user interface via Document types. However, it first needs to be configured in the SsiDataCaptureClient.exe.config file.

1. Using Notepad++, open the SsiDataCaptureClient.exe.config file as an Admin. (The default location is `C:\Program Files (x86)\Blue Prism\Decipher Automated Clients`.)
2. Find `<add key="EnableModelTrainingML" value="false" />` and set the value to *true*.

SsiDataCaptureClient.exe.config

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <startup useLegacyV2RuntimeActivationPolicy="true">
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5" />
  </startup>
  <appSettings>
    <add key="ServerIp" value="127.0.0.1" />
    <add key="ServerPort" value="12543" />
    <add key="UserName" value="generaluser" />
    <add key="Password" value="user" />
    <add key="ConnectionRetrySeconds" value="120" />
    <add key="MaxWorkerCount" value="-1" />
    <add key="RefreshTemplatesInMinutes" value="-1" />
    <add key="OcrSdkLogVerbosity" value="3" />
    <add key="EnableModelTrainingML" value="true" />
    <add key="ClientSettingsProvider.ServiceUri" value="" />
    <add key="LogRoot" value="${specialfolder:folder=LocalApplicationData}" />
    <add key="LogPath" value="${CompanyName}/DataCaptureClient/Logs" />
    <add key="LogLayout" value="${longdate} [${processid}-${threadid}] ${level:uppercase=true} | ${message} ${exception:format=tostring}"
    />
    <add key="LogsKeepForDays" value="30" />
    <add key="MinLogLevel" value="Debug" />
    <add key="DisableSelectiveTrainingDataUpdate" value="false" />
  </appSettings>
</configuration>
```

3. Save the changes to the config file.
4. Restart the Decipher Server Service.

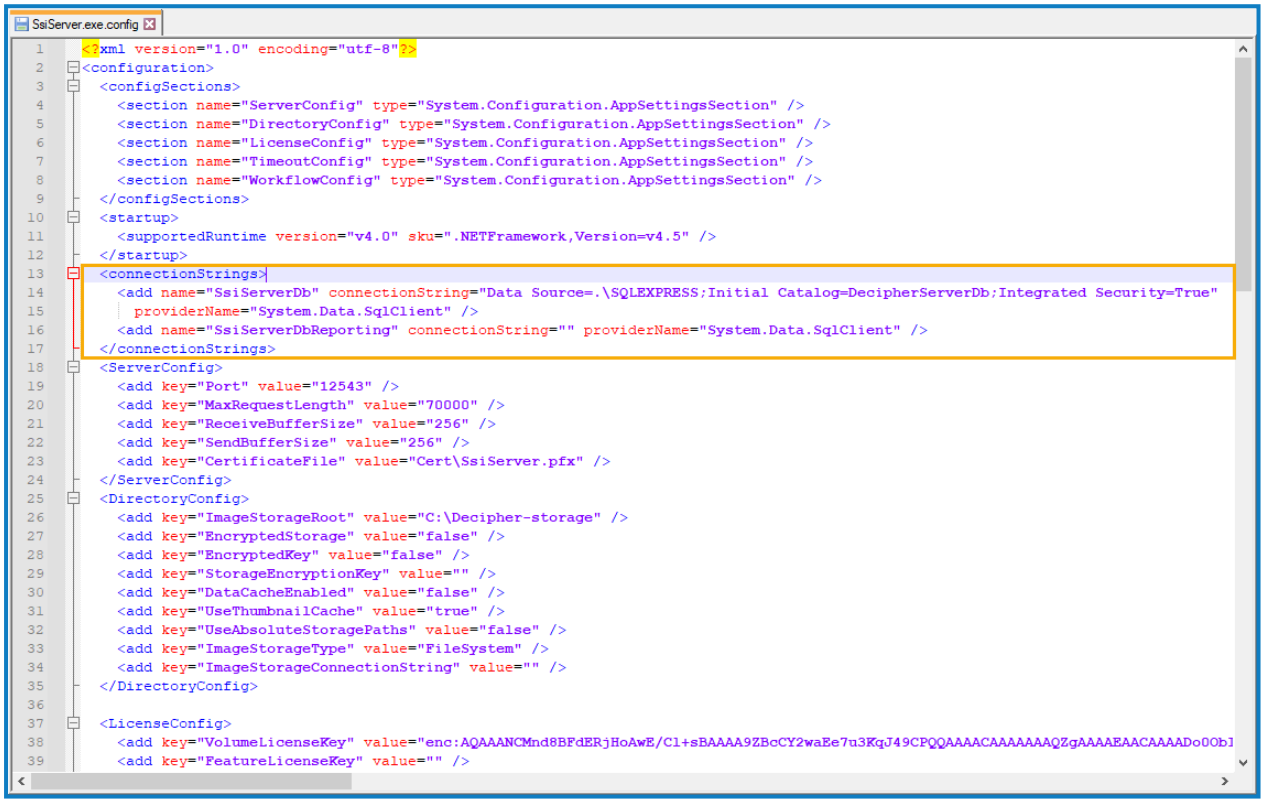
For information on why machine learning is not enabled by default, see the Decipher IDP frequently asked questions.

Update and encrypt database connection strings (optional)

For enhanced security, you can choose to encrypt your database connection settings.

Update the connection string

1. Using Notepad++, open the SsiServer.exe.config file. The default location is `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config`.
2. Find `connectionString` and update the string with the name of the SQL database connection and user credentials.



> The existing connection string depends on whether the option to encrypt was selected when installing Decipher Server, and how the user was configured. The following are examples of typical connection strings:
>
> - `Data Source=.\SQLEXPRESS; Initial Catalog=DecipherServerDb; Integrated Security=True;`
> - `Data Source=.\SQLEXPRESS; Initial Catalog=DecipherServerDb; User Id=myUsername; Password =myPassword;`
> - If already encrypted: `enc:AQAAANCMnd8BFdERjHoAwE/Cl+sBAAAAardddLezc0amPmM328`

3. Save the changes to the config file.
4. Restart the Decipher Server service.

Encrypt the connection string

1. Launch the command prompt.
2. Set the directory to the installation location, for example `cd C:\Program Files (x86)\Blue Prism\Decipher Server`.

3. Enter `ssiserver -enc` and press **Enter**.
4. Restart the Decipher Server service to test if the configuration is successful. If the service does not start, follow the Troubleshooting suggestions.

Reporting database configuration (optional)

If you have chosen to create a separate reporting database during the installation of the Decipher server, you can then copy across any existing reporting data from the Decipher database to the new reporting database.

1. Using Notepad++, open the SsiServer.exe.config file. The default location is `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config`.
2. Find `WorkflowConfig` and set the `SyncOldDataToReportingDatabase` value to *True*.

3. Save the changes to the config file.
4. Restart the Decipher Server service.

> Restarting the server may take some time while the data is copied across to the reporting database.

Configure RabbitMQ connection timeout (optional)

When the Decipher Licensing Service is installed, there is a default RabbitMQ connection timeout of 5 seconds. If the component cannot connect to RabbitMQ in this time, it will timeout and an exception message is logged in Windows Event Viewer: Failed to connect to RabbitMQ after 5 seconds of waiting.

If required, you can update the timeout value by editing the **RabbitMqConnectionTimeoutInSeconds** attribute in the component's config file:

1. In Windows Services, locate the Decipher Licensing Service, right-click and select **Stop**. You can access Windows Services by typing Services into the Windows search bar.
2. Navigate to the Decipher Licensing Service config file. The default location is C:\Program Files (x86)\Blue Prism\Decipher Licensing Service\config.
3. Open the file in a text editor.
4. In the **Configurations** section, locate the `RabbitMqConnectionTimeoutInSeconds` attribute and update the value as required. This must be a positive integer value.

5. Save the changes to the config file.
6. In Windows Services, restart the Decipher Licensing Service.

The Decipher Licensing Service will now use the updated timeout value.

Multi-device deployment

This section describes the steps required for a multi-device installation. We recommend planning your installation before installing and considering the information below, regarding different server configurations and communication between the servers.

Decipher IDP requires the following six different server types, which can exist on separate machines, or be combined as required:

- **Blue Prism application server** - This is the Blue Prism server and it needs to access SQL Server and Decipher server.
- **Decipher licensing server** - Should contain the Decipher licensing service and have access to the SQL server and an instance of RabbitMQ, either on the web server or a separate installation.
- **Decipher server** - Should contain the Decipher server and the Decipher server plugin and have access to the SQL server and an instance of RabbitMQ, either on the web server or a separate installation.
- **Decipher clients server** - Should contain Decipher automated clients and have access to the SQL server and the Decipher server.
- **Decipher web server** - Should contain the Decipher Web Client, which includes RabbitMQ. It also needs to have access to the SQL server and the Decipher server. Every web server must have a local copy of RabbitMQ installed.
- **SQL server** - Should contain the SQL server database.

Suitable for production and non-production use, a typical deployment contains all components of Decipher IDP deployed to separate machines and includes the application server.

Steps

For both standalone and multi-device installations, Decipher IDP must be installed and configured in the following order. Each installation step has detailed instructions, or you can follow the relevant installation video, where available.

Instructional videos on how to install Decipher IDP and other Blue Prism products are available from: https://bpdocs.blueprism.com/en-us/video/installation.htm.

Installation Step	Link to instructional video (if available)
1. Install and configure third-party software • Erlang • RabbitMQ • SQL Server / SQL Server Express 2012 or later (minimum requirement) • SQL Server Management Studio (recommend, but not required) • Internet Information Server (IIS)	• Install Erlang • Install RabbitMQ • Install IIS
2. Configure Rabbit MQ to allow remote runtime resources to push to Decipher IDP • Add the Decipher hostname to the RabbitMQ configuration • Create a new RabbitMQ user and set permissions	Video not currently available.

Installation Step	Link to instructional video (if available)
3. Install and configure Blue Prism • Install Blue Prism and create a Decipher database • Copy the Decipher DLL – Copy to the Blue Prism install location for all Blue Prism interactive clients and runtime resources using Decipher IDP • Import the Decipher VBO – Import into every Blue Prism interactive client that needs to interact with Decipher IDP • Import the Decipher processes (release) – Import into every Blue Prism interactive client that needs to interact with Decipher IDP	• Copy DLL • Import VBO
4. Install Decipher IDP • Decipher Licensing Service • Decipher Server • Decipher Web Client • Decipher Automated Clients • Decipher Server Plugin	• Install Decipher Licensing Service • Install Decipher Server • Install Decipher Web Client • Install Decipher Automated Clients • Install Decipher Server Plugin

5. Configure Decipher IDP
• Configure database access
  • Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only).
  • Configure Windows Authentication (production environments).
• Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments).
• Add Decipher SQL location to Web.config
• Check all Decipher services are running
• Activate Sites and Services for Decipher IDP – Update for all web servers
• Enable machine learning training (optional)
	• Configure database access – non-production environments
	• Configure database access– production environments
	• Add Decipher SQL location to Web.config
	• Activate Sites and Services for Decipher IDP

6. Configure RabbitMQ on Decipher Server This step is only required for multi-device deployments, where Decipher Server and the Decipher Server Plugin are installed on a server that is remote from the Decipher Web Server	Video not currently available.
5. Log onto Decipher IDP • You are ready to get started with Decipher IDP	• Log onto Decipher IDP

Install and configure third-party software

You need to install and configure the following software and settings in the order listed below on a dedicated PC **before** installing Decipher IDP.

> Please ensure that you have read the minimum requirements section, including the browser details, before installing the third-party software and Decipher IDP components.

Erlang and RabbitMQ

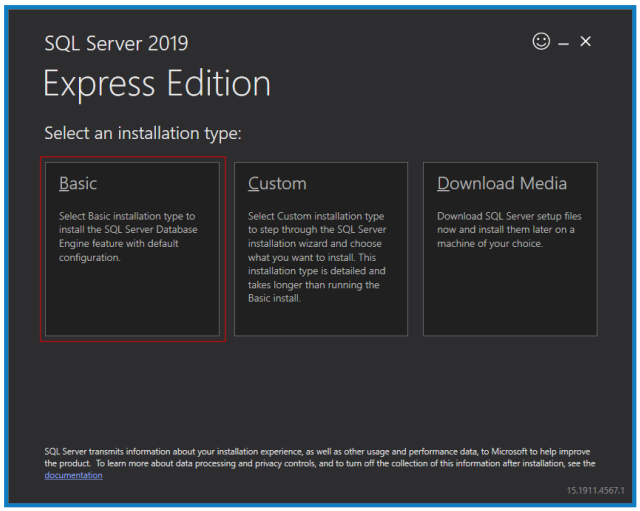
The following components must be installed before installing Decipher IDP:

- Erlang OTP version 25.1.2
- RabbitMQ version 3.11.4

Function	Erlang and RabbitMQ are required components and must be installed on the machine on which the Decipher Web Client will be installed. RabbitMQ is installed using a default username and password. These credentials are then automatically populated during the installation of the Decipher licensing service. If you do not want to use the default RabbitMQ credentials, you will need to amend them before installing Decipher licensing service and enter the new credentials during installation. For details on changing the default credentials, see RabbitMQ configuration.
Download	The version of Erlang that you require is dependent on the RabbitMQ version you intend to use. For more information, see RabbitMQ Erlang Version Requirements. https://www.erlang.org/downloads https://www.rabbitmq.com/download.html
Install	Run the installers and follow the instructions, accepting the default options when prompted.

SQL Server

Function	SQL Server Express 2012 is a minimum database requirement. SQL Server Express is supported for proof of concept and evaluation purposes only. It is not recommended or supported for production use.
Download	https://www.microsoft.com/en-us/sql-server/sql-server-downloads SQL Server Express 2012 (or later) is the minimum requirement for a standalone deployment of Decipher IDP.
Supported SQL Server versions	SQL Server Express 2012, 2016, 2017, 2019 SQL Server 2012, 2014, 2016, 2017, 2019

Install	Run the installer and when prompted, select the basic installation type.  The Blue Prism Decipher database should not be created at this stage of the installation process. See Create a Blue Prim database for Decipher IDP on page 64 for details.

SQL Server Management Studio

Function	This is not a requirement for Decipher IDP installation, but is recommended to configure and manage components within the SQL server. For multi-device installations this will need to be installed on a user's machine only where required.
Download	https://docs.microsoft.com/en-us/sql/ssms/download-sql-server-management-studio-ssms?redirectedfrom=MSDN&view=sql-server-ver15. Under Download SSMS, click **Download SQL Server Management Studio (SSMS)** to download the SSMS-Setup-ENU.exe.
Install	Run the installer and follow the instructions, accepting the default options when prompted.

Internet Information Server (IIS)

IIS needs to be configured on the web server. IIS settings are applied from the Windows control panel: **Programs** > **Programs and Features** > **Turn Windows Features on or off** and select **Internet Information Services**.

Ensure the following settings are applied:

IIS Setting	Sub Setting
Web Management Tools	IIS Management Console
World Wide Web Services	Application Development Features • .NET Extensibility 3.5 • .NET Extensibility 4.7 • ASP .NET 4.7 • ISAPI Extensions • ISAPI Filters Common HTTP Features • Default Document • Directory Browsing • HTTP Errors • Static Content
Health and Diagnostics	N/A
Performance Features	N/A
Security	N/A

Scripted installation

To apply the above settings automatically, run the command below using the PowerShell command prompt:

```
Install-WindowsFeature -Name Web-Mgmt-Console, Web-Net-Ext, Web-Net-Ext45, Web-Asp-Net45, Web-ISAPI-Ext, Web-ISAPI-Filter, Web-Default-Doc, Web-Dir-Browsing, Web-Http-Errors, Web-Static-Content -computerName localhost -Restart
```

.NET Core Components

Function	The .NET Core components must be downloaded and installed.
Download	Download the following components and store them in a temporary location, for example, C:\temp: • .NET Core Windows Server Hosting 3.1.3 https://dotnet.microsoft.com/en-us/download/dotnet/thank-you/runtime-aspnetcore-3.1.3-windows-hosting-bundle-installer • .NET Core Windows Desktop Runtime 3.1.3 https://dotnet.microsoft.com/en-us/download/dotnet/thank-you/runtime-desktop-3.1.3-windows-x64-installer • Visual C++ Redistributable 2012 (x64) **https://download.microsoft.com/download/1/6/B/16B06F60-3B20-4FF2-B699-5E9B7962F9AE/VSU_4/vcredist_x64.exe** • .NET Framework 4.7.2 **https://dotnet.microsoft.com/download/dotnet-framework/thank-you/net472-web-installer** This is installed by default on Windows Server 2019. You only need to install the .NET Framework if you are using Windows Server 2016.

Install	To install the .NET dependencies, run each of the following commands using the PowerShell command prompt, waiting until each completes, before running the next command:
	For Windows Server 2016:
	`start-process "C:\temp\dotnet-hosting-3.1.3-win.exe" /q -wait`
	`start-process "C:\temp\windowsdesktop-runtime-3.1.3-win-x64.exe" /q -wait`
	`start-process "C:\temp\vcredist_x64.exe" /q -wait`
	`start-process "C:\temp\NDP472-KB4054531-Web.exe" /q -wait`
	For Windows Server 2019:
	`start-process "C:\temp\dotnet-hosting-3.1.3-win.exe" /q -wait`
	`start-process "C:\temp\windowsdesktop-runtime-3.1.3-win-x64.exe" /q -wait`
	`start-process "C:\temp\vcredist_x64.exe" /q -wait`
	Ensure the file name and file path match the files that were stored in step 1.
	Restart your server before installing Decipher IDP to ensure the components are fully installed and registered.

RabbitMQ configuration

The following information applies to multi-device configurations using RabbitMQ.

Configure RabbitMQ for remote runtime resources

In multi-device deployments, runtime resources will not be able to push documents to Decipher IDP unless RabbitMQ has been configured to respond to the Decipher Server hostname as well as the localhost.

The following sections describe how to configure RabbitMQ to respond to the remote Decipher Server hostname, and how to create a RabbitMQ user so that runtime resources can access RabbitMQ remotely.

Add the Decipher hostname to the RabbitMQ configuration

To edit the advanced.config file:

1. Navigate to the RabbitMQ application folder. The default location is:
   `C:/Users/<username>/AppData/Roaming/RabbitMQ`
2. Open *advanced.config* with a text editor.
3. Replace the existing content with the following:

```
[{rabbit, [
{tcp_listeners, [{"<hostname>",5672},{"0.0.0.0",5672}]}
]
}
].
```

4. Replace `<hostname>` with the hostname of the Decipher Web Client machine hosting RabbitMQ and save your changes.
5. Restart the server on which the Decipher Server component is installed and the server on which RabbitMQ is installed, if different.

> Port 5672, added to the RabbitMQ configuration described above, is the default port used to connect to the RabbitMQbroker. Port 15672, used when creating a new RabbitMQ user, is a different port used to connect the management console add on.

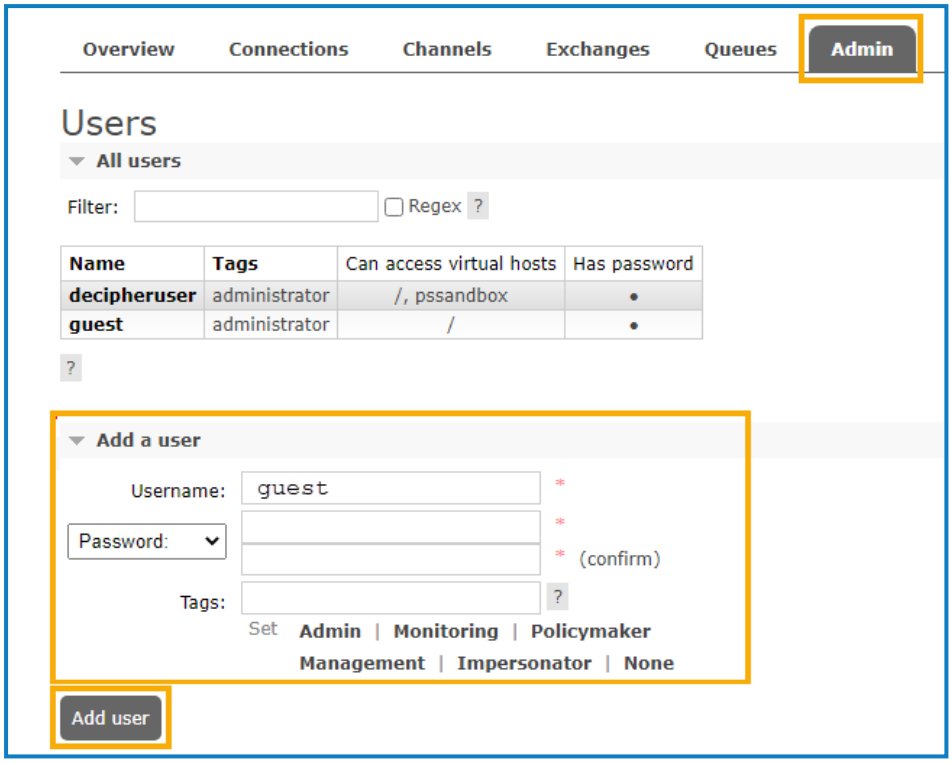
Create a new RabbitMQ user and set permissions

To create a new RabbitMQ user to access the RabbitMQ server remotely:

1. Open a browser and navigate to *http://localhost:15672/*.

   The RabbitMQ Management login screen displays.
2. Log into RabbitMQ using *guest* as both the username and password.

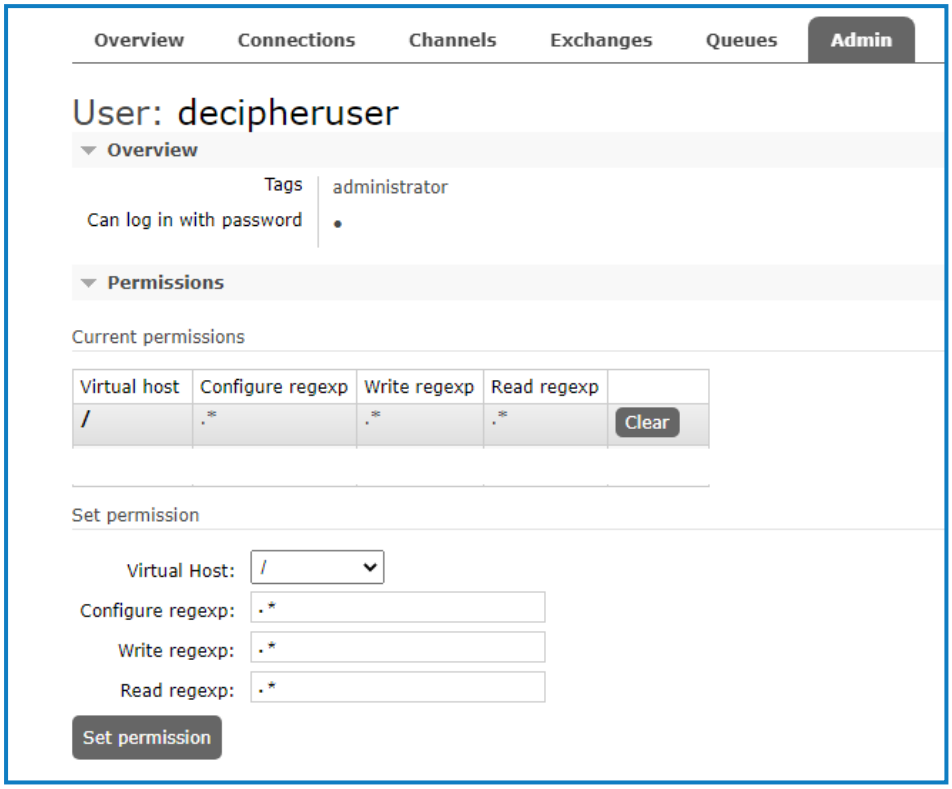
3. Select the **Admin** tab and click **Add user**.



4. Add credentials for a new user for use with Decipher Server.
5. In the **Tags** field, enter *administrator*.
6. Click **Add user**.

   Once created, the new user will display in the All users list.

7. To grant administrator permissions to the new user, in the All users list, select the user you have just created. The Permissions page for the selected user displays.



8. In the Set permission dialog, ensure the **Virtual Host** field contains the **/** character, and do not amend the other default parameter settings.
9. Click **Set permission** to apply these permissions to the new user.

RabbitMQ will now respond to the Decipher Server hostname, enabling remote runtime resources to push to Decipher IDP.

> You will also need to modify the RabbitMQ instance on the Decipher Server to configure remote access to the RabbitMQ server, see Modify the RabbitMQ instance on the Decipher Server for details.

Install and configure Blue Prism

The following components are required to complete the steps below:

- Blue Prism
- Decipher DLL
- Decipher VBO
- Decipher v2.2.bprelease

For details of component versions see the release notes.

Install Blue Prism and create a database

If you do not already have Blue Prism installed, you will need to install Blue Prism 6.6 or later. If you already have Blue Prism installed you just need to create a Blue Prism database for use with Decipher IDP - you will need to reference this when installing the Decipher Licensing Service.

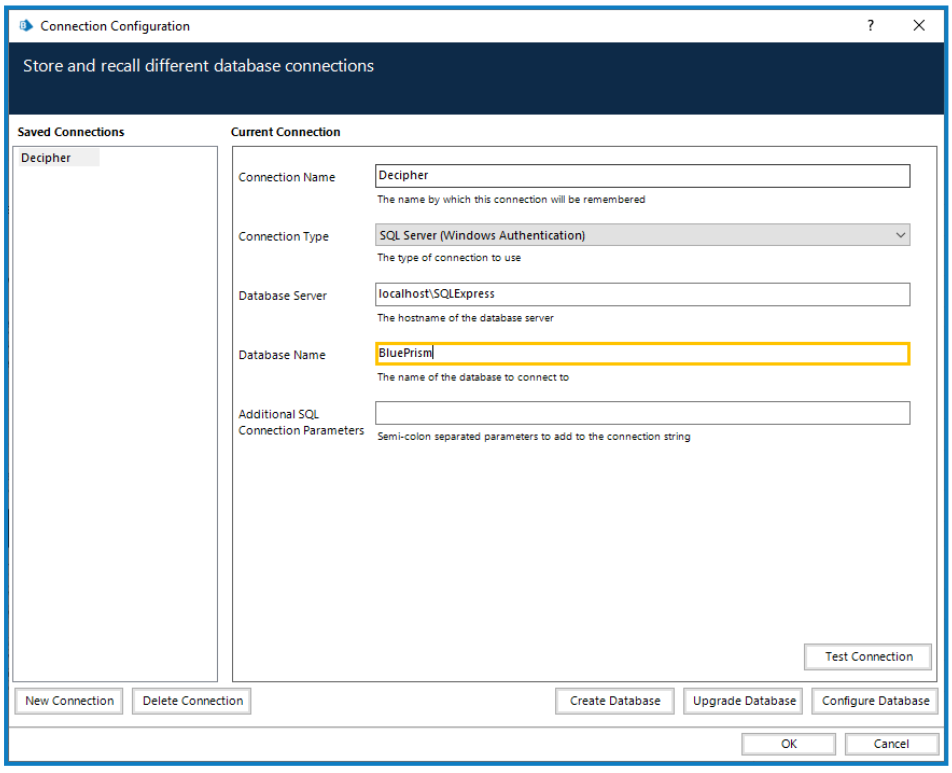
This is an overview of the steps required to install Blue Prism and create a database. You can find full instructions on how to install, configure, and use our product in the Blue Prism help.

Create a Blue Prim database for Decipher IDP

You need to create a new database for your Decipher IDP data.

1. Install and launch Blue Prism.
2. In the Sign in to Blue Prism screen, click **Configure connection** to launch the configure connection wizard.
3. Click **New Connection** followed by **Create Database**.
4. In the Connection Configuration screen complete the following details:

Connection Name	Enter an easily recognizable name for the connection.
Connection Type	Select **SQL Server (Windows Authentication)**.
Database Server	Enter the network location of the SQL server instance. If you have installed SQL Express as described in this guide, this will be localhost\SQLExpress.
Database Name	Enter a name for the new database, e.g. *BluePrism*. *BluePrism* is the default database name when installing the Decipher licensing service. If you create a database using a different name, you will need to enter this name when you install the Decipher licensing service.
Additional SQL Connection Parameters	This is not required.



5. Select your required user authentication method and click **OK** to create the database.

Add Decipher IDP license to SS&C Blue Prism

You need a Decipher IDP license to run Decipher. This must be added to Blue Prism before installing Decipher IDP.

1. Log into Blue Prism.

   > Ensure that you log into Blue Prism using the connection configured to use the database created for Decipher IDP. This is because Decipher licensing will not work unless you apply the license key to the Decipher database. You also need to ensure you specify this database when installing the Decipher Licensing Service.

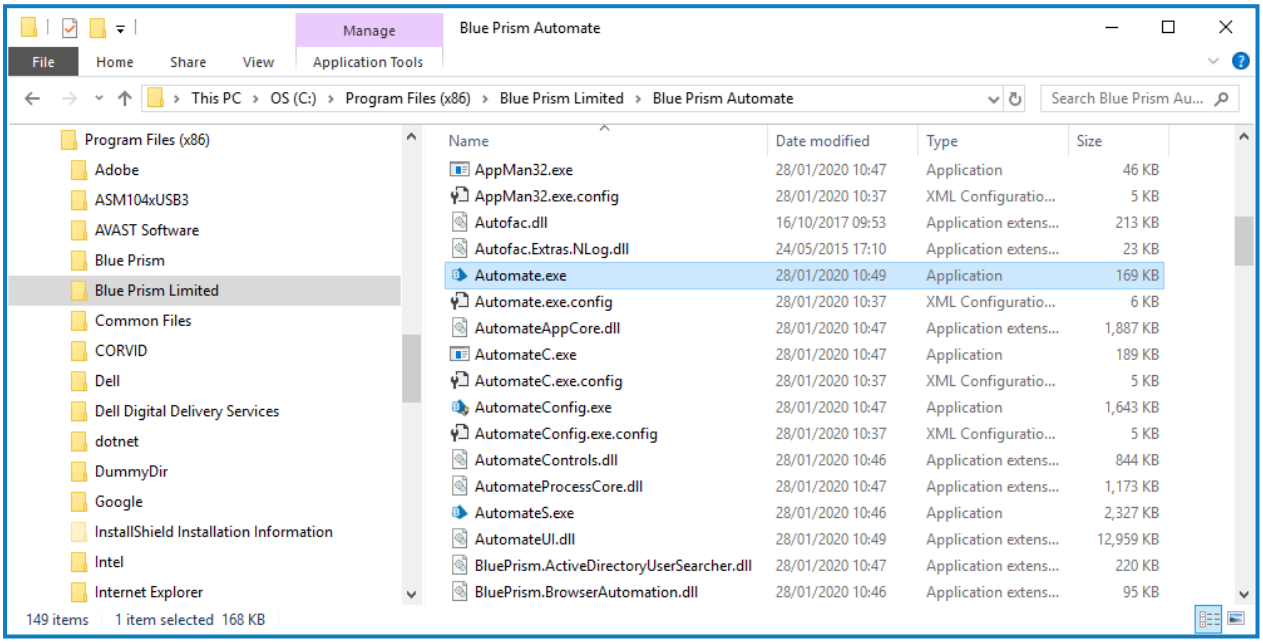
2. Click the **System** tab and select **System** > **License** from the navigation tree. Details of the active license are displayed and options are available to install new licenses and remove existing ones.
3. Click **Install new license** to add the Decipher license.

Add the Decipher DLL

For multi-device installations (any interactive client or runtime resource that will run the Decipher Blue Prism processes), this DLL needs to be copied to the Blue Prism install location for all Blue Prism interactive clients and runtime resources using Decipher IDP.

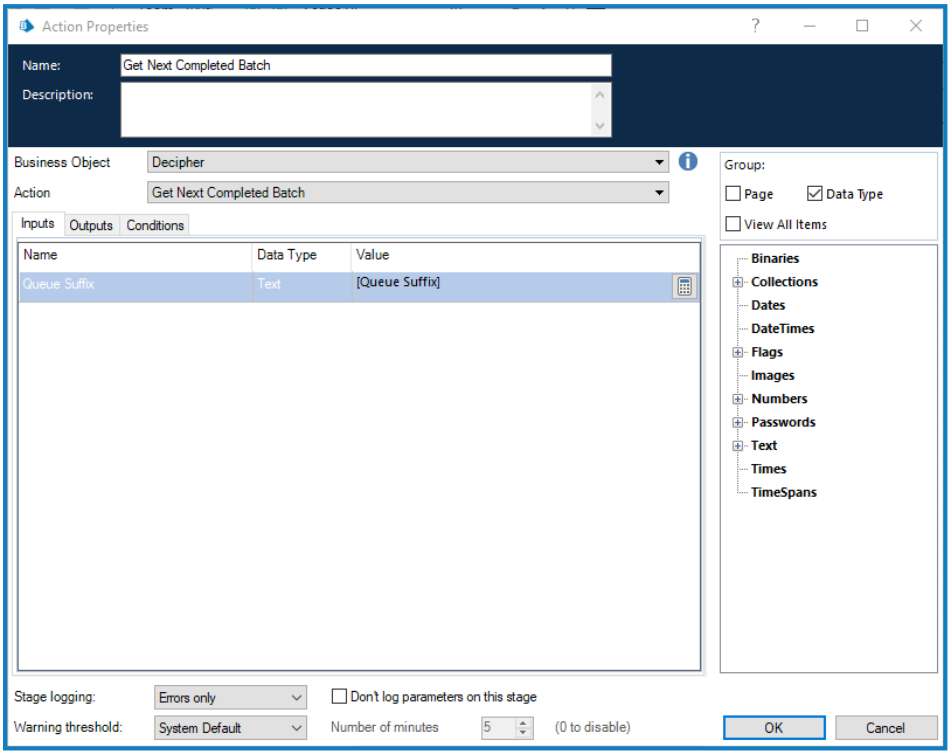
Paste the BluePrismDecipher.VBO.Interop.dll file into `C:\Program Files\Blue Prism Limited\Blue Prism Automate`.

This is the default install location so adjust it if you have used an alternative - just make sure it is in the same directory as Automate.exe.



Import the Decipher VBO

In Blue Prism select **File** > **Import** and import the *BPA Object - Decipher.xml*. This Decipher VBO can also be used to create your own processes.



Import the Decipher release

Import this release into each separate Blue Prism environment that needs to interact with Decipher IDP.

The Decipher v2.2.bprelease contains a number of pre-built processes to help you use Decipher IDP.

Process	Function	Details
Decipher - 01 Push Documents	Takes documents located in *C:\Invoices* and pushes them to Decipher IDP as a single batch.	Do not include more than 15 invoices in a batch.
Decipher - 02 Batches to Verify	Sample process to determine whether there are batches in Decipher IDP that require manual verification.	This returns True or False and can be used to build a process to send notifications to users.
Decipher - 03 Get Verified Documents	Sample process to retrieve verified documents from Decipher IDP and put in a Blue Prism work queue.	N/A
Decipher - 04 Get Decipher Item from BP Queue	Takes the document data from Blue Prism work queue and pushes data into collection.	N/A

Select **File** > **Import** and select the Decipher v2.2.bprelease you downloaded from the portal. The processes are added to the Processes\Default folder in Studio.

Install Decipher IDP components

Before installing the Decipher IDP components, you will need to apply a valid Decipher IDP license to the Decipher database in Blue Prism for Decipher IDP to work. See Decipher IDP licensing for details.

The following components are required to complete the Decipher IDP installation and steps below and must be installed in this order:

1. Decipher Licensing Service
2. Decipher Server
3. Decipher Web Client
4. Decipher Automated Clients
5. Decipher Server Plugin

If you have already installed the beta version of Decipher IDP, you will need to use Windows Add/Remove Programs to remove all of the (beta) Decipher components from all devices, before installing this release. To avoid any issues, please then follow these installation instructions when re-installing Decipher IDP.

You can download these files from the Decipher IDP product page of our customer portal. You can see the component versions for each release in the release notes.

Depending on your current system setup you may need to restart your computer following installation before Decipher IDP can be used.

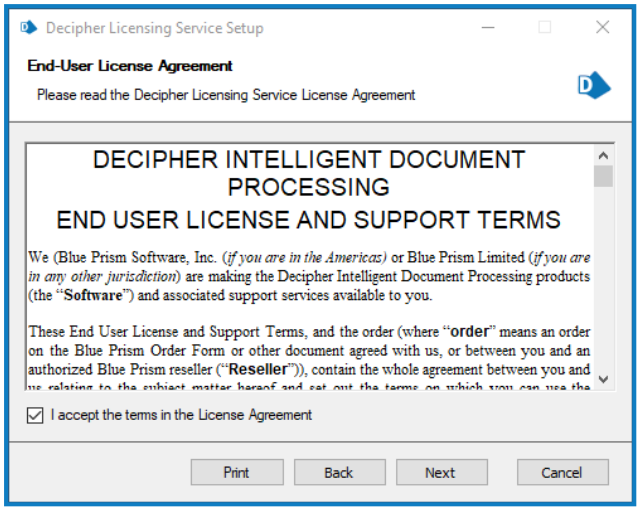
Install Decipher Licensing Service

RabbitMQ is installed using a default username and password. These credentials are then automatically populated during the installation of the Decipher licensing service. If you do not want to use the default RabbitMQ credentials, you will need to amend them before installing Decipher licensing service and enter the new credentials during installation. For details on changing the default credentials, see RabbitMQ configuration.

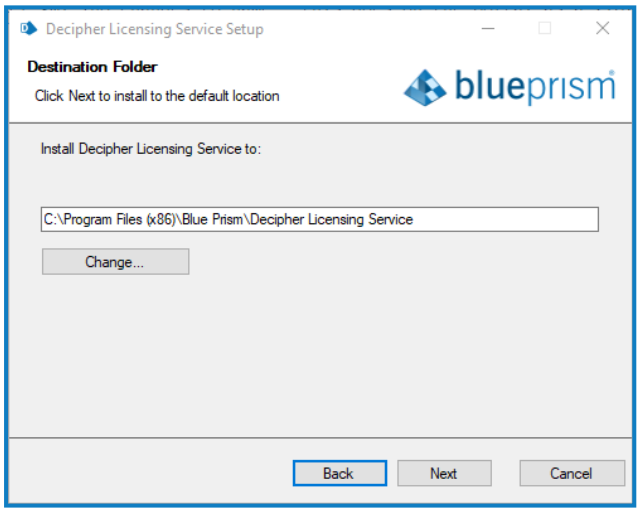
For multi-device installations, this needs to be installed on the Decipher Licensing Service.

1. Run the Decipher Licensing Service installer.
2. Click through the install wizard, following the on-screen instructions as prompted.

3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Licensing Service or click **Change** to specify a different location.

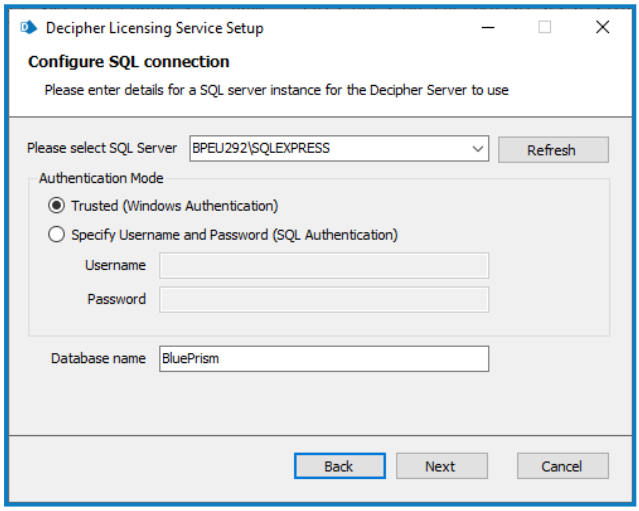


5. On the Configure SQL connection screen:
    a. Ensure the correct SQL server is specified.
    b. The Trusted (Windows Authentication) authentication mode is selected by default. This setting is recommended for Decipher IDP, but can be changed if required.

> ⚠ If using SQL Authentication, ensure your SQL password does not start with an equals (=) sign or a semi-colon (;) as they are not supported and may lead to a corrupted configuration file.

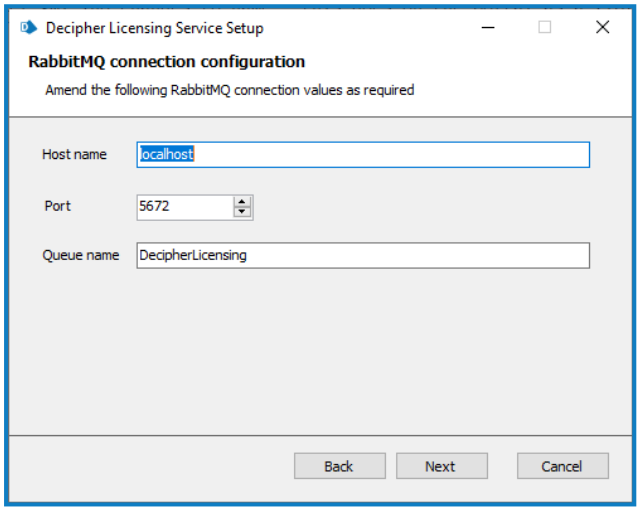
    c. Enter the name of your existing Blue Prism database. The Database name defaults to *BluePrism*. If you have already created a Blue Prism database for Decipher using a different name, enter that name in the **Database name** field.

> If you don't enter the correct Decipher database name during this part of the installation, as described above, Decipher IDP will not successfully run.



6. On the RabbitMQ connection configuration screen the following details are completed by default:

Host name	The hostname of your RabbitMQ server. Commonly in development environments, all components are installed on the same server, and therefore the default is *localhost*. For multi-device environments, you will need to enter the name of the RabbitMQ server.
Port	Defaults to *5672*.
Queue name	Defaults to *DecipherLicensing*.



7. Click **Next** to continue. A message displays notifying you that a queue using the name you have specified will be created in RabbitMQ. Click **Yes** to accept, or **No** if you want to go back and amend the name.
8. On the RabbitMQ connection configuration screen enter the username and password for RabbitMQ. The default is *guest*.

   The RabbitMQ username and password entered here must match the RabbitMQ account – the default RabbitMQ username and password are *guest*. For standalone deployments, the default credentials are sufficient. If you created a different RabbitMQ user, enter the credentials for the new user. You will be prompted to enter these credentials when installing the Decipher server.

9. Click **Next**.
10. On the Installation Summary screen, click **Install** to complete the installation, followed by **Finish** to exit the wizard.

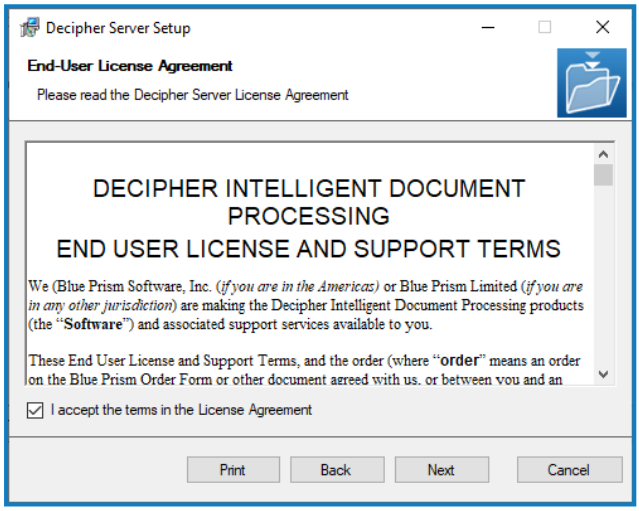
When the Decipher Licensing Service is installed, it is automatically configured with a default RabbitMQ connection timeout of 5 seconds. If required, you can update the timeout value. For more information, see Configure RabbitMQ connection timeout.

Install Decipher Server

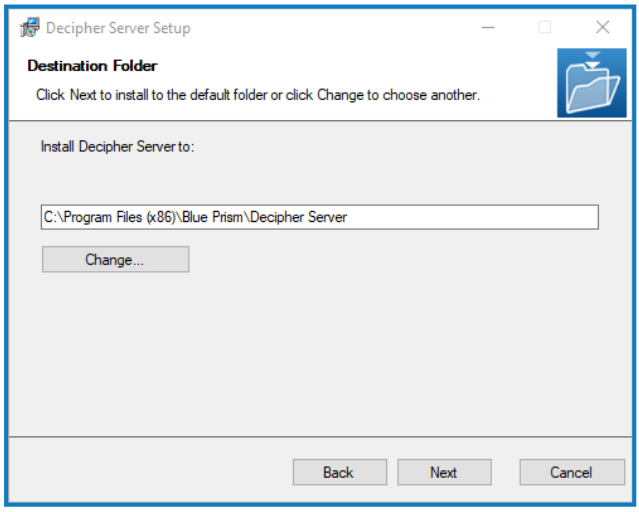
If required, the separate reporting database must be created when installing/upgrading the Decipher Server component.

For multi-device installations, this needs to be installed on the Decipher server.

1. Run the Decipher Server installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.

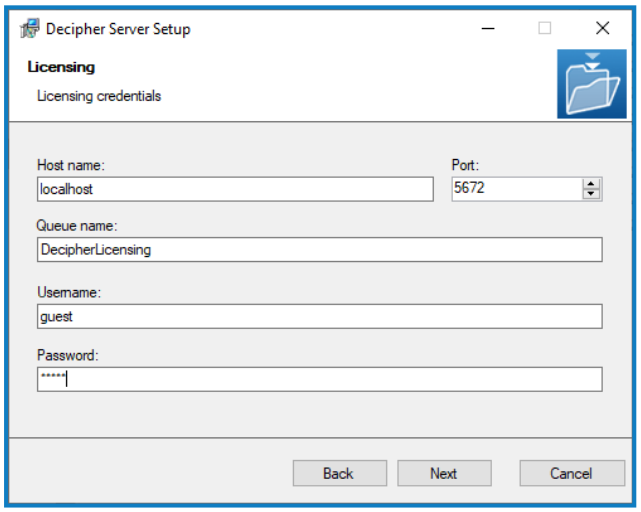


4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Server or click **Change** to specify a different location.



5. On the Licensing screen, enter the following licensing details:
   - **Host name** - The hostname of your RabbitMQ server. Commonly in development environments, all components are installed on the same server, and therefore the default is *localhost*. For multi-device environments, you will need to enter the name of the RabbitMQ server.
   - **Queue name** - The RabbitMQ queue name. The default is *DecipherLicensing*.
   - **Username and Password** - The username and password for the RabbitMQ account that you entered when installing the Decipher Licensing Service. The default RabbitMQ username and passwords are *guest*, these credentials can only be used for standalone deployments.

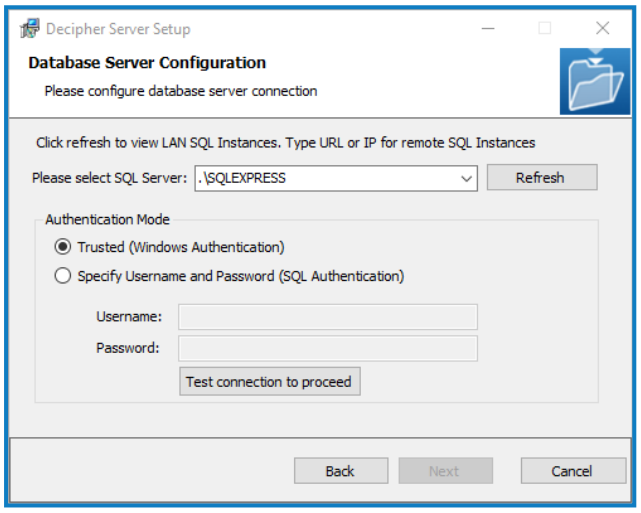
     For multi-device deployments, you will need to first create a new RabbitMQ user to access to RabbitMQ server remotely, see Create new RabbitMQ user and set permissions for details. You will also need to modify the RabbitMQ instance on the Decipher Server to configure remote access to the RabbitMQ server, see Modify the RabbitMQ instance on the Decipher Serverfor details.



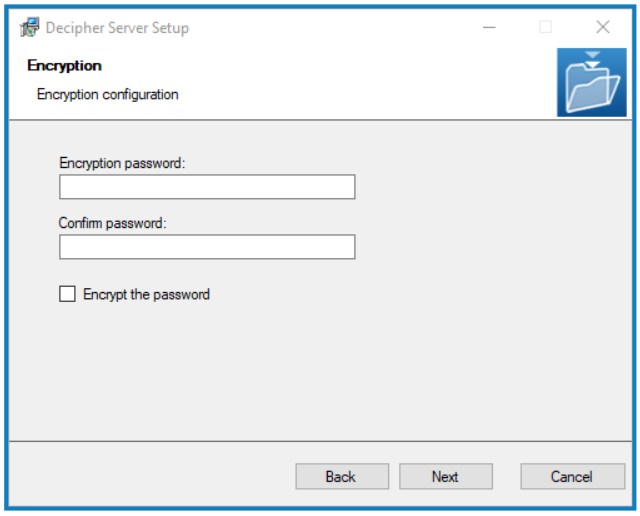
6. On the Database Server Configuration screen:
    a. Ensure the correct SQL server is specified.

    > If the SQL server is the MSSQLSERVER default instance, enter the machine name or *localhost*. Entering the full name will result in the server not being found. Alternatively, if you need to provide a different instance name, enter the machine name or *localhost*, followed by \ and the instance name.

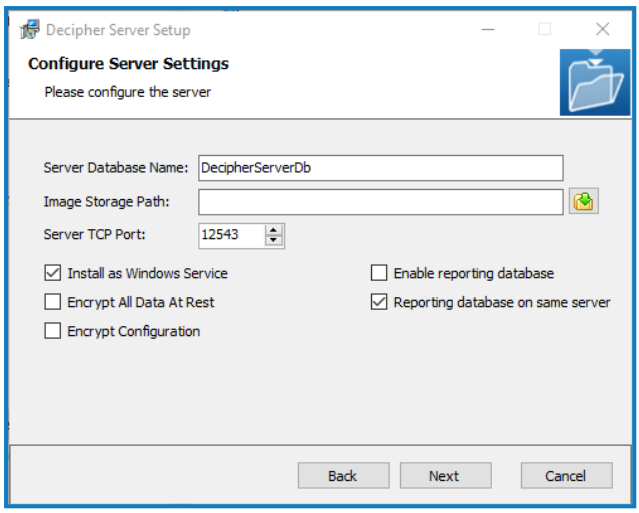
    b. The Trusted (Windows Authentication) authentication mode is selected by default. This setting is recommended for Decipher IDP, but can be changed if required.
    c. Click **Test connection to proceed**, followed by **Next** to continue.



7. On the Configure Server Settings screen complete the following details:

Server Database Name	Enter a new name for the server database, or accept the default *DecipherServerDb*.
Image Storage Path	Enter the location in which to store the documents after they have been processed. This can be any location, including OneDrive, SharePoint, or a local drive. For example *C:\Decipher storage*.
Server TCP Port	Accept the default TCP port, or enter a different port number if required. You will need to enter this port number when installing the Decipher Web Client.
Install as Windows Service	This option is selected by default. Do not deselect this option.
Encrypt All Data At Rest	Select this option if you want to store all completed documents as encrypted files. This is only necessary if the documents being processed are confidential. If enabled, you will need to configure an encryption password. If enhanced security is required, enable the **Encrypt the password** option. 
Encrypt Configuration	Select this option if you want to encrypt the server settings.
Enable reporting database	Select this option to create a separate reporting database. A separate reporting database enables you to retain report data for much longer. This is also required to populate the accuracy and automation rates reports. For details of how to copy any existing reporting data from the Decipher database to the new reporting database, see Reporting database configuration.
Reporting database on same server	If selected, the reporting database will be created on this server. This option is selected by default.

If required, the separate reporting database must be created when installing/upgrading the Decipher Server component.

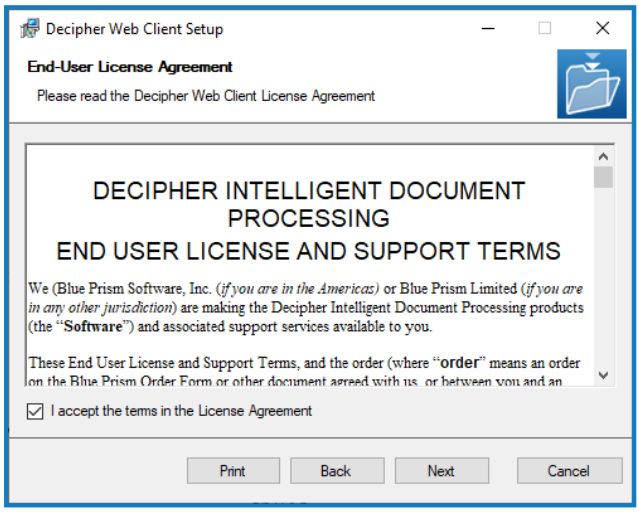


8. Click **Next**.
9. On the Installation Summary screen, click **Install** to complete the installation, followed by **Finish** to exit the wizard.

Install Decipher Web Client

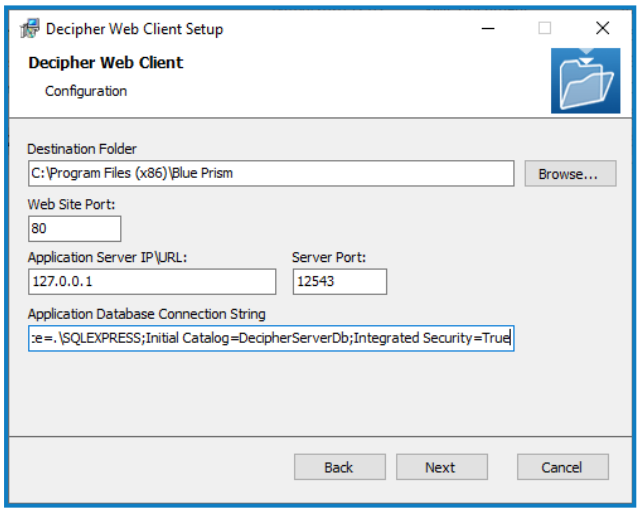
For multi-device installations, this needs to be installed on the Decipher web server.

1. Run the Decipher Web Client executable.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Configuration screen complete the following details:

Destination Folder	Accept the default install location.
Web Site Port	Accept the default web site port, or enter a different port number if required.
Application Server IP/URL	This IP address is required when you install the Decipher server.
Port	Ensure the same port number entered for Decipher Server is entered here.
Application Database Connection String	Enter the name of the SQL database connection. If you accepted the default settings whilst installing Decipher Server, this will be: `Data Source=.\SQLEXPRESS;Initial Catalog=DecipherServerDb;Integrated Security=True` If you didn't accept the default options, this can be found in the SsiServer.exe.config file, which is located in C:\Program Files (x86)\Blue Prism\Decipher Server by default.



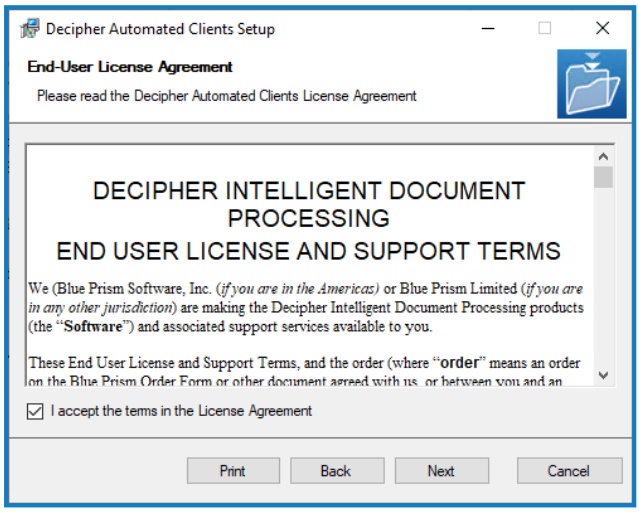
5. Click **OK** to save the settings.
6. Click **Install** to continue to install Decipher Web Client, which may take several minutes, followed by **Close** to exit the wizard.

Windows security alerts may display for the erl.exe and the epmd.exe. For Decipher IDP to work successfully you will need to allow them to communicate over your private networks.

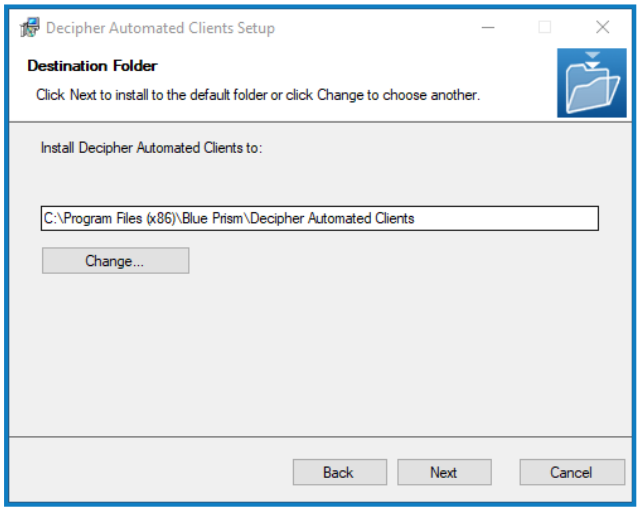
Install Decipher Automated Clients

For multi-device installations, this needs to be installed on the Decipher clients server.

1. Run the Decipher Automated Clients installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.

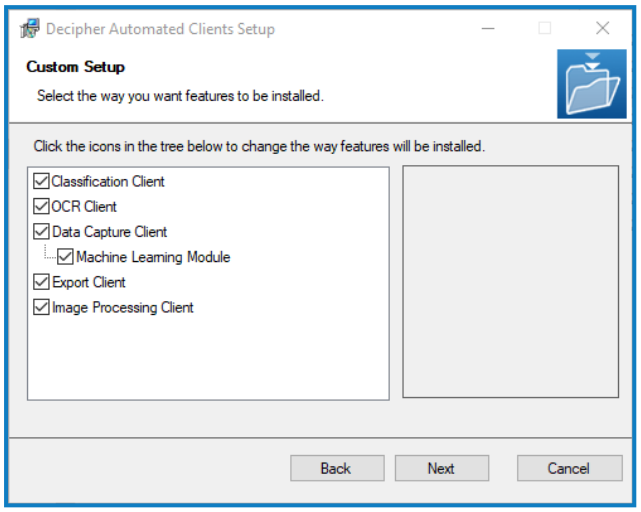


4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Automated Clients or click **Change** to specify a different location.



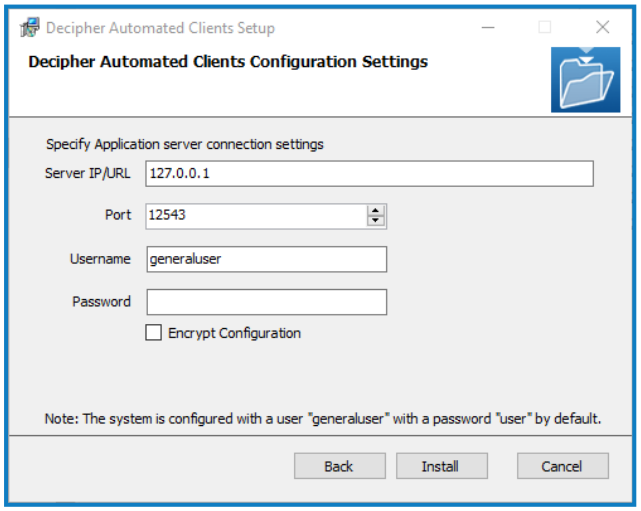
5. On the Custom Setup screen, select the relevant options.

   For standalone deployments, select every option. For multi-device deployments, with multiple automated clients, select only the features required for each installation.



6. On the Decipher Automated Clients Configuration Settings screen complete the following details:

Server IP/URL	Ensure the same IP address entered in the Decipher Server is entered here. The default IP address is *127.0.0.1*.
Port	Ensure the same port number entered for Decipher Server and the Decipher Web Client is entered here. The default port is *12543*.
Username	*generaluser* This is the Decipher user that will run the different modules to extract data from a document.
Password	*user*
Encrypt Configuration	Select this option to encrypt the Automated Client configuration settings.

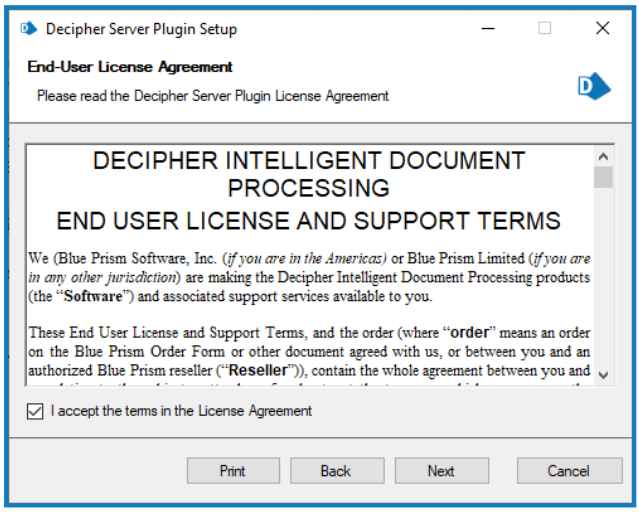


7. Click **Install** to complete the installation, followed by **Finish** to exit the wizard.

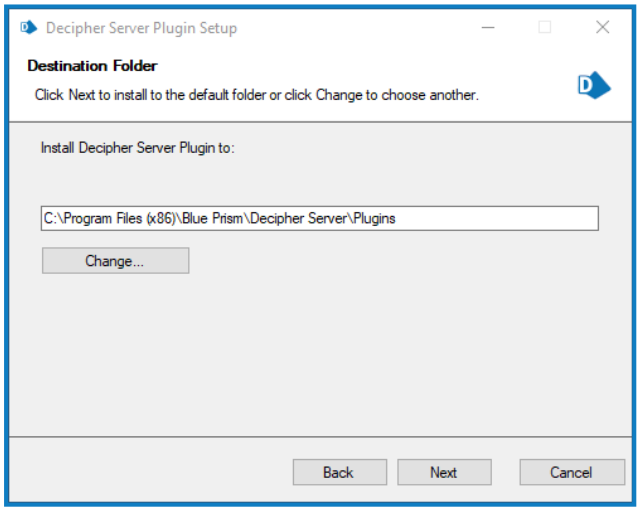
Install Decipher Server Plugin

For multi-device installations, this needs to be installed on the Decipher server.

1. Run the Decipher Server Plugin installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and select *I accept the terms in the License Agreement*, if you accept these terms.



4. On the Destination Folder screen, click **Next** to accept the default location for Decipher Server Plugin or click **Change** to specify a different location.



5. Click **Install** to complete the installation, followed by **Finish** to exit the wizard.

RabbitMQ configuration on Decipher Server

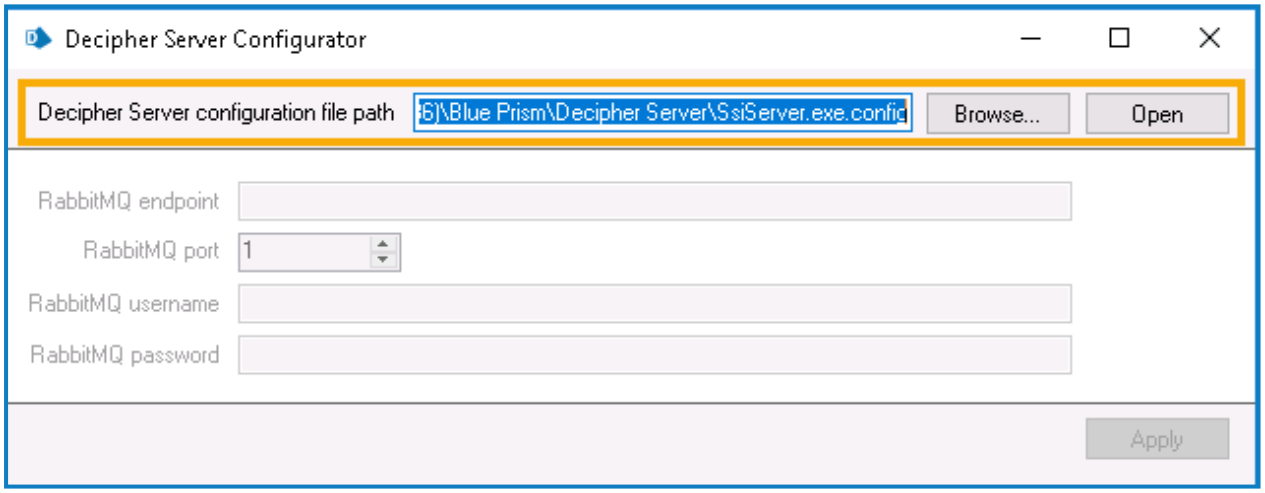
In multi-device deployments, where Decipher Server and the Decipher Server Plugin are installed on a server that is remote from the Decipher Web Server, you may need to manually install and configure RabbitMQ (and Erlang) on that server for the Blue Prism Server Plugin feature to operate.

> The RabbitMQ host name and the Decipher Web Client host name must be the same. If you amend the default RabbitMQ host name, you must also update the Decipher Web Client host name. It will not update automatically and will result in Decipher IDP not working as expected.

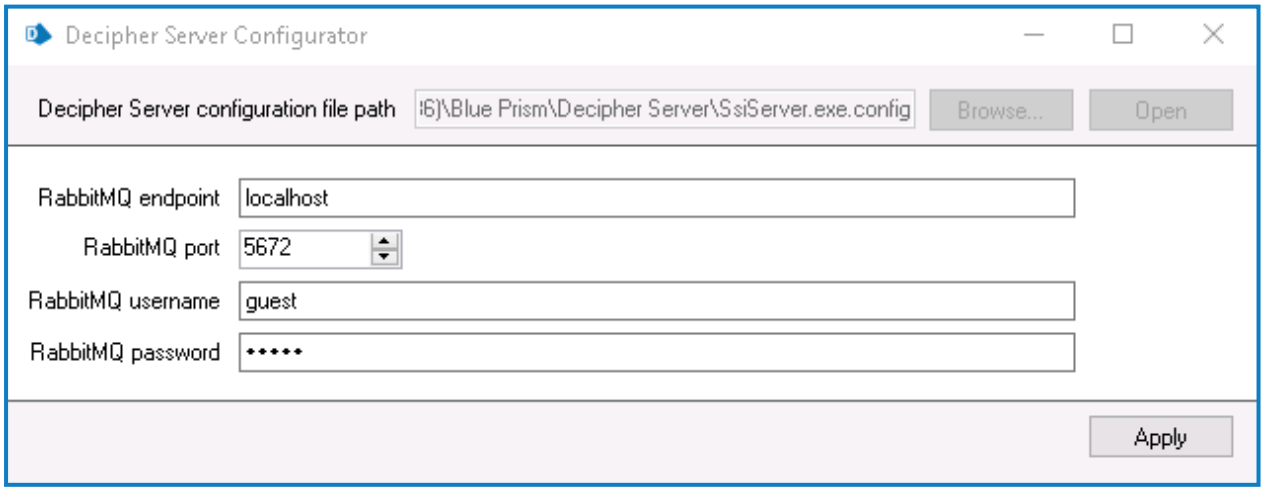
The *DecipherServerConfiguration.exe* application, which is available to download from the customer portal, has been created by Blue Prism to enable you to modify the configuration and authentication details of the RabbitMQ instance on the Decipher Server.

Modify the RabbitMQ instance on the Decipher Server

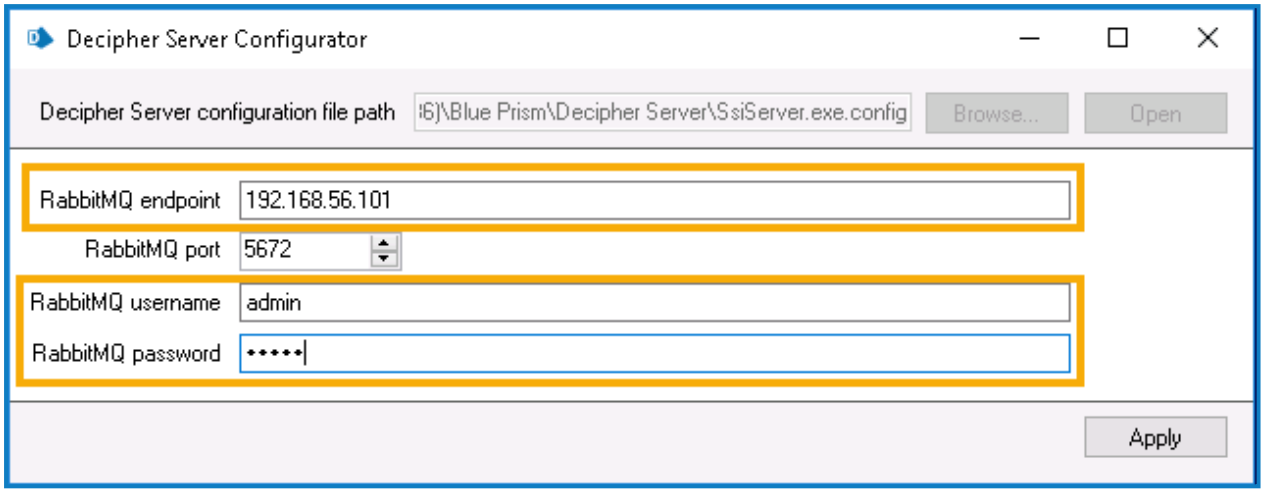
1. Run the DecipherServerConfigurator.exe.
2. In the **Decipher Server configuration file path** field, enter the location of the SsiServer.exe.config file. If required, use the **Browse...** option to change the file path.



3. Click **Open**. The default local host endpoints and authentication details for RabbitMQ display.



4. Update the **RabbitMQ endpoint**, **RabbitMQ username**, and **RabbitMQ password** fields with the details specific to your RabbitMQ server. For example:



5. Click **Apply**. The tool will validate and update the SsiServer.exe.config with the amended details.

Configure Decipher IDP

When you have installed the SS&C Blue Prism and Decipher IDP components, you need to complete the following configuration steps before you can get started. These should be done in the following order:

1. Configure database access:
   - Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only)
   - Configure Windows Authentication (production environments)
2. Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments)
3. Ensure all Decipher services are running
4. Activate sites and services for Decipher IDP
5. Enable machine learning training (optional)
6. Update and encrypt database connection strings (optional)
7. Reporting database configuration (optional)
8. Configure RabbitMQ connection timeout (optional)

Grant system access (NT AUTHORITY) to the Decipher database (non-production environments only)

This configuration applies to single-server, non-production environments only.

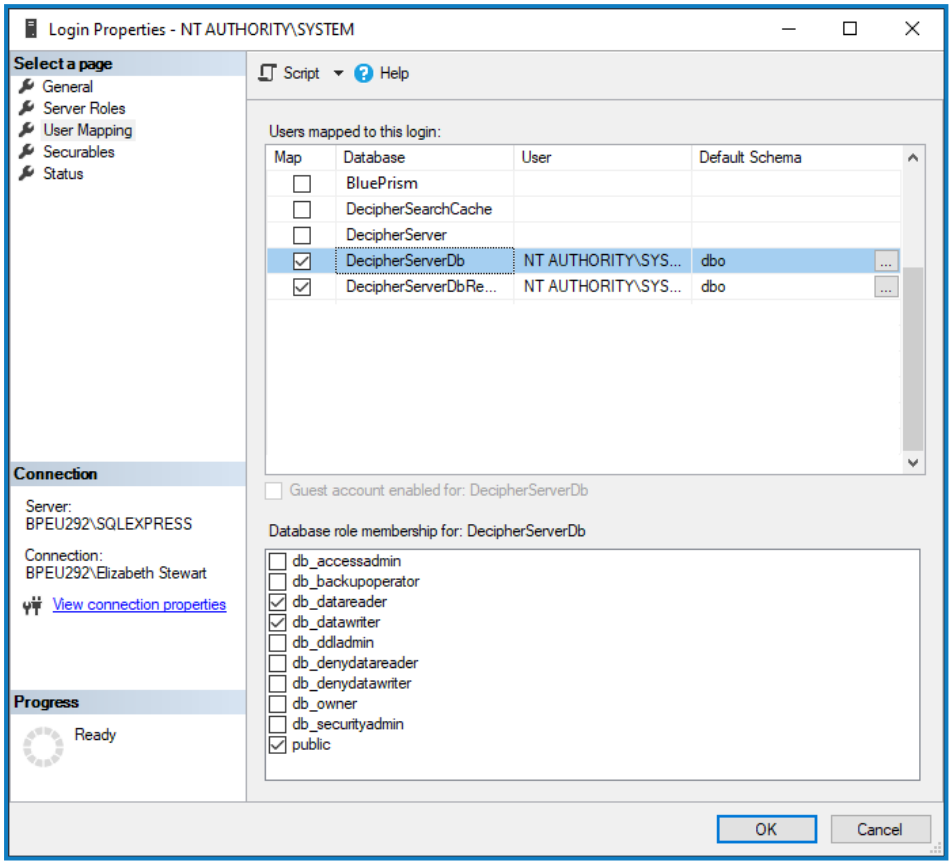
The Decipher server service runs under the local system account. In order to access the Decipher database, this user must be given access to the database. If you don't want to perform this step for the current user, you could set Decipher to run as another user who has access to the database. The user needs sufficient permissions to create the database and then read and write to it.

To give NT authority access to the Decipher database:

1. Open Microsoft SQL Server Management Studio and connect to the instance that is hosting your Decipher database. If you installed SQL Express, the default for this is .\SQLEXPRESS.
2. Click **Security** > **Logins** and double-click **NT AUTHORITY\SYSTEM**.

   The Login Properties dialog displays.

3. Click **User Mapping** and select the relevant the check boxes to ensure the user has db_datareader and db_datawriter access to the Decipher database and the Decipher reporting database, if applicable.



4. Click **OK** to save the changes.

Configure Windows Authentication (production environments)

For production environments, Blue Prism recommends the use of Windows Authentications using service accounts.

> The Decipher services and the website application pool must run under the context of a user that has access to the relevant databases.

Configure the Decipher services

The following Decipher services must be configured with database access:

Service name	Database	Required database permissions
Decipher Licensing Service	The Blue Prism database to which the Decipher license is applied.	db_datawriter / db_datareader
Decipher Server	The Decipher database.	db_datawriter / db_datareader
Decipher Web SDK	The Decipher database.	db_datawriter / db_datareader

To configure Windows authentication for each Decipher service listed above:

1. From Windows Services, right-click the Decipher service and select **Properties**.
2. Click the **Log On** tab and select **This account**.
3. Enter the location and password of your service account.
4. Perform this task for each Decipher service.
5. Restart the Decipher services.

Grant the service account access to Decipher folders

The service account used to access the Decipher databases also needs access to the following Decipher folders:

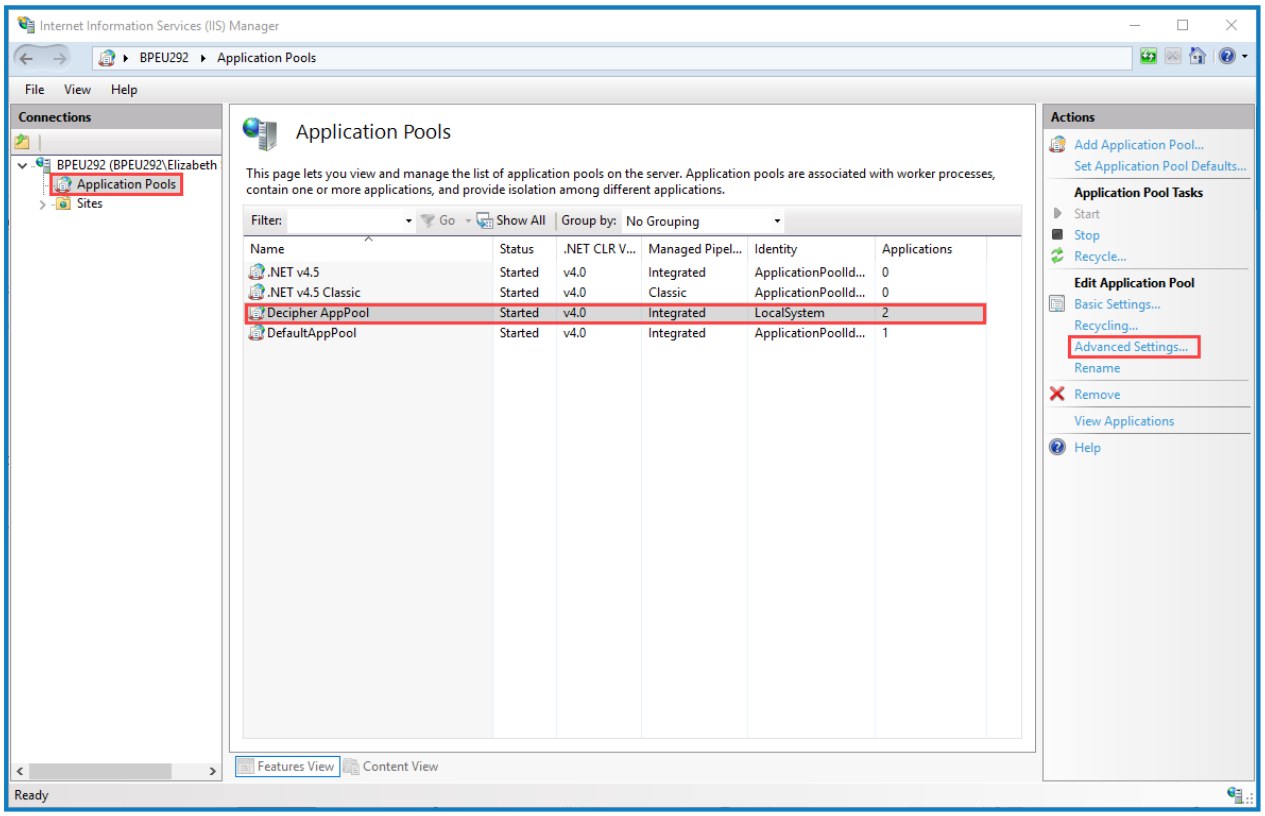
- **The Decipher Image Storage Path** - This location is defined during the Decipher Server installation and can be viewed in: `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config` under the "ImageStorageRoot" key.
- **The Decipher application files** - `C:\Program Files (x86)\Blue Prism\`
- **The default Decipher logging locations**:
  - `C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\Blue Prism`
  - `C:\Windows\System32\config\systemprofile\AppData\Local\Decipher`
  - `C:\Windows\System32\config\systemprofile\AppData\Local\Blue Prism`
- **The default website folder** - `C:\inetpub\wwwroot`

Configure the Decipher website identity

The Decipher website identity should be set to an account that has db_datareader and db_datawriter access to the Decipher database. The service account that was specified in the Service configuration can be used.

To change the application pool identity:

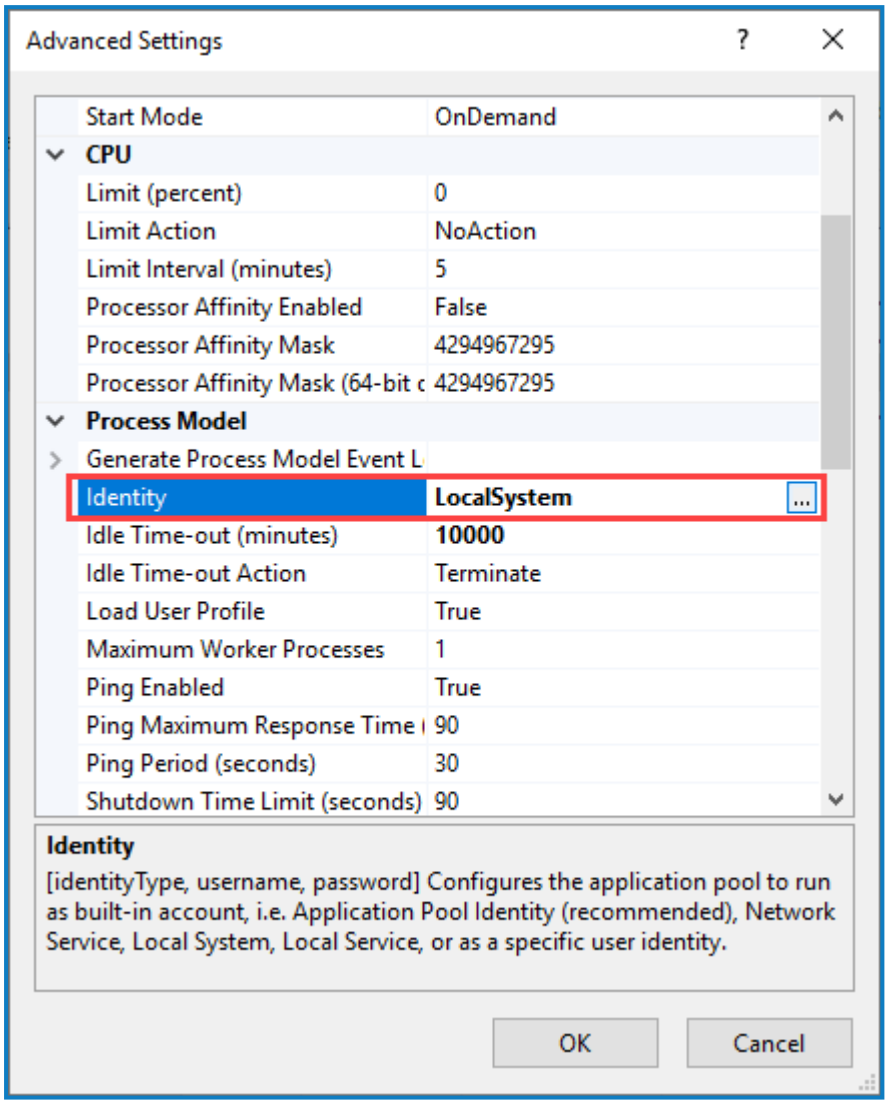
1. Open Internet Information Services (IIS) Manager.
2. On the left-hand pane, navigate to **Application Pools**.
3. Select **Decipher AppPool**.
4. On the right-hand pane, click **Advanced Settings**.



The Advanced Settings dialog displays.

5. Under **Process Model**, click **Identity**.

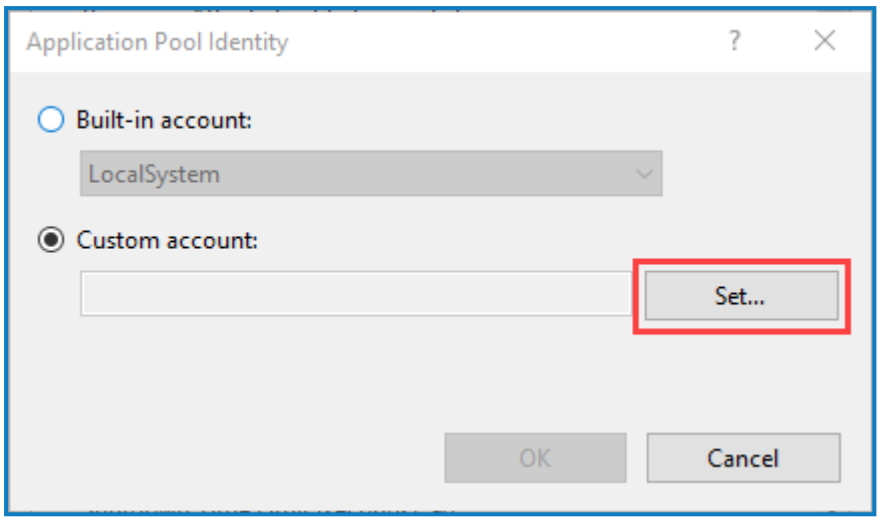
   The … (ellipsis) button displays.



6. Click the … (ellipsis) button.

   The Application Pool Identity dialog displays.

7. Select **Custom Account** and click **Set**.



8. Enter the account credentials, as prompted.
9. Once complete, navigate back to the **Application Pools** list.
10. Select **Decipher AppPool** and click the **Recycle** button.

⚠ Recycling the IIS logs will log the user out of the current Decipher IDP session. If frequent recycling of the IIS logs is required, it is recommended that this is scheduled for outside of operating hours.

Secure the Decipher website with a Secure Sockets Layer (SSL) (production environments)

To secure your Decipher website to use an SSL certificate:

1. Open Internet Information Services (IIS) Manager.
2. On the left-hand pane, expand the **Sites** node and select **Decipher**.
3. Under **Edit Site** in the right-hand pane, click **Bindings**.

   The Site Bindings dialog displays.
4. Click **Add**.

   The Add Site Binding dialog displays.
5. From the **Type** drop-down, select **https**.
6. Add the host name of the Decipher Server to the **Host name** field.
7. Select an **SSL certificate**.

   The **SSL certificate** drop-down is populated with certificates from the personal certificate store on the local machine.
8. Click **OK** to accept the changes.
9. Navigate to the Decipher website and click **Restart**.

Any clients connecting to the Decipher website will have to trust the certificate that you selected in the above process. Self-signed certificates will need to be imported onto client machines, but it is more advisable to use a certificate from a certificate authority so that it is implicitly trusted by all clients.

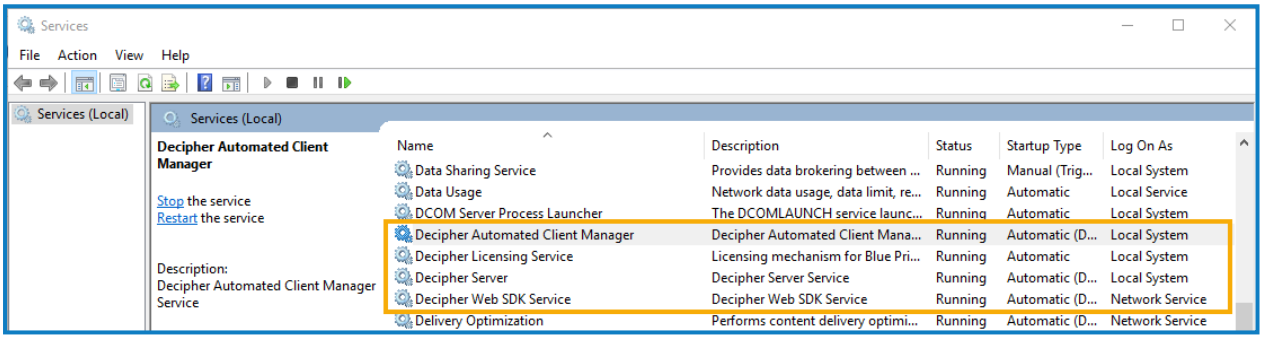
Check all Decipher services are running

Check that the necessary services exist and are running – you can do this by typing *services* into the Windows search bar and checking these services:

- Decipher Automated Client Manager
- Decipher Licensing Service
- Decipher Server

  > This service will not run until the LocalSystem user has been given access to the database; or the Decipher Licensing Service has started.

- Decipher Web SDK Service
- RabbitMQ

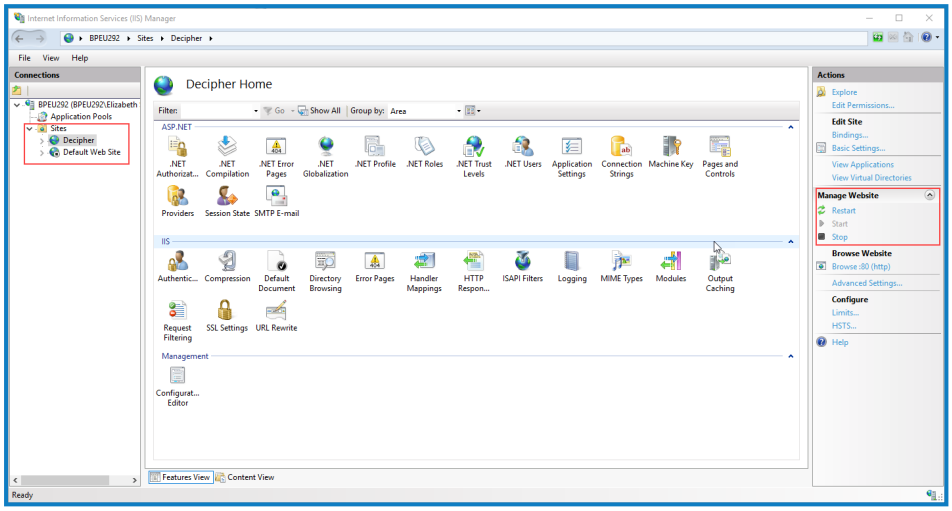


See Troubleshooting if you encounter any issues starting the services.

Activate sites and services for Decipher IDP

By default, IIS creates a website on port 80. If you want Decipher IDP to run on port 80, then this default web site must be disabled or moved to avoid it conflicting with Decipher. To do this:

1. Open IIS and click the **Sites** folder in the Connections panel.



2. Select **Default Web Site** and click **Stop** on the Actions > Manage Website panel.
3. Select **Decipher** and click **Start** or **Restart**.

See Log on and set up Decipher IDP admin for next steps.

Enable machine learning training (optional)

Machine learning training can be switched on and off in the Decipher IDP user interface via Document types. However, it first needs to be configured in the SsiDataCaptureClient.exe.config file.

1. Using Notepad++, open the SsiDataCaptureClient.exe.config file as an Admin. (The default location is `C:\Program Files (x86)\Blue Prism\Decipher Automated Clients`.)
2. Find `<add key="EnableModelTrainingML" value="false" />` and set the value to *true*.

SsiDataCaptureClient.exe.config

```
<?xml version="1.0" encoding="utf-8"?>
<configuration>
  <startup useLegacyV2RuntimeActivationPolicy="true">
    <supportedRuntime version="v4.0" sku=".NETFramework,Version=v4.5" />
  </startup>
  <appSettings>
    <add key="ServerIp" value="127.0.0.1" />
    <add key="ServerPort" value="12543" />
    <add key="UserName" value="generaluser" />
    <add key="Password" value="user" />
    <add key="ConnectionRetrySeconds" value="120" />
    <add key="MaxWorkerCount" value="-1" />
    <add key="RefreshTemplatesInMinutes" value="-1" />
    <add key="OcrSdkLogVerbosity" value="3" />
    <add key="EnableModelTrainingML" value="true" />
    <add key="ClientSettingsProvider.ServiceUri" value="" />
    <add key="LogRoot" value="${specialfolder:folder=LocalApplicationData}" />
    <add key="LogPath" value="${CompanyName}/DataCaptureClient/Logs" />
    <add key="LogLayout" value="${longdate} [${processid}-${threadid}] ${level:uppercase=true} | ${message} ${exception:format=tostring}"
    />
    <add key="LogsKeepForDays" value="30" />
    <add key="MinLogLevel" value="Debug" />
    <add key="DisableSelectiveTrainingDataUpdate" value="false" />
  </appSettings>
</configuration>
```

3. Save the changes to the config file.
4. Restart the Decipher Server Service.

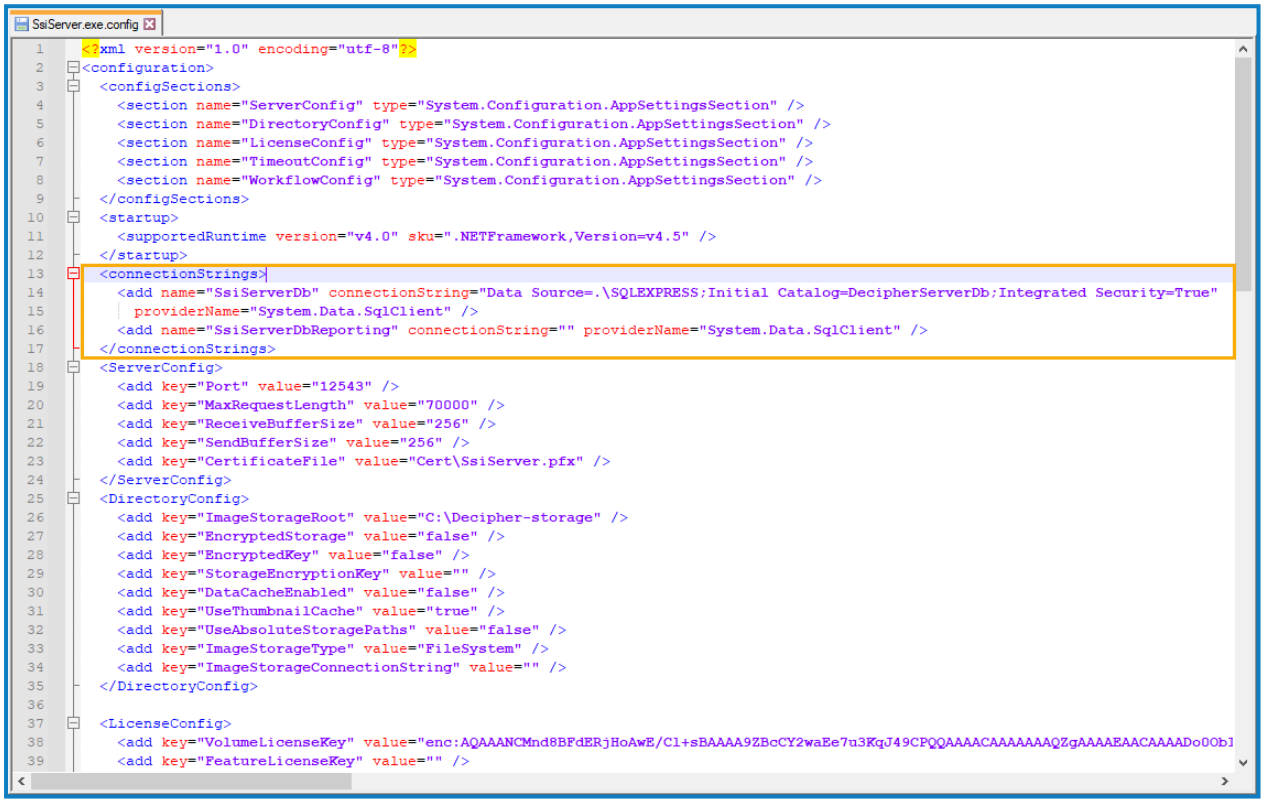
For information on why machine learning is not enabled by default, see the Decipher IDP frequently asked questions.

Update and encrypt database connection strings (optional)

For enhanced security, you can choose to encrypt your database connection settings.

Update the connection string

1. Using Notepad++, open the SsiServer.exe.config file. The default location is `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config`.
2. Find `connectionString` and update the string with the name of the SQL database connection and user credentials.



> The existing connection string depends on whether the option to encrypt was selected when installing Decipher Server, and how the user was configured. The following are examples of typical connection strings:
>
> - `Data Source=.\SQLEXPRESS; Initial Catalog=DecipherServerDb; Integrated Security=True;`
> - `Data Source=.\SQLEXPRESS; Initial Catalog=DecipherServerDb; User Id=myUsername; Password =myPassword;`
> - If already encrypted: `enc:AQAAANCMnd8BFdERjHoAwE/Cl+sBAAAAardddLezc0amPmM328`

3. Save the changes to the config file.
4. Restart the Decipher Server service.

Encrypt the connection string

1. Launch the command prompt.
2. Set the directory to the installation location, for example `cd C:\Program Files (x86)\Blue Prism\Decipher Server`.

3. Enter `ssiserver -enc` and press **Enter**.
4. Restart the Decipher Server service to test if the configuration is successful. If the service does not start, follow the Troubleshooting suggestions.

Reporting database configuration (optional)

If you have chosen to create a separate reporting database during the installation of the Decipher server, you can then copy across any existing reporting data from the Decipher database to the new reporting database.

1. Using Notepad++, open the SsiServer.exe.config file. The default location is `C:\Program Files (x86)\Blue Prism\Decipher Server\SsiServer.exe.config`.
2. Find `WorkflowConfig` and set the `SyncOldDataToReportingDatabase` value to *True*.

3. Save the changes to the config file.
4. Restart the Decipher Server service.

> Restarting the server may take some time while the data is copied across to the reporting database.

Configure RabbitMQ connection timeout (optional)

When the Decipher Licensing Service is installed, there is a default RabbitMQ connection timeout of 5 seconds. If the component cannot connect to RabbitMQ in this time, it will timeout and an exception message is logged in Windows Event Viewer: Failed to connect to RabbitMQ after 5 seconds of waiting.

If required, you can update the timeout value by editing the **RabbitMqConnectionTimeoutInSeconds** attribute in the component's config file:

1. In Windows Services, locate the Decipher Licensing Service, right-click and select **Stop**. You can access Windows Services by typing Services into the Windows search bar.
2. Navigate to the Decipher Licensing Service config file. The default location is C:\Program Files (x86)\Blue Prism\Decipher Licensing Service\config.
3. Open the file in a text editor.
4. In the **Configurations** section, locate the `RabbitMqConnectionTimeoutInSeconds` attribute and update the value as required. This must be a positive integer value.

5. Save the changes to the config file.
6. In Windows Services, restart the Decipher Licensing Service.

The Decipher Licensing Service will now use the updated timeout value.

Install and configure the Natural Language Processing (NLP) plugin

The NLP plugin can be downloaded from the Decipher IDP page on the Blue Prism customer portal.

Install the NLP plugin

The NLP plugin, GPU, and the Decipher automated client must be installed on the same machine.

An instructional video of the NLP plugin installation is available here.

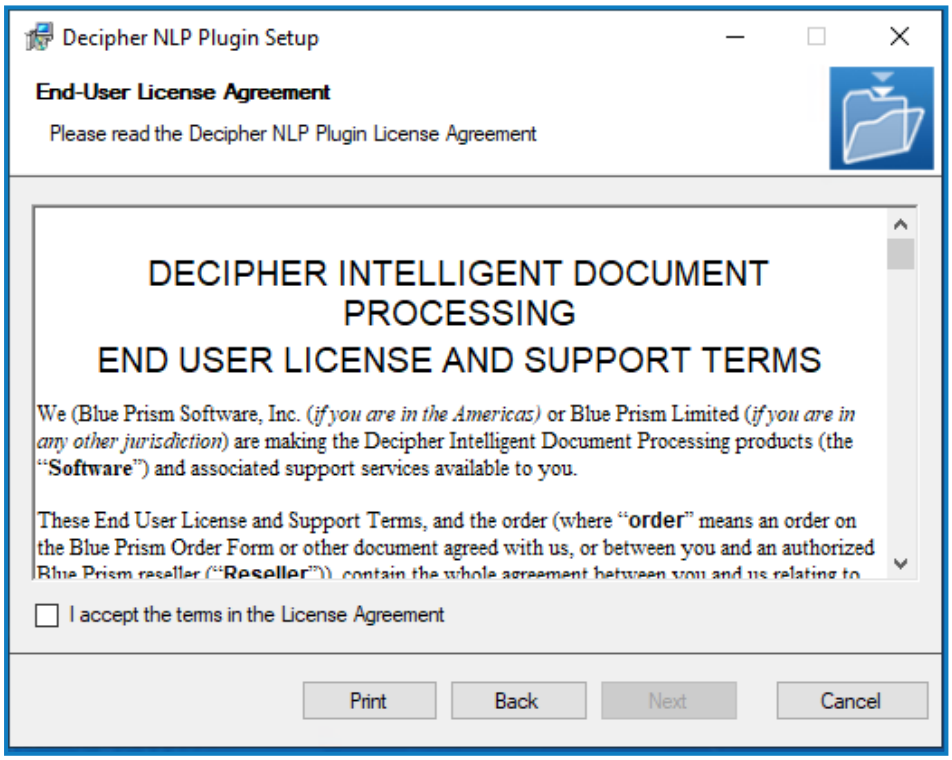
Prerequisites

Ensure the following before attempting to install the NLP plugin:

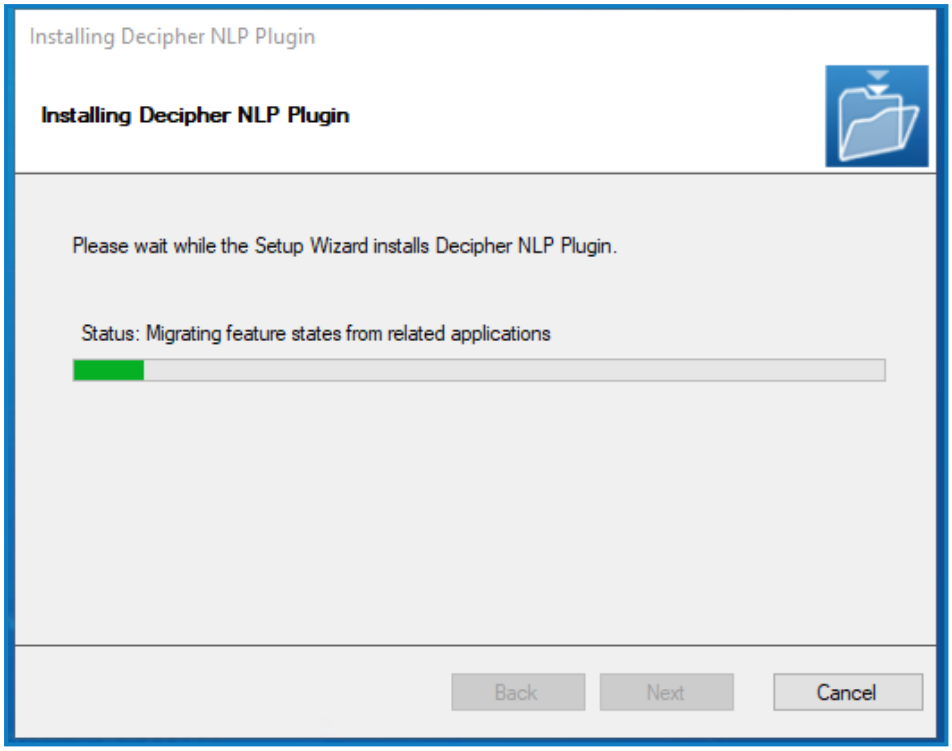
- The specified minimum requirements have been met.
- Decipher IDP is already installed.

To install the NLP plugin:

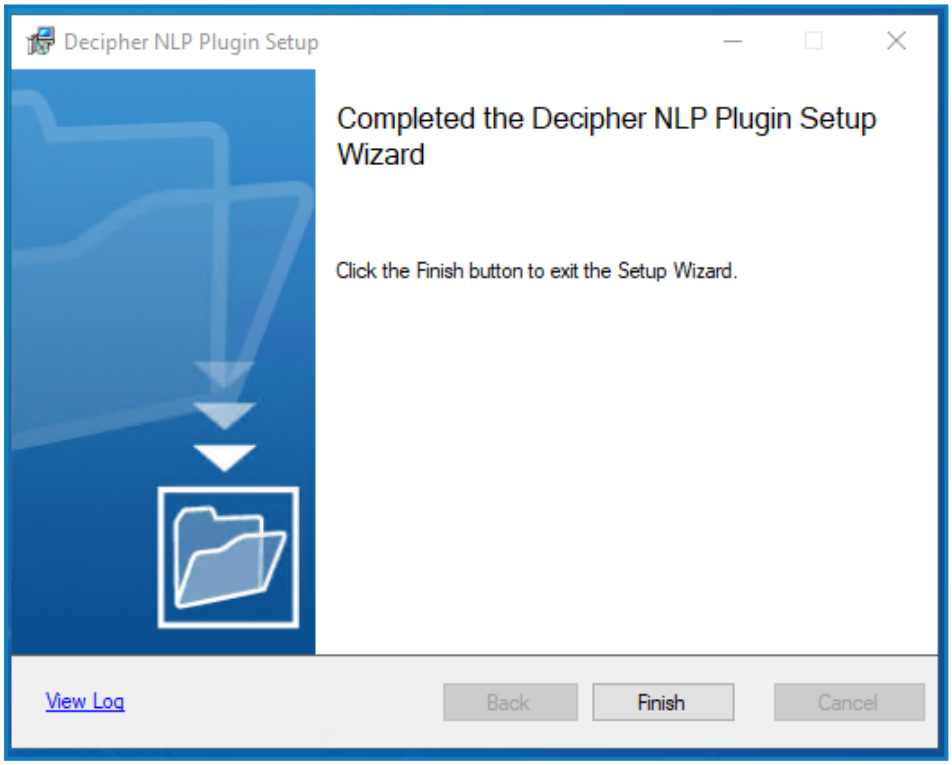
1. Run the Decipher NLP Plugin installer.
2. Click through the install wizard, following the on-screen instructions as prompted.
3. On the End-User License Agreement screen, read the license agreement and, if you accept these terms, select **I accept the terms in the License Agreement**, then click **Next**.



The Installing Decipher NLP Plugin screen displays.



4. After the plugin has installed, click **Next**.
5. On the Completed the Decipher NLP Plugin Setup Wizard screen, click **Finish** to exit the wizard.

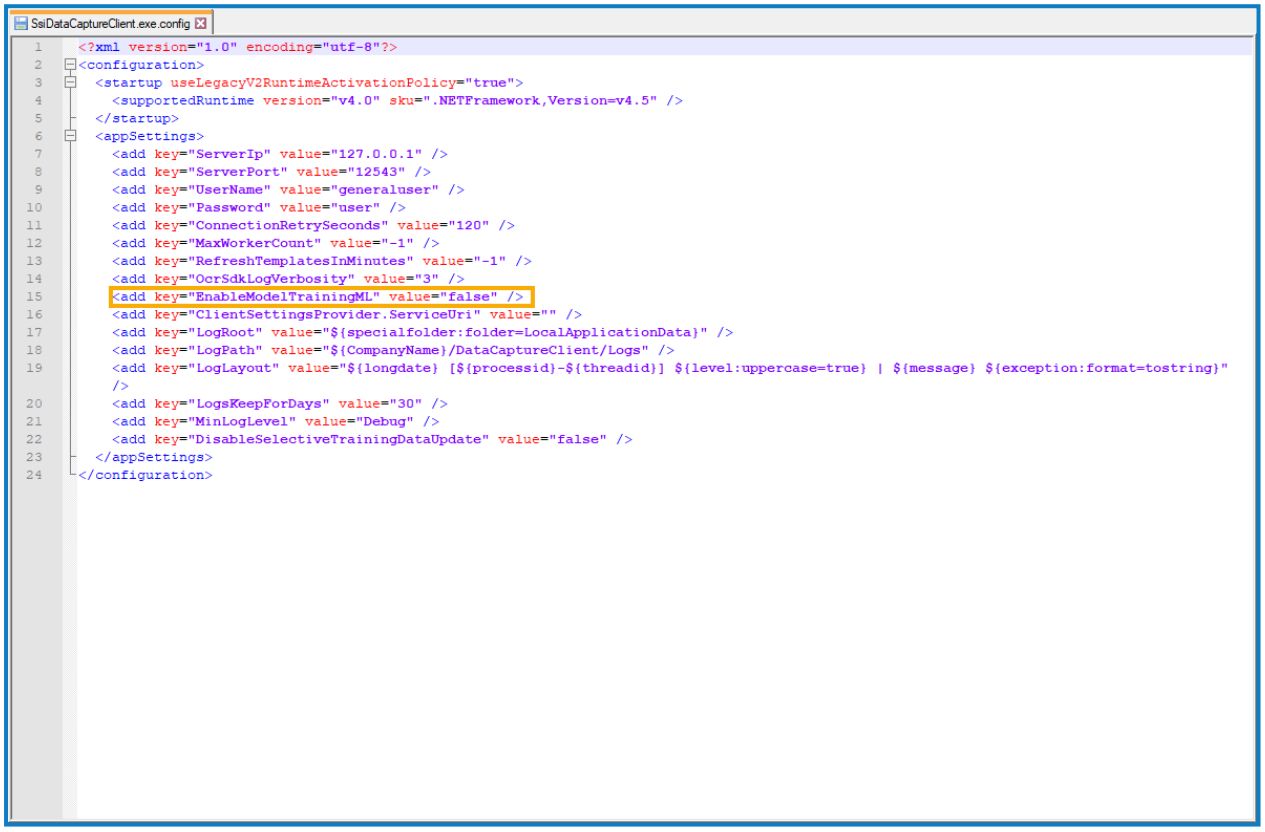


The NLP plugin is installed to the following location:
`SSI_AUTOMATED_CLIENTS_ROOT_INSTALLATION_DIR\DataCaptureML\unstructured`.

Configure the NLP plugin

After you have successfully installed the NLP plugin, you will need to ensure that machine learning training is enabled in the `SsiDataCaptureClient.exe.config` file.

1. Using a text editor, open the `SsiDataCaptureClient.exe.config` file, which is found in the Decipher Web install folder. (The default location is `C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiDataCaptureClient.exe.config`.)
2. Find `EnableModelTrainingML` and change the value to `true`.



3. Save the amended file.

See Natural Language Processing (NLP) plugin for details on how to configure and use the plugin in Decipher IDP.

Verify SQL databases

After installation, the following databases should have been created - you can check in SQL Server Management Studio:

SQL Database	Default Blue Prism Database Name
Blue Prism	BluePrism
Decipher IDP	DecipherServerDb
Decipher IDP reports	DecipherServerDbReporting

Silent install

⚠ Downloading and installing any of the Decipher IDP components, including by silent installation via command line, means that you accept the End User License Terms.

The Decipher Licensing Service, Decipher Server, Decipher Web Client, Decipher Automated Clients, Decipher Server Plugin, NLP Plugin, and a separate reporting database can be installed via the command line using the commands in the sections below:

Commands must be run from an elevated command prompt to perform silent install.

Decipher IDP component installation commands

Run the following command line arguments for either fresh install or upgrade:

Decipher Licensing Service

Fresh install

```
start /wait msiexec /i "Decipher Licensing Service.msi" /qn /norestart /log .\log.txt
```

Decipher Server

Fresh install

```
start /wait msiexec /i "Decipher Server 2.22.10050.msi" /qn /l .\install.txt SERVERPORT=12543
DBNAME=DecipherServerDb STORAGEPATH=C:\DecipherImageStore LICUSER=guest LICPASS=guest WINSERVICE=1
DBSERVER="dec-ws2019-0\SQLEXPRESS" DBAUTHTYPE=1 DBUSER=<username> DBPASS=<password>
```

Upgrade

```
start /wait msiexec /i "Decipher Server 2.22.10050.msi" /qn /l .\install.txt
```

Decipher Web Client

Fresh install

```
start /wait msiexec /i "Decipher Web Client 2.23.02150.msi" /qn /norestart /log .\log.txt
INSTALLDIR="C:\Program Files (x86)\Blue Prism" WEBSITEPORT=80 SERVERIP=127.0.0.1 SERVERPORT=12543
DBCONNSTR="Data Source=dec-ws2019-0\SQLEXPRESS;Initial Catalog=DecipherServerDb;User
ID=<userid>;Password=<password>"
```

Upgrade

```
start /wait msiexec /i "Decipher Web Client 2.23.02150.msi" /qn /norestart /log .\log.txt
```

Decipher Automated Clients

Fresh install

```
start /wait msiexec /i "Decipher Automated Clients 2.23.02140.msi" /qn /l .\log.txt
InstallDir="C:\Program Files (x86)\Blue Prism\Decipher Automated Clients" ServerIP=127.0.0.1
serverport=12543 serveruser=generaluser serverpass=user AddLocal=Common_Files,Server_Common_
Files,Data_Capture_Client,OCR_Client,Image_Processing_Client,Machine_Learning_
Module,Classification_Client,Export_Client
```

Upgrade

```
start /wait msiexec /i "Decipher Automated Clients 2.23.02140.msi" /qn /l .\log.txt
```

Decipher Server Plugin

Fresh install

```
start /wait msiexec /i "Decipher Server Plugin.msi" /qn /norestart /log .\log.txt
```

NLP Plugin

Fresh install

```
start /wait msiexec /i "Decipher NLP Plugin 2.23.02140.msi" /qn /l .\log.txt
```

Upgrade

As there is only one release of the NLP plugin, the upgrade command is not currently required.

Command line parameters

Parameter	Component	Description
DBSERVER	Decipher Server	The name of the SQL server, or the Azure server database connection string.
DBAUTHTYPE	Decipher Server	Authentication type - this can be: • *0* - Trusted (Windows Authentication) This is the default and recommended for Decipher IDP. • *1* - SQL Authentication
DBUSER	Decipher Server	Username for the database. Only required for SQL authentication.
DBPASS	Decipher Server	Password for the database. Only required for SQL authentication.
DBNAME	Decipher Server	The name of the database. The default is *DecipherServerDb*.

Parameter	Component	Description
STORAGEPATH	Decipher Server	The image storage path. This is the location where the documents are stored after they have been processed. This can be any location, including OneDrive, SharePoint, or a local drive.
LICENSEKEY	Decipher Server	The license key for the Decipher software.
WINSERVICE	Decipher Server	They type of install: • *0* - Install the server as a console application. • *1* - Install the server as service (default).
ENCRYPTION	Decipher Server	The encryption requirement for completed documents: • *false* - Completed documents are not encrypted (default). • *true* - All completed documents are encrypted. This is only necessary if the documents being processed are confidential.
ENCRYPTIONPWD	Decipher Server	The encryption password.
ENCRYPTEDPWD	Decipher Server	The encryption requirement for the encryption password: • *0* - The password will not be encrypted (default). • *1* - The password will be encrypted.
LICHOST	Decipher Server	The RabbitMQ server host name. The default is *localhost*.
LICPORT	Decipher Server	The RabbitMQ server port. The default is *5672*.
LICQUEUE	Decipher Server	The RabbitMQ server queue name. The default is *DecipherLicensing*.
LICUSER	Decipher Server	The RabbitMQ username.
LICPASS	Decipher Server	The RabbitMQ password.
SERVERPORT	Decipher Server, Decipher Web Client, and Decipher Automated Clients	The port of the server. The default is *12543*. This is required when installing the Decipher Web Client.
DBCONNSTR	Decipher Web Client	The SQL application or Azure server database connection string.
INSTALLDIR	Decipher Web Client and Decipher Automated Clients	The installation directory. This does not need to be passed if the default directory is used.
SQL_SERVER	Decipher Licensing Service	The SQL Server type, or the Azure server database connection string.

Parameter	Component	Description
SQL_USERNAME	Decipher Licensing Service	The username for SQL Server Authentication. Required if SQL_AUTH_MODE is false.
SQL_PASSWORD	Decipher Licensing Service	The password for SQL Server Authentication. Required if SQL_AUTH_MODE is false.
SQL_DATABASE_NAME	Decipher Licensing Service	The SQL database name. The default is *BluePrism*.
SQL_AUTH_MODE	Decipher Licensing Service	The authentication mode. This can be: • *true* - Trusted (Windows Authentication) This is the default and recommended for Decipher IDP. • *false* - SQL Authentication
RMQ_USERNAME	Decipher Licensing Service	The RabbitMQ username. The default is *guest*.
RMQ_PASSWORD	Decipher Licensing Service	The RabbitMQ password. The default is *guest*.
RMQ_HOST_NAME	Decipher Licensing Service	The RabbitMQ host name. The default is *localhost*.
RMQ_PORT	Decipher Licensing Service	The RabbitMQ port number. The default is *5672*.
RMQ_QUEUE_NAME	Decipher Licensing Service	The RabbitMQ queue name, which must contain alphanumeric characters only. The default is *DecipherLicensing*.

Where appropriate, each property is initialized with the default value if it is not specified on the command line.

Reporting database command line parameters

The following command line parameters can be used for the silent install of a separate reporting database on Decipher Server.

REPORTING	Specifies if the reporting database is enabled or disabled. This can be: • *true* • *false* The default for clean install is *false*.
REPORTSAMESVR	Specifies if the reporting database should be created on the same SQL Server instance as the main database. This can be: • *true* • *false* The default is *true*.
REPDBSERVER	The name of the SQL Server instance to be used for the reporting database.

REPDBAUTHTYPE	The Authentication type for the reporting server. Works analogically to DBAUTHTYPE: • *0* - Windows Authentication This is the default and recommended for Decipher IDP. • *1* - SQL Server Authentication
REPDBUSER	The username for the reporting server. Required if REPDBAUTHTYPE is 1.
REPDBPASS	The password for the reporting server. Required if REPDBAUTHTYPE is 1.
REPDBNAME	The name of the reporting database. The default value is DBNAME appended with *Reporting*.

Default file locations

The default locations of Decipher IDP's configuration and log files are shown in the sections below.

Log file locations

> The default log locations were updated with the release of Decipher IDP 2.1, but logs for existing installations upgrading from versions 1.2 or earlier were not changed. For details on how to re-configure the log locations, see Upgrade Decipher IDP.

Application Server

File type	Location
Config	`C:\Program Files (x86)\Blue Prism\Decipher Server\log4net.config`
Logs	`C:\Windows\System32\config\systemprofile\AppData\Local\Decipher\ApplicationServer\Logs`

Classification

File type	Location
Config	`C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiClassificationClient.exe.config`

Logs	`C:\Users\Public\Blue Prism\ClassificationClient\Logs`
	For systems using 1.2 or earlier:
	`C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\ClassificationClient\Logs`

Capture

File type	Location
Config	`C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiDataCaptureClient.exe.config`

Logs	`C:\Users\Public\Blue Prism\DataCaptureClient\Logs`
	For systems using 1.2 or earlier:
	`C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\DataCaptureClient\Logs`

Export

File type	Location
Config	`C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiExportClient.exe.config`

File type	Location
Logs	C:\Users\Public\Blue Prism\ExportClient\Logs For systems using 1.2 or earlier: C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\ExportClient\Logs

Image Processing

File type	Location
Config	C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiImageProcessingClient.exe.config
Logs	C:\Users\Public\Blue Prism\ImageProcessingClient\Logs For systems using 1.2 or earlier: C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\ImageProcessingClient\Logs

OCR

File type	Location
Config	C:\Program Files (x86)\Blue Prism\Decipher Automated Clients\SsiOcrClient.exe.config
Logs	C:\Users\Public\Blue Prism\OcrClient\Logs For systems using 1.2 or earlier: C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\OcrClient\Logs

Web Client

File type	Location
Config	C:\Program Files (x86)\Blue Prism\Decipher Web\NLog.config
Logs	C:\Users\Public\Blue Prism\DecipherWebServer\Logs For systems using 1.2 or earlier: C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\DecipherWebServer\Logs

Configuration file locations

RabbitMQ

File type	Location
Config	N/A
Logs	%appdata%\RabbitMQ\log\

Web installer

File type	Location
Config	N/A
Logs	%temp% - there are 4 log files, whose names start with Blue Prism_Invoices_Web_Client_ `C:\Users\{username}\AppData\Local\Temp`

Web SDK Service/SDKWrapper

File type	Location
Config	`C:\Program Files (x86)\Blue Prism\Decipher Web SDK Service\SdkWrapper\Ssi.SdkWrapper.exe.config`

Logs	`C:\Users\Public\Blue Prism\SdkService\Logs`
	`C:\Users\Public\Blue Prism\SdkWrapper\Logs`
	For systems using 1.2 or earlier:
	If started under NetworkService (default):
	`C:\Windows\ServiceProfiles\NetworkService\AppData\Local\Blue Prism`
	If started under LocalSystem (deprecated):
	`C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Blue Prism\SDKWrapper\Logs`