

ABBYY



ABBYY Vantage

Connector for Pega Guide

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About ABBYY Vantage Connector for Pega

ABBYY Vantage provides content IQ skills that allow you to turn unstructured content into structured, actionable information by means of classification and extraction, as well as processing specific document types like invoices, orders, W2 forms, and more.

ABBYY Vantage Connector for Pega allows you to incorporate ABBYY Vantage skills into your Pega case workflow.

System requirements

You will need an account with ABBYY Vantage both to configure and to run the integration.

ABBYY Vantage Connector for Alteryx can be used with:

- ABBYY Vantage 2.3 or later
- Pega Platform 8.7 or later.

Sample Pega Application

ABBYY Vantage Connector for Pega is distributed as a ZIP archive containing a Pega application configured to work with ABBYY Vantage.

A connector user guide and some sample images are also included in the distribution archive.

The sample application contains **AbbyyVantageComponent** which includes different rules:

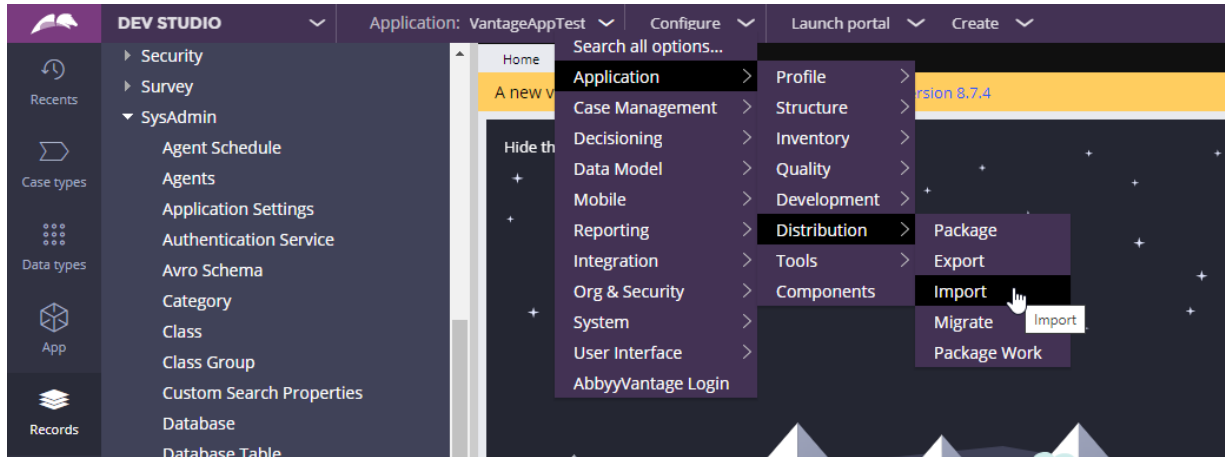
- Set of [Connect REST rules](#),
- **Authentication Profile**,
- **Dynamic System Settings** that are used to store ABBYY Vantage credentials,
- **Process documents** case type that demonstrates how the connector works.
- **Data Pages, Data Transforms, Activities, Flows, Flow Actions**, and other rules.

You can inspect the rules above after importing the application (refer to the [Adding the AbbyyVantageSample to built-on applications](#) section).

Importing the application

To import the ABBYY Vantage Connector for Pega sample application, perform the following steps:

1. Open Pega Dev Studio.
2. In the upper area of the window, select **Configure** → **Application** → **Distribution** → **Import** to launch the Import wizard.



3. Import the **Abbyy_Vantage_Sample_App_v1.4.jar** file to the server.

To access the application, configure Access Group:

1. Open the menu for the appropriate operator. If you need to choose the current operator, click the icon in the lower-left area of the window and select **Operator**. The **Edit Operator ID** window will open.



2. In the **Application Access** section of the **Edit Operator ID** window, add the **VantageA:Authors** access group.

The screenshot shows the 'Edit Operator ID: VantageUser' window in Pega DEV STUDIO. The window has a top navigation bar with 'DEV STUDIO' and a search bar. Below the navigation bar, there are tabs for 'Home', 'Application ...', 'Application', 'Invoices 01.0...', 'TestApp 01.01.01', and 'VANTAGEUSER'. The 'VANTAGEUSER' tab is active, showing the 'Edit Operator ID: VantageUser' window. The window has a sub-header with 'ID: VantageUser' and 'RS: Pega-RULES [Edit]'. Below the sub-header, there are tabs for 'Profile', 'Work', 'Security', and 'History'. The 'Profile' tab is active, showing the 'Contact Information' section with fields for 'Title', 'First name', 'Last name', 'Full name' (filled with 'VantageUser'), 'Position / Job title', 'Phone', and 'Email' (filled with 'VantageUser'). There is also an 'Application Access' section with a radio button to select a default access group. Below this, there is a table with two columns: 'Access Group' and 'Application'. The table lists several access groups and their corresponding applications. The 'VantageA:Authors' access group is selected, and the 'AbbyyVantageSample 02.01.01' application is selected. Below the table, there is a 'Localization' section with fields for 'Default locale' and 'Time zone' (set to 'America/New_York').

3. Log out and log in again. After that, the application will appear in the **Application** → **Switch Application** menu.

Adding AbbyyVantageSample to built-on applications

Note: The sample application is built on the Theme Cosmos UI. If your application uses a different UI, create a new application using Theme Cosmos UI and follow the guide in this section to configure it and to get acquainted with how the integration works.

If your Pega project has another UI configuration or if you have a headless implementation, you will be able to invoke the process flow and the data model of ABBYY Vantage component, and configure the sections according to your business scenario.

After **AbbyyVantageSample** is imported, you need to add it as a built-on application to your own application. This will allow you to reuse the sample application elements in your application.

To add the sample application to your own application, do the following:

1. Navigate to **Records** → **Application Definition** → **Application**.
2. Open your application.
3. In the **Built on applications** section of the **Definition** tab, click the **+Add application** button.

4. Enter **AbbyVantageSample** in the **Name** field and select **02.01.01** in the **Version** field.

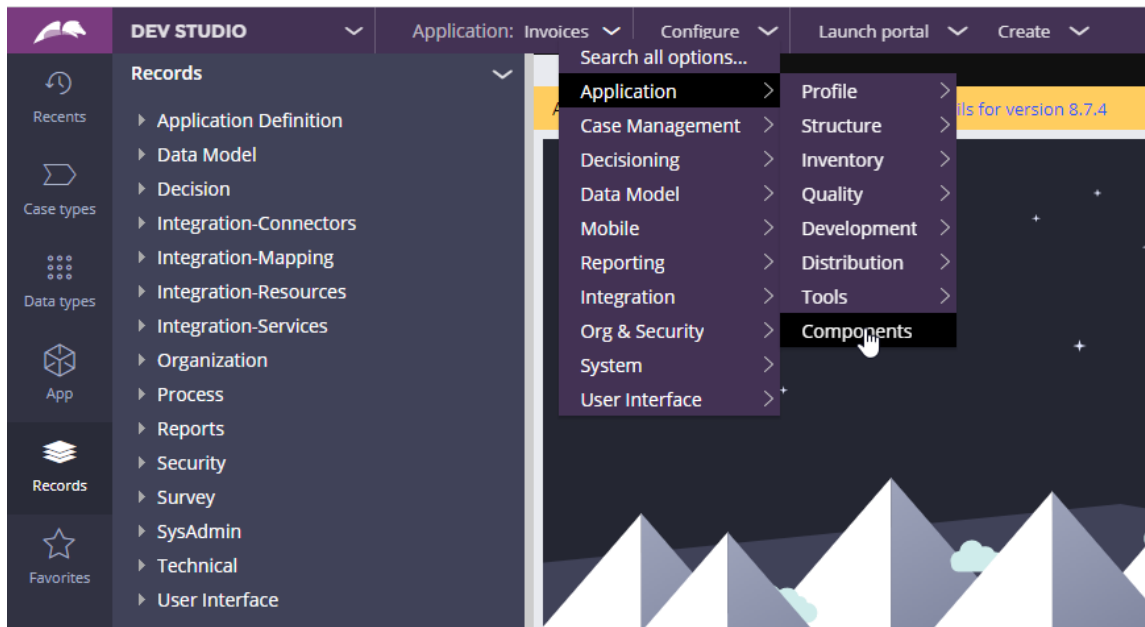
The screenshot shows the 'Edit Application: Invoices' interface. At the top, it says 'ID: Invoices • 01.01.01 RS: Invoices [Edit]'. A yellow banner indicates 'This record has 1 info warning (including 1 unjustified) [Review/Edit]'. The 'Definition' tab is active. In the 'Built on applications' section, there is a table with two rows: 'Theme-Cosmos' (version 04.01) and 'AbbyVantageSample' (version 02.01.01). The 'AbbyVantageSample' row is highlighted. To the right, the 'Development branches' section is empty. Below, the 'Enabled components' section is also empty. On the far right, the 'Application rulesets' section lists four rulesets: 'Invoices:01-01', 'InvoicesInt:01-01', 'DMOrg:01-01', and 'DMOrgInt:01-01'.

5. Save the application.

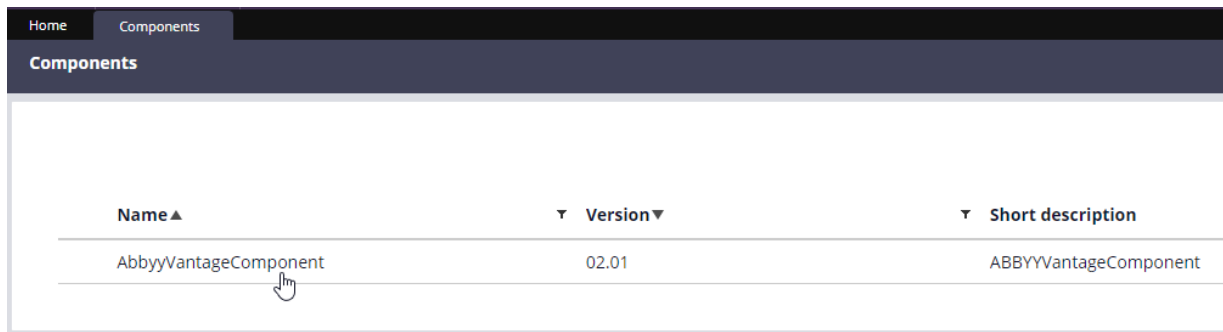
Once you have added **AbbyVantageSample** as a built-on application to your application, you will be able to reuse its elements.

To inspect all the rules included in the component, perform the following steps:

1. Open **Configure** → **Application** → **Components**.



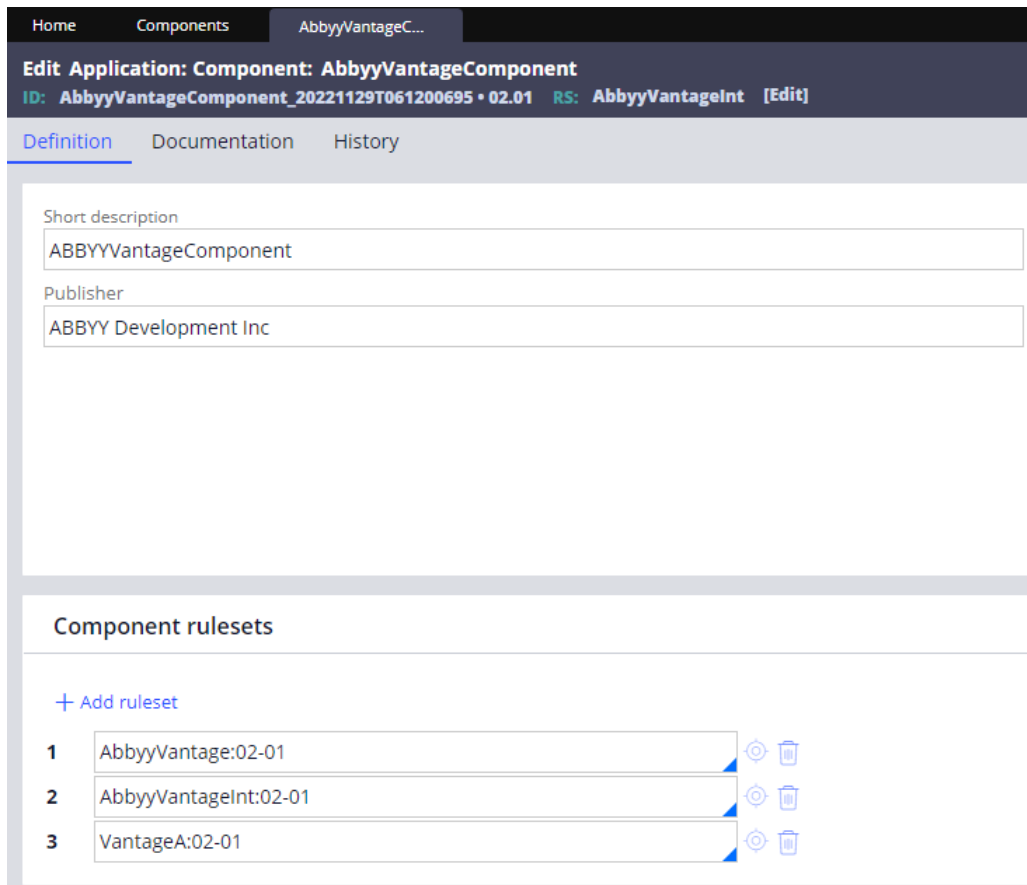
2. Open **AbbyVantageComponent**.



The screenshot shows the 'Components' section of the Pega interface. A table lists components with columns for Name, Version, and Short description. The component 'AbbyVantageComponent' is highlighted, and a mouse cursor is pointing at it.

| Name ▲ | Version ▼ | Short description ▼ |
|----------------------|-----------|----------------------|
| AbbyVantageComponent | 02.01 | ABBYVantageComponent |

3. Open the rulesets in the **Component rulesets** section to inspect the rules.



The screenshot shows the 'Component rulesets' configuration page for 'AbbyVantageComponent'. It includes fields for 'Short description' and 'Publisher', and a list of rulesets under the 'Component rulesets' section.

Edit Application: Component: AbbyVantageComponent
ID: AbbyVantageComponent_20221129T061200695 • 02.01 **RS:** AbbyVantageInt [Edit]

Definition | Documentation | History

Short description
 ABBYVantageComponent

Publisher
 ABBYY Development Inc

Component rulesets

+ Add ruleset

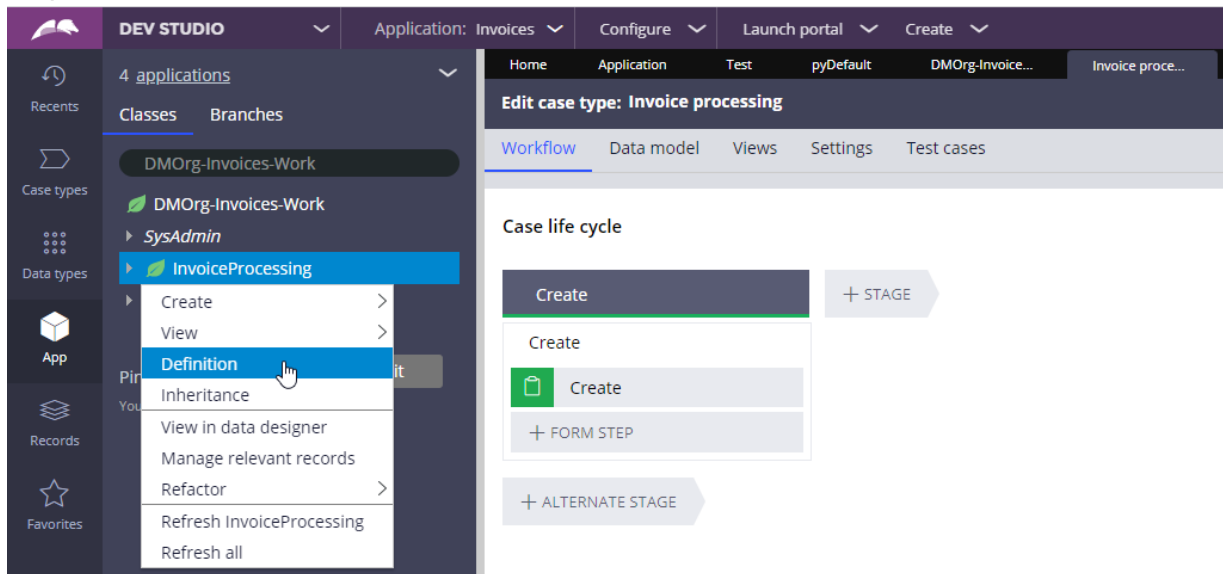
| | | |
|---|----------------------|-------|
| 1 | AbbyVantage:02-01 | ⚙️ 🗑️ |
| 2 | AbbyVantageInt:02-01 | ⚙️ 🗑️ |
| 3 | VantageA:02-01 | ⚙️ 🗑️ |

Creating and configuring case types

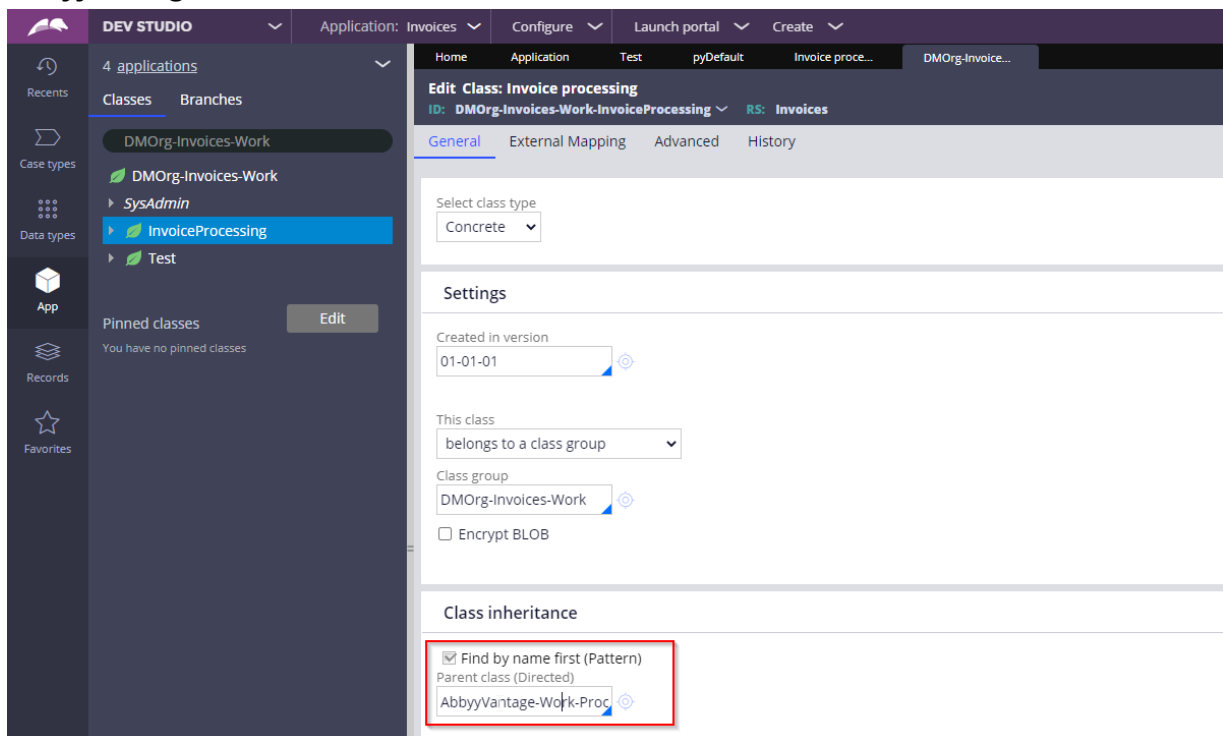
When **AbbyVantageSample** is added to the built-on applications of your application, you can create a case type to process documents using ABBYY Vantage. To create and configure the case type and to run a case, carry out the steps described below.

Create a case type and set up inheritance

1. Switch to your application, which already has **AbbyVantageSample** added as a built-on application.
2. Go to the **Case types** menu and create a new case type (for example, **Invoice processing**).
3. Go to the **App** menu.
4. On the **Classes** tab, right-click the class of the created case type, then select **Definition** in the drop-down list.



5. In the **Class inheritance** section of the definition of the class, change inheritance to **AbbyVantage-Work-ProcessDocuments**.

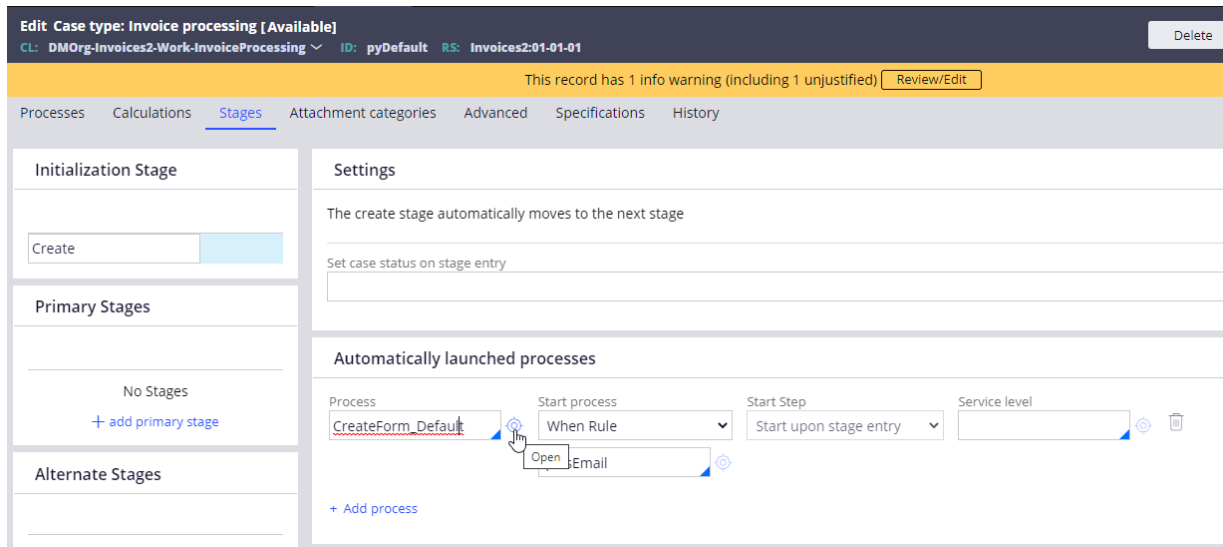


6. Save the definition.

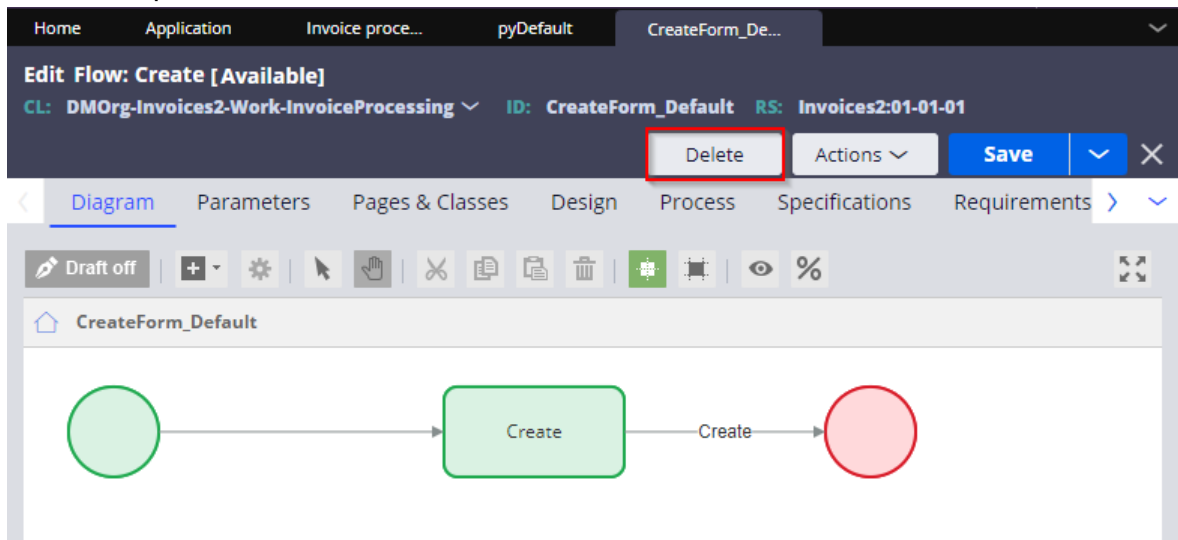
Add steps to the case workflow

To add steps to a case workflow, do the following:

1. Open the **Case types** menu and right-click the created case type. In the drop-down list, select **Open**.
2. Open the **Stages** tab.
3. In the **Initialization Stage** section, select **Create**.
4. In the **Automatically launched processes** section, open the default **CreateForm_Default** process for the **Create** initialization stage.



5. Delete this process.



- Open the **Stages** tab. In the **Automatically launched processes** section, select **CreateForm_Default** (AbbyyVantage-Work-ProcessDocuments) for the **Create** initialization stage.

The screenshot shows the 'Edit Case type: Invoice processing [Available]' page. The 'Stages' tab is active. The 'Initialization Stage' is 'Create'. The 'Automatically launched processes' section shows a list of processes, with 'CreateForm_Default' selected for the 'Create' stage.

- Add a new primary stage and name it, e.g., Get Status. Set the focus to this stage and select **GetStatus** (AbbyyVantage-Work-ProcessDocuments) in the **Automatically launched processes** section.

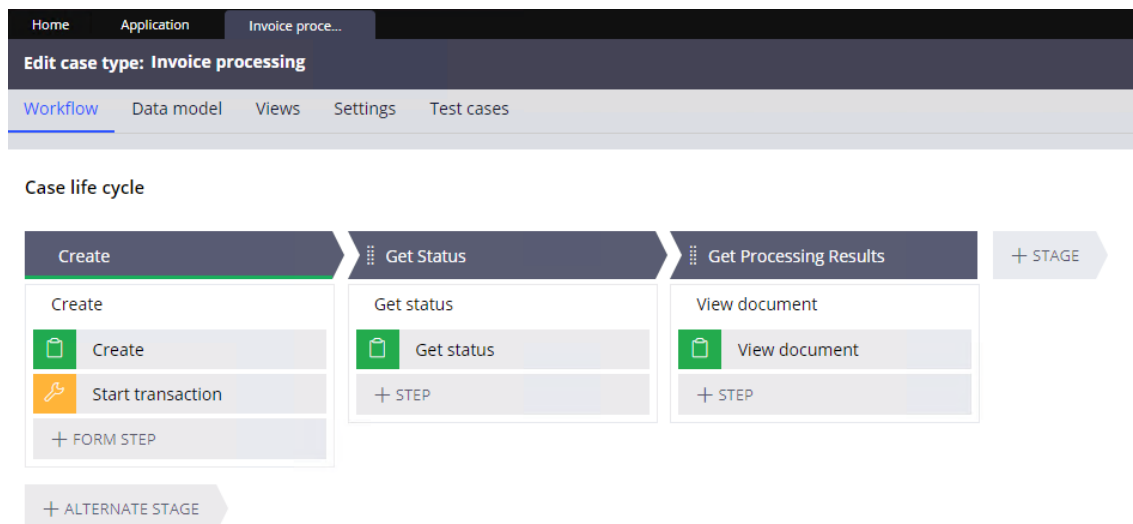
The screenshot shows the 'Edit Case type: Invoice processing [Available]' page. The 'Stages' tab is active. A new primary stage 'Get Status' has been added. The 'Automatically launched processes' section shows a list of processes, with 'GetStatus' selected for the 'Get status' stage.

8. Add another primary stage and name it, e.g., Get Processing Results. Set the focus to this stage and select **ViewDocument_Flow** (AbbyyVantage-Work-ProcessDocuments) in the **Automatically launched processes** section.

The screenshot shows the 'Edit Case type: Invoice processing [Available]' interface. The 'Stages' tab is selected, displaying a list of stages: 'Initialization Stage' (with a 'Create' button) and 'Primary Stages' (containing 'Get Status' and 'Get Processing Results'). Below these are 'Alternate Stages' (currently empty). The right-hand 'Settings' panel shows configuration for the selected stage, including 'Skip stage when', 'When all processes in this stage are complete' (set to 'Automatically move to next stage'), and 'Set case status on stage entry'. The 'Requirements' section is empty. The 'Automatically launched processes' section at the bottom shows 'ViewDocument_Flow' selected as the process, with 'Start process' set to 'Always' and 'Start Step' set to 'Start upon stage entry'.

9. Save the case type settings.

Once all stages have been added, your case type workflow will be displayed as shown below:

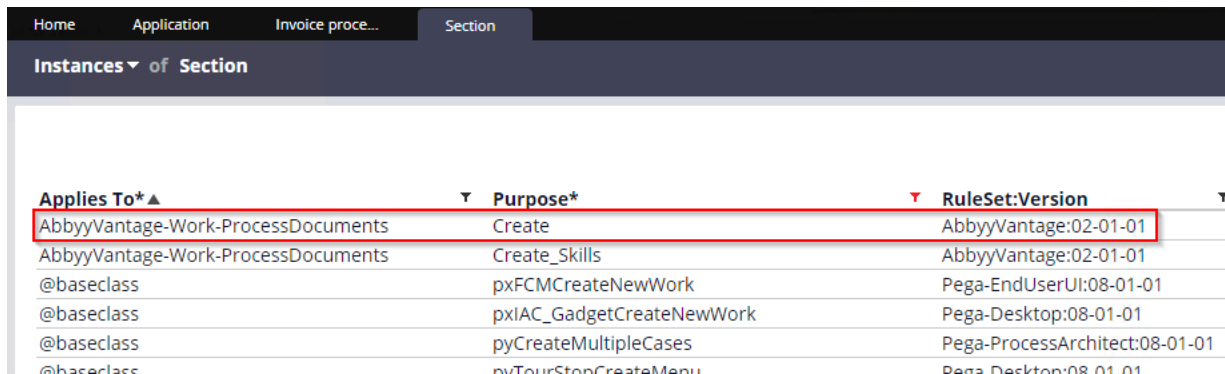


Adding a section to the application context

To add a section to the application context, do the following:

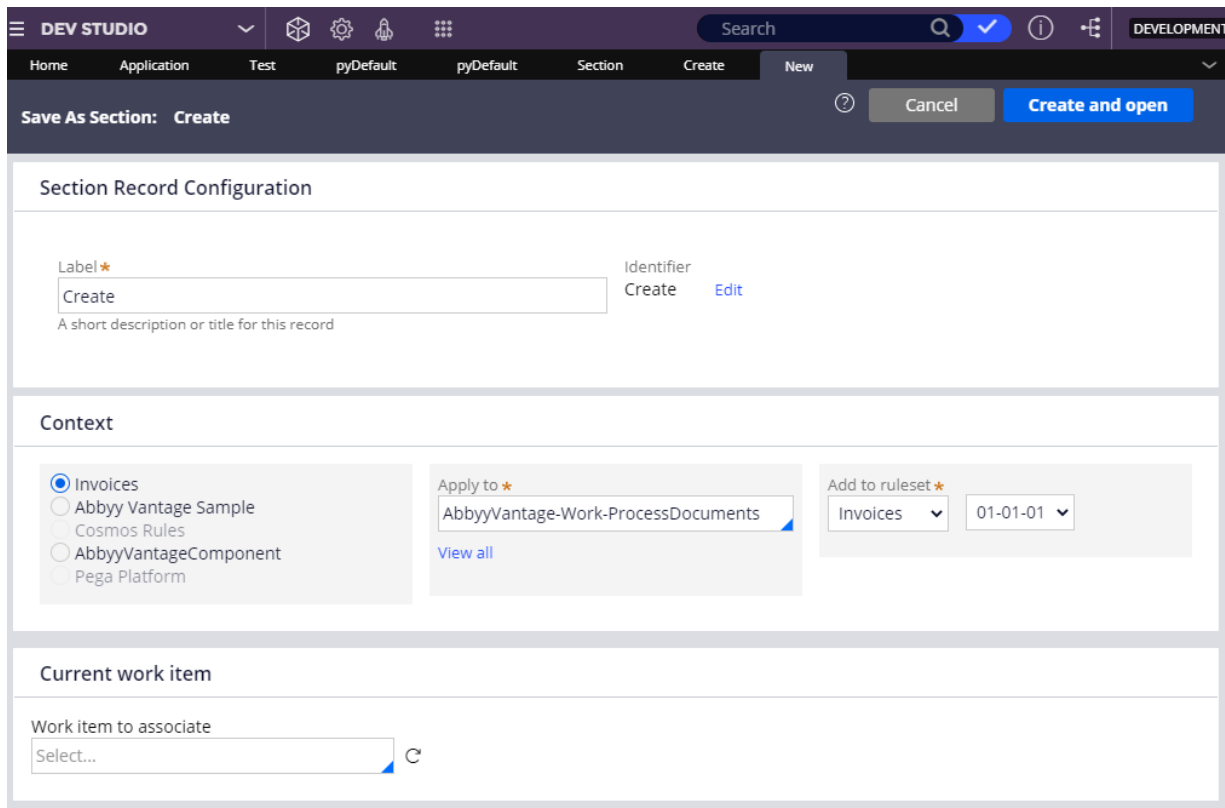
1. Navigate to **Records** → **User Interface** → **Section**.

- Find and open the **Create** section for the **AbbyVantage:02-01-01** rule set version.



| Applies To* ▲ | Purpose* | RuleSet:Version ▼ |
|-----------------------------------|---------------------------|--------------------------------|
| AbbyVantage-Work-ProcessDocuments | Create | AbbyVantage:02-01-01 |
| AbbyVantage-Work-ProcessDocuments | Create_Skills | AbbyVantage:02-01-01 |
| @baseclass | pxFCMCreateNewWork | Pega-EndUserUI:08-01-01 |
| @baseclass | pxIAC_GadgetCreateNewWork | Pega-Desktop:08-01-01 |
| @baseclass | pyCreateMultipleCases | Pega-ProcessArchitect:08-01-01 |
| @baseclass | pyTourStepCreateMenu | Pega-Desktop:08-01-01 |

- Click **Save As**.
- In the window that opens, ensure that your application and its rule set are selected in the **Context** section.



Save As Section: Create [Cancel] [Create and open]

Section Record Configuration

Label* Identifier [Edit](#)

A short description or title for this record

Context

☒ Invoices ☐ Abby Vantage Sample ☐ Cosmos Rules ☐ AbbyVantageComponent ☐ Pega Platform

Apply to* [View all](#)

Add to ruleset*

Current work item

Work item to associate [C](#)

- Click **Create and open**.
- Save the **Create** section.

Configuring a connection to ABBYY Vantage

Once the application has been imported and the case type has been created and set, configure a connection to ABBYY Vantage. To do this, carry out the steps below.

Configure the address of the Vantage server

1. Open **Records** → **SysAdmin** → **Application Settings** and select **AbbyyVantage – BaseURL**.
2. Click the **Save As** button and save this rule in your application context.

The screenshot shows the Pega SysAdmin interface for configuring an application setting. The breadcrumb trail is: Home > Application ... > Application S... > AbbyyVantage ... > New. The page title is "Save As Application Settings: BaseURL".

Application Settings Record Configuration

Label ★: BaseURL
A short description or title for this record

Identifier: BaseURL [Edit](#)

Owning Ruleset: AbbyyVantage

Context

☒ Invoices
☐ Abbyy Vantage Sample
☐ Cosmos Rules
☐ AbbyyVantageComponent
☐ Pega Platform

Add to ruleset ★

Invoices ▼ 01-01-01 ▼

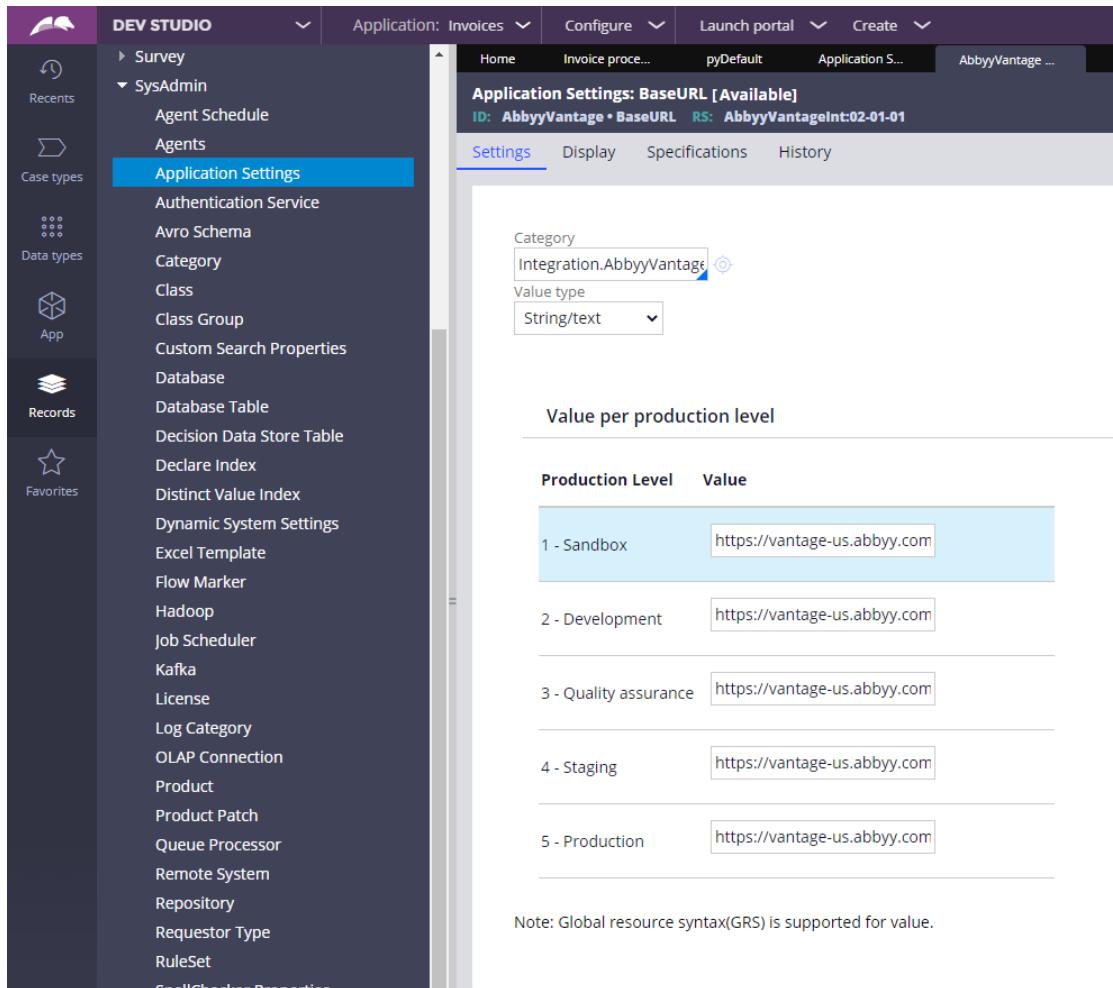
Current work item

Work item to associate

Select...

3. Click **Create and open**.

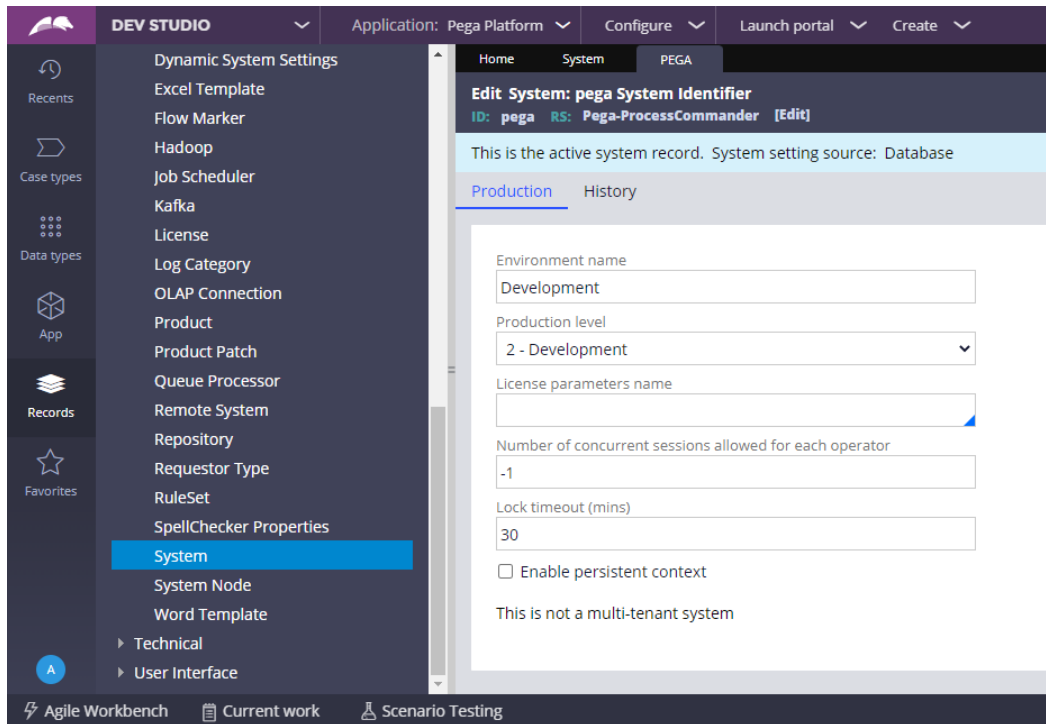
4. Specify the address of the ABBYY Vantage server for each production level you intend to use. For example:
 - <https://vantage-eu.abbey.com> if you are in Western Europe,
 - <https://vantage-us.abbey.com> if you are in North America,
 - <https://vantage-au.abbey.com> if you are in Australia.



Note: Do not add the slash character (/) at the end of the server address.

If required, you can check the current production level of your system by doing the following:

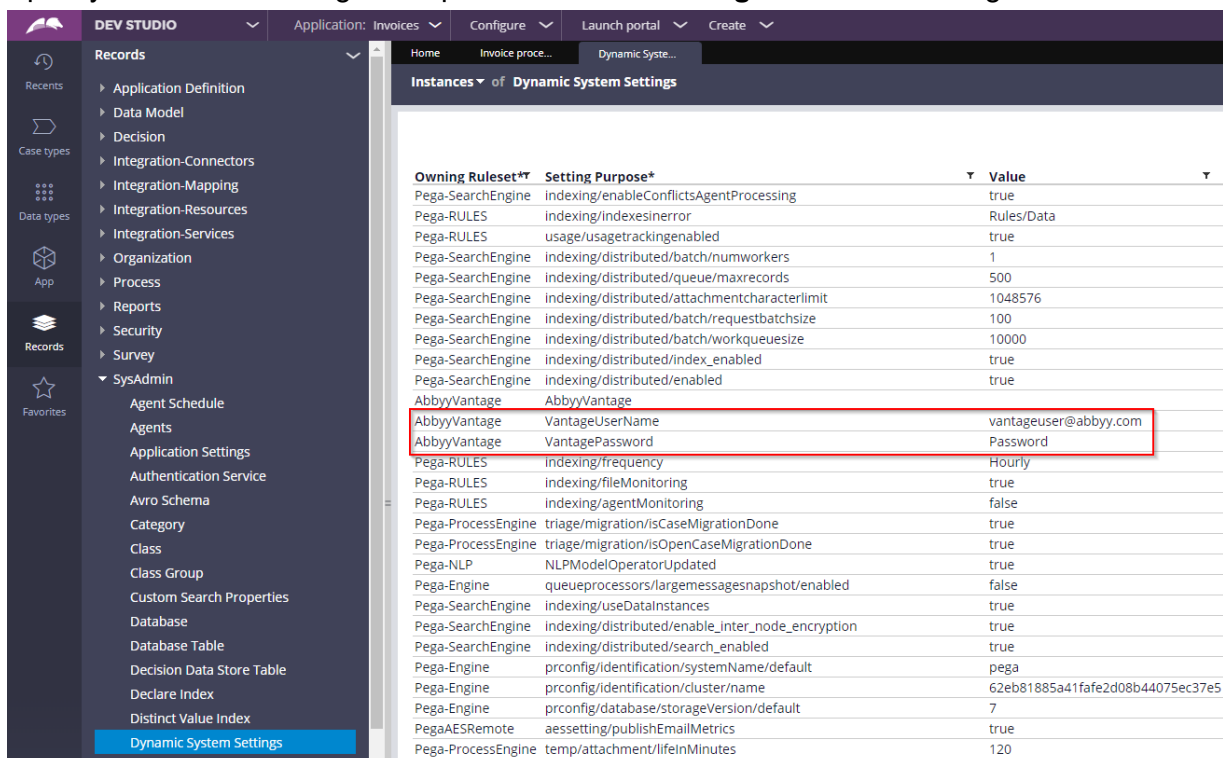
1. Switch to the PRPC Admin access group.
2. Open **Dev Studio** → **SysAdmin** → **System** and select your system.



Configuring ABBYY Vantage credentials

To configure ABBYY Vantage credentials, perform the following actions:

1. Open **Records** → **SysAdmin** → **Dynamic System Settings**.
2. Specify the ABBYY Vantage user name in the **VantageUserName** setting and save it.
3. Specify the ABBYY Vantage user password in the **VantagePassword** setting and save it.



By default, **Dynamic System Settings** are used in the authentication profile to store ABBYY Vantage credentials. Depending on your requirements, you can configure Authentication Profile to get credentials in a different way.

Configuring Authentication Profile

To configure Authentication Profile, do the following:

1. Open **Records** → **Security** → **Authentication Profile** and select **AbbyVantage** profile.
2. Specify a client identifier and a client secret in the corresponding **Client identifier** and **Client secret** fields of the Authentication Profile settings.

You can create your own client in ABBYY Vantage and specify its client identifier and client secret in Authentication Profile in Pega. To create a client in ABBYY Vantage, do the following:

- a) Log in to an ABBYY Vantage tenant using a browser with tenant administrator credentials.
- b) Open **Configuration** → **Public API Client**.
- c) Add the new client.
- d) Save the client identifier and client secret to file.
- e) Enable the **Allow Resource Owner Password Credentials Flow** option in the client settings of the **Allowed Flows** section.

For more information about creating clients, see https://vantage-eu.abbyy.com/help/English/AdminGuide/?topic=admin_managingrestapiclients_createclient if you are in Western Europe, https://vantage-us.abbyy.com/help/English/AdminGuide/?topic=admin_managingrestapiclients_createclient if you are in North America, and https://vantage-au.abbyy.com/help/English/AdminGuide/?topic=admin_managingrestapiclients_createclient if you are in Australia.

3. Specify the address of the Access token endpoint in the following format: **https://<vantage-server.abbyy.com>/auth2/connect/token**. For example, **https://vantage-eu.abbyy.com/auth2/connect/token** if you are in Western Europe, **https://vantage-us.abbyy.com/auth2/connect/token** if you are in North America, **https://vantage-au.abbyy.com/auth2/connect/token** if you are in Australia.

If the Vantage user with the credentials specified in **Dynamic System Settings** is registered in several Vantage tenants simultaneously, specify an Access token endpoint in the following format: **https://<vantage-server.abbyy.com>/auth2/<tenant-identifier>/connect/token**.

To get the Vantage tenant identifier, perform the following steps:

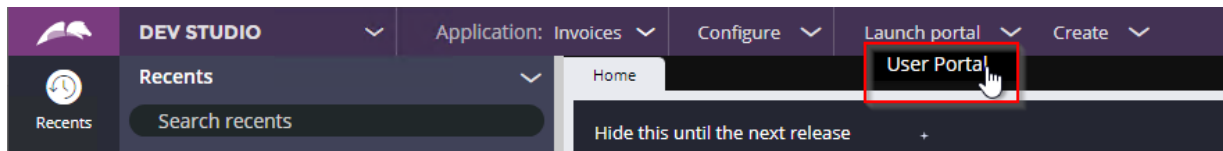
- a) Log in to the ABBYY Vantage tenant using a browser with tenant administrator credentials.
 - b) Open **Configuration** → **General**.
 - c) Copy your ABBYY Vantage tenant identifier.
4. Save the changes made in **Authentication Profile**.

Creating a case to process documents in ABBYY Vantage

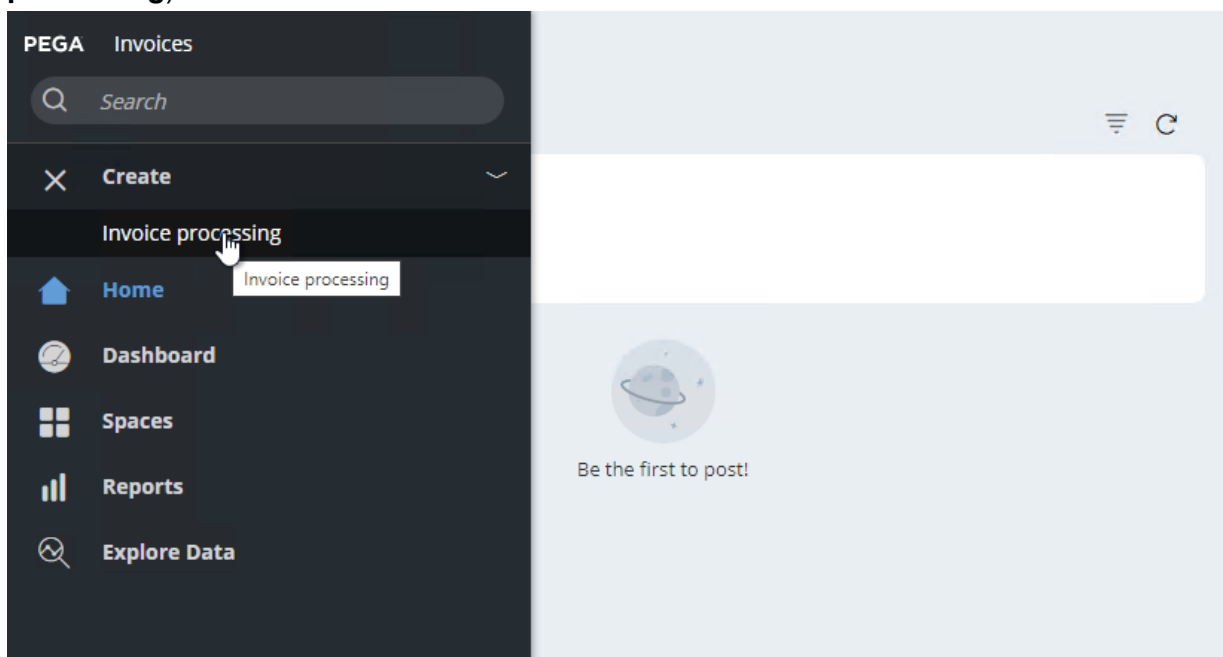
After you have configured the case type to process documents in ABBYY Vantage, you will be able to create a case and check how documents are processed.

To create a case, do the following:

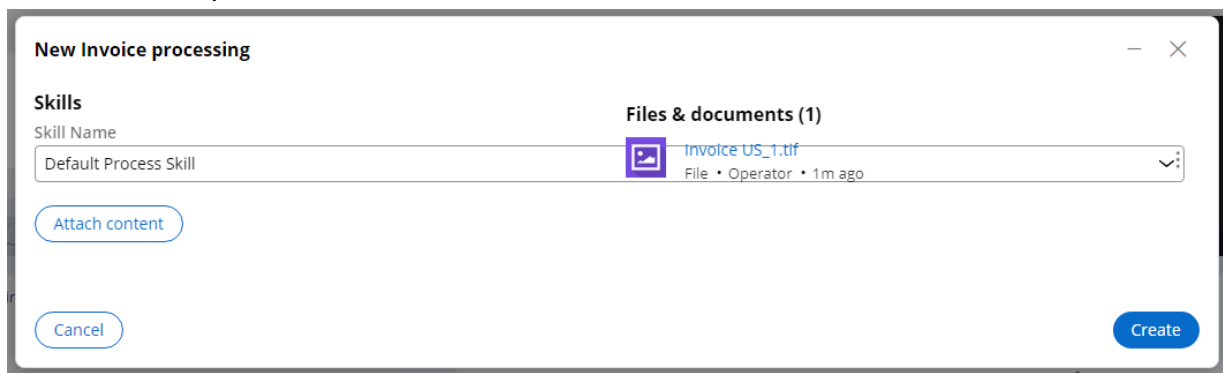
1. In Pega Dev Studio, click **Launch Portal** → **User Portal**.



2. Create a new case of the case type you have configured in the previous sections (**Invoice processing**).



3. In the window that opens, upload the document image. You can use sample images included in the connector distribution archive. Select **Invoice US_1.tif**.
4. In the **Skills** drop-down list, select **Default Process Skill** and click **Create**.



If you cannot get a list of skills, see the [Configuring connection to ABBYY Vantage](#) section to check that you have specified the correct connection settings.

5. Your new case will appear with a transaction identifier and transaction status.

✓ Create > **Get Status** > Get Processing Results

Get status
GetStatus •

Transaction status

ID
b9fc7d08-4e7b-477c-9cf6-14076f656d7d

Status
Processing

Cancel Save Submit

The Invoice processing case type does not yet have any fields defined.

6. Click **Actions** → **Refresh** to refresh data.

Invoice processing I-4 ☆

Edit

Priority
10

Status **NEW**

Created Operator

Updated Operator

Details

Pulse

Actions

- View history
- Manage tags
- Manage notifications
- Get status
- Edit details
- Change stage
- Refresh**
- Pin to space
- Pin to recents

Get status
GetStatus •

Transaction status

ID
b9fc7d08-4e7b-477c-9cf6-14076f656d7d

Status
Processing

Cancel

The Invoice processor

When you refresh the case data on the **Get Status** stage, a request to get the transaction status will be sent. Wait for the transaction to be processed and refresh the case.

Once the transaction is assigned the Processed status, the **Get Status** page will display the transaction status and a list of documents along with result files for each document.

✓ Create > **Get Status** > Get Processing Results

Get status
GetStatus •

Transaction status

ID
b9fc7d08-4e7b-477c-9cf6-14076f656d7d

Status
Processed

Document Result Files

db182330-187c-43b9-bed9-5f4d1965fb16

Result File Name: Invoice US.json • fileid .blob.08789e56-1cf8-41f3-907d-6c96f23355c8 • File Type: json

Cancel Save Submit

When you get the Processed transaction status, click the **Submit** button to go to the next stage.

7. On the **Get Processing Results** stage, a form containing all data extracted from your document will be displayed.

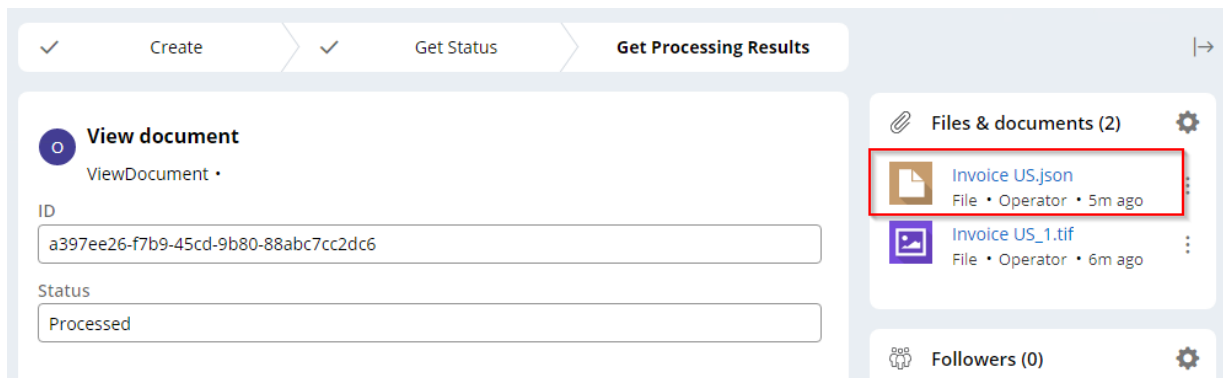
| Name | Value |
|---------------|-------------------------------|
| Business Unit | SHAWNEE MISSION KS 66201 |
| Country | US |
| Name | ABBYY USA Software HOUSE, LLC |

This form is created dynamically. Try to process the **BankStatement.tif** image file in the new case to get other fields extracted from the document.

The Data Transform rules are used to parse the contents of the JSON file downloaded from ABBYY Vantage. The file with FileType “Json” is used to get fields.

The **Get Processing Results** stage will only display the data extracted for the first document in a transaction. Classification results are not displayed on this stage. To work with all documents in a transaction and get classification data, you will need to set up an additional configuration.

- At the **Get Processing Results** stage, if needed, refresh the case by clicking **Actions** → **Refresh**. After that, files downloaded from ABBYY Vantage will be added to the case attachments.



If your ABBYY Vantage skill contains a Review activity, you will be able to get a review link on the **Get Status** stage.

Result files downloaded from ABBYY Vantage will vary depending on the skill applied to the document:

- If a Document Skill is used, the following formats of result files may be obtained: Json, FieldsJson.
- If a Classification Skill is used, only Json result files may be obtained.
- If an OCR Skill is used, the following formats of result files may be obtained: OcrJson, Txt, Xml, Xlsx, Docx, Pdf (depending on skill settings).
- If a Process Skill is used, all enabled formats may be obtained (depending on the export settings specified in the Output activity of the skill).

Connect REST rules

The Connect REST rules are the basic entities interacting with ABBYY Vantage API via HTTP protocol. Each of these rules calls a specific method of the ABBYY Vantage public API. You can find a detailed description of this API in the Vantage API swagger:

- <https://vantage-eu.abbyy.com/api/index.html?urls.primaryName=publicapi%2Fv1> for Western Europe,
- <https://vantage-us.abbyy.com/api/index.html?urls.primaryName=publicapi%2Fv1> for North America,
- <https://vantage-au.abbyy.com/api/index.html?urls.primaryName=publicapi%2Fv1> for Australia.

The following is a list of all Connect REST rules included in the **AbbyyVantageSample** application:

| Connect REST rule | Request type | Response content type | Description |
|-------------------|--------------|------------------------------------|---|
| GetSkills | GET | application/json; charset=UTF-8 | Gets a list of skills in the ABBYY Vantage tenant in JSON format. |

| | | | |
|--------------------------------|------|------------------------------------|---|
| StartTransaction | POST | application/json; charset=UTF-8 | Creates a transaction in ABBYY Vantage with the specified skill, adds the image files to the created transaction, and launches the transaction. Returns a transaction identifier. |
| GetTransaction Status | GET | application/json; charset=utf-8 | Gets the status of a transaction. Possible statuses: New, Processing, Processed, Failed, Canceled. |
| GetTransaction DocumentList | GET | application/json; charset=utf-8 | Gets transaction document identifiers in JSON format. |
| DownloadDocu ment | GET | application/octet -stream | Gets the result file for the document. |

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