

Automation Anywhere IQ Bot

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Automation Anywhere IQ Bot

IQ Bot Community Edition quick start guide

IQ Bot processes semi-structured or unstructured information and converts it into structured data that is used by Robotic Process Automation (RPA) bots for end-to-end automation. This lets you train the computer system to autonomously capture and understand unstructured information within a known domain and convert it into actual data.

We'll walk you through the entire process to show how easy it is to use cognitive automation.

Note: We recommend using the Chrome browser.

- **Get started with IQ Bot**

Register to use the IQ Bot Community Edition, then login with credentials from the welcome email you receive.

- **Register to use the Community Edition**

Sign up for Automation Anywhere Community Edition and register as a new user.

- **Creating a learning instance in Community Edition**

IQ Bot leverages machine learning for continuous enhancement through user training. Let's begin by creating a learning instance.

- **Train your learning instance**

IQ Bot analyzes documents, and groups them based on similar content, structure, and layout.

- **Export data to a CSV file**

In the **See Extraction Results** view, you have the option to export the extracted data to a CSV file for ease of review.

- **IQ Bot 11.x: Set learning instance to production**

Once the training and data extraction review process is complete, set your learning instance to production. Use this learning instance to run on documents (belonging to the same document type) hence automating the data extraction process.

- **Use IQ Bot in RPA**

Use the RPA Task Bot to automate data extraction. One Task Bot uploads documents to IQ Bot as another one downloads the results from IQ Bot to a local folder. Ensure you have trained learning instances in production status, to complete the process.

- **FAQs for Community Edition**

This topic answers frequently asked questions about the IQ Bot Community Edition.

Get started with IQ Bot

Register to use the IQ Bot Community Edition, then login with credentials from the welcome email you receive.

We will walk you through the entire process of:

- creating a learning instance and uploading sample documents
- training and reviewing your learning instance
- sending your learning instance to production

Register to use the Community Edition

Sign up for Automation Anywhere Community Edition and register as a new user.


Procedure

1. Click on **Register** to register as a new user.
You will receive an email providing you with login credentials and a link to the IQ Bot Community Edition. The email provides other helpful information as well.
2. Check your registered email account for your credentials and use them to log into the IQ Bot Community Edition portal.
3. On the Control Room home page, choose **COGNITIVE AUTOMATION > LAUNCH IQ BOT**.
4. The IQ Bot Community Edition **Home page** displays in a new window.

Creating a learning instance in Community Edition

IQ Bot leverages machine learning for continuous enhancement through user training. Let's begin by creating a learning instance.

A learning instance defines the type of document you need to process, the language of documents, and a list of data fields you want captured from each document.

 **Note:** Use documents in various formats such as: TIFF, JPEG, PNG, and PDF, to train your learning instance.

Procedure

1. On the IQ Bot Home page, click the **Get started** button to display the **Create new learning instance** page.
2. Define a name for the new learning instance. The description field is optional.
3. Select the domain or the document type, and the language from the drop-down list.
4. To create a custom domain, select **Document type > Others**. See [Custom domain](#) for details.
5. Click the **Browse** button and upload documents for training.
6. Download and use the sample documents as well. To use the sample documents, click the **Download sample documents** button, unzip the folder, and save the sample files to your local drive. Then click the **Browse** button and upload documents to train.
7. In the **Fields to extract** section, select fields from where the data needs to be extracted. For additional fields, expand the **Additional form fields** section and select additional fields.

8. Select common table fields and additional table fields, as required.
9. Next, click the **Create Learning Instance** button.
10. The system analyzes and sorts the training documents into logical groups based on field identification.

Next steps

Next, train the documents, and review field mappings.

- **Custom domain**

A domain contains information about the language of the documents, and the fields which the system would extract from the documents. Community Edition supports five domains out-of-the-box such as: Invoices, Purchase orders, Utility Bills, Bank Statements, and Credit Memos. For any other document type, create a custom domain.

Related tasks

[Custom domain](#)

Custom domain

A domain contains information about the language of the documents, and the fields which the system would extract from the documents. Community Edition supports five domains out-of-the-box such as: Invoices, Purchase orders, Utility Bills, Bank Statements, and Credit Memos. For any other document type, create a custom domain.

Procedure

1. Begin by creating a learning instance, and then select the **Document type > Other** option to add a custom domain.
2. Add the **Domain name** and **Primary language of documents**.
3. Upload your sample documents to train.
4. In the **Instance fields**, enter the name of the label as it appears in the training documents and then choose to **Add as form** or **Add as table/repeated section** that require extraction.
Use the same form and table/repeated section field names as it appears in the training documents. Otherwise, the documents will remain unclassified.

Train your learning instance

IQ Bot analyzes documents, and groups them based on similar content, structure, and layout.

Prerequisites

IQ Bot performs an initial field mapping based on existing knowledge from any pretrained document types. When the first group is created, you can start reviewing the results of the initial mapping, and train the learning instance by making corrections. There are three panels in the training window:

- left panel displaying a list of fields

- center panel displaying field label, value, and parameter for each selected field
- right panel displaying the document in training

Procedure

1. Select each field in the left panel to verify that the label of the field in the center panel are correctly identified, and the location of the value is correct.
2. If the label location is incorrect, choose the correct one by clicking directly on the text in the training document to auto populate the text in the center panel.
3. The Designer tries to find the appropriate value for the selected field label from the training document. However, if the displayed value is incorrect, you can either choose the correct one by clicking directly on the value in the training document, or use the **Draw** tool to select a bigger area for the value directly in the training document. The selected value displays in the center panel value field.
4. In addition to individual fields, IQ Bot captures data from tables. Verify the mapping for table columns as well.
5. Ensure each table field has a correct corresponding column name.
6. In the Table settings, select the best column for row detection, as well as an optional end of table indicator which tells IQ Bot that anything that comes after it will not be considered as a line item. Click on the text in the right panel or type the value manually in the **End of Table Indicator** field, in the center panel.
7. Enter multiple labels in the **End of Table Indicator** field in this format: *Subtotal | Tax (USD)*. The | pipe symbol separates the labels.

Next steps

Once you complete training the current document, click the **See Extraction Results** button to review the extracted fields as well as the table line items on the left, and compare them to the document on the right. You can review other documents in this group. Since IQ Bot grouped similar documents, it can train one document and process others in the group in the same way.

The **See Extraction Results** menu lists all the uploaded training documents in an alpha-numeric sequence. The files are listed in old to new sequence.

As per the file names, the training documents in a batch are listed in the following order:

- Files names starting with special characters.
- File names starting with numbers.
- File names starting with alphabets.

Export data to a CSV file

In the **See Extraction Results** view, you have the option to export the extracted data to a CSV file for ease of review.


Export data to a CSV file:

Procedure

1. During training when you click the **See Extraction Results** button, you can view the correct/incorrect data extraction for the current training document.
2. In this view, you have the option to export the data to a CSV file for further review.
3. Click the **Export to CSV** option to export data and view it in a spreadsheet.

The CSV file is downloaded with the data extracted from the document.

Click the > next to the document name at the top to see other documents in the group. This allows you to download the data extracted from other documents.

 **Note:** The sequence of fields in the .csv output is dependent on the training and configurations applied at the bot level. You can access field data using the field names instead of the index.

IQ Bot 11.x: Set learning instance to production

Once the training and data extraction review process is complete, set your learning instance to production. Use this learning instance to run on documents (belonging to the same document type) hence automating the data extraction process.

Procedure

1. In the **My Learning Instances** window, click your learning instance. Then click the **Set to production** icon.
2. Confirm the message that comes up and choose **Yes, send to production** button.
3. The **production** label displays next to the learning instance name.
4. To edit your learning instance, go to the **LEARNING INSTANCES tab**, select your learning instance, and click **Set to staging** button to set it back to staging.

You can edit your learning instance at any time, but have to set it to staging first before you can edit.

Use IQ Bot in RPA

Use the RPA Task Bot to automate data extraction. One Task Bot uploads documents to IQ Bot as another one downloads the results from IQ Bot to a local folder. Ensure you have trained learning instances in production status, to complete the process.

- **Using Upload Document action**

The **Upload Document** action enables you to upload a document with IQ Bot. IQ Bot extracts fields from the document and exports them to CSV files.

- **Upload multiple files to IQ Bot using Loop action**

Automate uploading multiple files by inserting the **Upload Document** action into a **Loop** action.

- **Using Download all documents action**

Use the **Download all documents** action to download the extracted results from an IQ Bot server that were created by running a Bot with the **Upload Document** action.

Related tasks

[Using Upload Document action](#)


[Using Download all documents action](#)

Using Upload Document action


The **Upload Document** action enables you to upload a document with IQ Bot. IQ Bot extracts fields from the document and exports them to CSV files.

Prerequisites

- Gain access to an Control Room.
- Ensure your local host is a registered device in the Control Room.

 **Note:** To perform these tasks using APIs, see [using APIs to upload files, check file status, and download CSV files \(A-People login required\)](#).

Use the **Upload Document** action to upload a single document to the Control Room.


 **Note:** Azure confidential computing enables organizations to upload encrypted data to secured storage, such as private folders on a virtual machine. If you upload documents from such secured folders to IQ Bot, these are moved to **Unclassified** status as data extraction is not supported for such documents.

Procedure

Follow these steps to upload a document:

1. In the **Actions** palette, double-click or drag the **Upload Document** action from the **IQ Bot** package.

 **Note:** A file size of 50 MB is supported for the upload action.

 **Note:** The file names of the documents that you upload should not start with special characters, such as the hyphen (-).

2. In the **Learning instance name** field, select the name.

3. In the **File path** field, specify the location or type of the file.
4. **Optional:** In the **Group Label** field, provide the string variable that holds the name of the folder containing the sorted documents.
This is necessary for defining a user-created document group. .
5. **Optional:** In the **Save the response to variable** field, add a variable. For example: select **prompt-assignment - string** from the drop-down list.
A variable value in this field provides information about the file upload process: if the upload was successful or failed, and the reason for the failure.
6. Click **Apply**.
7. Click **Save**.
8. Click **Run now**.
9. Click **Close**.

Next steps

To upload multiple files, see [Upload multiple files to IQ Bot using Loop action](#).

Upload multiple files to IQ Bot using Loop action

Automate uploading multiple files by inserting the **Upload Document** action into a **Loop** action.

Procedure

Follow these steps to upload multiple documents:

1. In the **Actions** palette, double-click or drag the **Loop** action from the **Loop** package.
2. In the **Loop Type** field, select the **Iterator** option.
3. In the **Iterator** field, select **For each file in folder** from the drop-down list.
4. In the **Folder path** field, select the folder path.
5. In the **Assign file name and extension to this variable** field, create or select a dictionary variable to store the names and extensions of the files in the selected folder path.
For this example, we will use a dictionary variable named dictFile.
6. In the **Actions** palette, double-click or drag the **Upload Document** action from the **IQ Bot** package.
7. Complete the information, except the **File Path** field.
8. In the **File path** field, enter a dynamic file path using a variable.
 - a. Add a file path pointing to the folder, for example `C:\input\`.
 - b. Add the dynamic file name string: `$dictFile(name)$. $dictFile(extension) $`.

The *name* and *extension* keys are predefined. When inserted and run in a loop, the action iterates through the entire folder and calls all files in the folder one at a time. The **File path** value looks like this:

```
C:\input\dictFile(name)$. dictFile(extension) $
```

9. Click **Save**.

Next steps

To read results from variable, use the **Message box** action.

Using Download all documents action

Use the **Download all documents** action to download the extracted results from an IQ Bot server that were created by running a Bot with the **Upload Document** action.

Note: To perform this task using an API, see [using APIs to upload files, check file status, and download CSV files \(A-People login required\)](#).

IQ Bot extracts fields from documents and exports them as CSV files. This action can also download any unclassified, untrained, and invalid documents to your local directory.

Procedure

Follow these steps to download extracted results from the IQ Bot server:

1. In the **Actions** palette, double-click or drag the **Download all documents** action from the **IQ Bot** package.
2. In the **Learning instance name** field, select the name.
3. In the **Document status**, select the appropriate status for the documents.
 - **Success:** Documents have been processed and are in .csv format.
 - **Invalid:** Documents were marked as invalid during the validation process.
 - **Unclassified:** Documents could not be classified into any groups.
 - **Untrained:** Documents were classified into new groups during processing and require training.
 - **Fail:** Documents that failed to process and require re-processing. A document reflects **Document status** as **Fail** if an exception occurs during data extraction, validation, or storing of the final output to the database.


Unprocessed documents in **Invalid**, **Unclassified**, **Untrained** and **Fail** folders are available in their original format. For example, if your input documents were in a .pdf format, the output in the above folders are obtained in the .pdf format as well.

Note: After you upload a document by using the **Upload** action, to retrieve the latest results from the server, you need to run the **Download** action periodically. Ensure to maintain a delay of 30 seconds to 1 minute between the execution of two consecutive IQ Bot **Download** action of the same nature.

4. In the **Local output folder** field, provide the path to the file that will hold the output.
5. In the **Delete files from the server after downloading** check box, select the option to delete documents.

When you choose this option, even if your download fails, a compressed .zip file containing the failed documents is available for downloading again. Therefore, you must select this option.

6. **Optional:** In the **Save the response to a variable** field, add a variable. For example, select **prompt-assignment - string** from the drop-down list.
A variable value in this field provides information on whether the download was successful or failed, and the reason for the failure.
7. Click **Update**.
8. Click **Save**.
9. Click **Run now**.
10. Click **Close**.

 **Note:** If the download fails, verify the variable value using a **Message Box** or **Log to File** action. See the **Save the response to a variable** description.

11. Navigate to the local output folder to review the downloaded files.

FAQs for Community Edition

This topic answers frequently asked questions about the IQ Bot Community Edition.

Overview

IQ Bot is a purpose-built cognitive automation that you can train to automate business processes to work fast and efficiently, and also eliminate human error.

Use IQ Bot, and Automation Anywhere Enterprise in conjunction to automate your business processes that rely on semi-structured or unstructured data hidden in electronic documents, images, emails, and other areas. IQ Bot leverages computer vision and multiple Artificial Intelligence (AI) techniques to intelligently digitize and extract data to make your Robotic Process Automation (RPA) and Optical Character recognition (OCR) technology even more effective. Using this approach IQ Bot can adapt its data extraction from specific domains or document types, and quickly learn from the environment to improve the results.

For the Community Edition, we have made five domains available for use such as: Invoices, Purchase Orders, Bank Statements, Credit Memos, and Utility Bills. IQ Bot uses the OCR technology to extract information from a document. Though OCR tools measure results based on accuracy, IQ Bot uses the Straight Through Processing (STP) technique to measure how many documents can be processed end-to-end without human intervention.

Basic Concepts

1. How does IQ Bot work?

IQ Bot leverages computer vision and multiple AI techniques to intelligently digitize and extract data to make your RPA more effective. IQ Bot uses OCR as one of the underlying technologies used to extract information from a document. This approach allows IQ Bot to adapt the data extraction from specific domains and document types, and quickly learn from the environment to improve results.

2. What is a learning instance?

You would create a learning instance for a specific use case that an IQ Bot can learn from. It is domain-specific and has the capability to learn from documents classified and processed by it, and validation corrections performed by humans. This learning is translated to tangible benefits such as: improved STP and accuracy figures for the instance over a period.

3. What is the difference between bots and learning instance?

A learning instance consists of training for the business process around a specific document type.

Bots contain training files that were classified by IQ Bot in different groups based on content.

You can activate or deactivate a bot in a learning instance to improve its training; as the learning instances would process documents that match the active bots as others remain in a queue, until that group is trained.

4. What is the accuracy rate of IQ Bot?

The most primary metric for IQ Bot is STP. It is dependent on the accuracy of field capture. Field accuracy impacts STP directly.

For example, if a customer captures one to two fields across a Grade A quality document, an accuracy of 86% is achieved. A customer who captures 11 differentially weighted fields across highly-varying document quality would see lower accuracy.

5. How does the dashboard help?

The dashboard displays all production information and results that helps us identify how we could improve the training.

 **Note:** The production information is not available for the Community Edition.

6. What is percent (%) training?

The percent (%) training helps us estimate the STP that is calculated based on the number of bots trained and active bots.

Using IQ Bot Community Edition

1. What are the limitations of the Community Edition?

Processing Limitations: The user can create up to five learning instances and upload up to 100 documents for each learning instance.

2. I have trained the learning instance but cannot see the output.

For each trained group, you can select **See Extraction Results** > **Export CSV** to see the output.

3. I cannot edit a group as the **Edit Bot** link is disabled.

The **Edit Bot** link appears disabled when the group is in production or when it is in training in another tab.

4. I have completed processing and need to process files in batch mode. How can I do that?

IQ Bot can process files in batch mode when connected to RPA.

5. I have to add a new domain that is available in the Bot Store.

Importing domains is not available for the Community Edition.

6. I cannot see the results on the dashboard.

The dashboard displays information of processed files that are in production. This option is not available in the Community Edition.

7. What is the prerequisite step to creating a learning instance in IQ Bot?

Before you start creating a new learning instance, know what information you want to extract from the documents you would be processing.

It is best practice is to have some sample documents, which you can use as reference to decide what you want to extract. Use them as the first set of documents to train against the new learning instance.

8. How many simultaneous documents can be loaded into IQ Bot?

In the Community Edition, IQ Bot accepts up to a limit of 100 documents for each learning instance. The full license would support millions of documents per year that can be uploaded in a queue.

9. What is the license requirement for IQ Bot?

Community Edition includes a license for IQ Bot. No user action is required.

10. How many tables can I configure to extract in a Bot?

You can configure unlimited number of tables for extraction.

11. Can I test a document different than that used for training?

Yes, you can. Use the Preview option to navigate to other documents to verify if training was effective.

Learning

1. Does IQ Bot learn from user inputs?

IQ Bot learns from the user inputs over time.

For example: If a date is extracted often with an extra character such as spaces and dots between numbers, and the user corrects it a dozen times, IQ Bot would automatically correct the error when it encounters a similar problem the next time.

2. How does IQ Bot differ from OCR solutions?

OCR is one of the underlying technologies in IQ Bot but is used only as a first step. IQ Bot is designed for business users, so anyone can start training an IQ Bot after a 3-hour training. The setup costs are 10x lower.

Automation Anywhere is the only vendor that combines the best of RPA solution with cognitive automation to significantly reduce the cost and complexity in automating document-centric processes.

3. How many templates do I have to train the IQ Bots on before it is ready for use?

The training requirement has been kept to a minimum, and in most cases, you are able to get the required value in just one pass.

Capabilities

1. What are supported file types for IQ Bot?

The following are supported file types:

- PDF (Vector PDF, Raster PDF or Hybrid PDF)
- TIF or TIFF
- JPG or JPEG
- PNG

2. Does IQ Bot support handwritten documents?

No, not yet. Processing handwritten document to achieve high STP is a challenge, but it is part of our roadmap.

3. Does IQ Bot support tabular data extraction?

Yes, it does. IQ Bot has advanced table extraction features to support complex use cases such as: Explanation of Benefits.

4. What are supported languages for IQ Bots?

IQ Bot supports the following languages out of box:

- English
- Spanish


- French
- German
- Italian
- Additionally, it also supports over 25+ languages including all Latin scripts.

5. Does IQ Bot support documents other than invoices?

Yes, IQ Bot supports a variety of domains, and you can also easily add new domains. You can also create a custom domain when you select the value **Other** from the domain drop-down list.

The following domains are available in the Community Edition:

- Invoices
- Purchase orders
- Bank statements
- Credit Memo
- Utility bills

 **Note:** You can select the required domain when you create a learning instance.

6. Does IQ Bot support documents with multiple color text?

Yes, but this is true for darker shades of color only.

7. Can I remove the default (pre-loaded) sample document for training and replace it with another from the group in a Bot?

Yes. If the default training document on the Train tab reflects all documents in that group, you can remove that document from the Train tab and upload a different one from the same group, and train it.

8. Can I stop document analysis or processing in between?

No, you cannot stop a document analysis or processing mid-way.

9. What is the maximum number of learning instances I can create? What is the maximum number that can simultaneously exist in the system at once?

The Community edition is limited to five learning instances. The Automation Anywhere Enterprise version has no such limitations.

10. Is there a restriction to the number of characters for naming a learning instance?

You cannot exceed 50 characters when naming a learning instance.

11. What is the average time to process a single page document? Is the time dependent on the complexity of the page?

There is no fixed time for processing a single page document as this depends on the following factors:

- CPU strength and availability
- Available free RAM
- Page clarity OR noise level
- Data on page

12. Can I process MS Excel invoices using IQ Bot?

If the invoices have a standard format, they can be processed using RPA tasks. In case the Excel formats vary, they need to be converted to PDFs, so they can be processed in IQ Bot.