A blurred photograph of a crowd of people walking on a red carpet, likely at a high-profile event. The motion blur gives a sense of a busy, fast-paced environment. The people are dressed in formal or semi-formal attire. The red carpet is a vibrant red, and the background is out of focus, showing hints of other people and structures.

June 11, 2020

Automation Anywhere IQ Bot

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IQ Bot Release Notes

This document for [IQ Bot](#) describes new capabilities, changed and migrated features, fixed features, technical updates, and known limitations for each version.

Follow the links in the table to view the release note updates for the respective release.

Major Releases	Minor Releases
Version 11.3.5	
Version 11.3.4	Version 11.3.4.2 Version 11.3.4.1
Version 11.3.3	Version 11.3.3.1
Version 6.5	Version 6.5.2

Related concepts

[IQ Bot operating system compatibility](#)

[IQ Bot database compatibility matrix](#)

[IQ Bot hardware and software requirements](#)

Related reference

[Upgrade considerations](#)

[IQ Bot version compatibility matrix](#)

[IQ Bot feature comparison matrix](#)

Upgrade considerations

To ensure successful upgrade to the newest IQ Bot version, review the considerations section before starting the upgrade process.

Upgrading to IQ Bot Version 11.3.5

[Upgrading system to IQ Bot Version 11.3.5](#)

Important: IQ Bot Version 11.3.5 is compatible with Enterprise Control Room Version 11.3.4.3 and above only.

Upgrading to IQ Bot Version 11.3.4

Install IQ Bot Version 11.3.4 using installation checklist provided in the installer zip file.

Upgrading to IQ Bot Version 11.3.4.x

[Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch](#)

Upgrading to IQ Bot Version 11.3.3

- For IQ Bot Version 11.3.3, users must upgrade to [RabbitMQ](#) version 3.7.17.
- When upgrading to IQ Bot Version 11.3.3, all group information gets stored in a new table ContentClassification, and all data gets automatically upgraded/transferred to this table during the installation process.
- If your machine version is older than SQL Server Native Client 2012, a dialog box appears, giving you the option to upgrade. Open services.msc and stop SQL Server (MSSQLSERVER). Then complete the installation process.
- During the upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. Select that prior version of IQ Bot from a drop-down list to keep the classifier version for the existing learning instances.
Note: See [Keep learning instance document classifier version during IQ Bot upgrade](#).
- For any new learning instances created after installation, the classifier version of IQ Bot Version 5.3.1/Version 6.5 is used.
- If upgrading from IQ Bot Version 5.3.1.x and you have a learning instance that relies on 5.3.1.x group check box or linked table functionality, clear that learning instance's validation queue before upgrading to IQ Bot Version 6.5 to avoid field name conflicts.
 - IQ Bot Version 5.3.1.x uses "_", a non-unique delimiter (Gender_ID_Female and Patient_Table_Services).
 - IQ Bot Version 6.5 uses unique delimiters "->" for group check box (for example, "Gender_ID->Female") and ":" for linked tables (for example, "Patient_Table:Services"), which can make it easier to process in RPA.
- Note: See [Export/Import learning instances within IQ Bot 5.3.x, and later versions](#).
- For security protection, the SQL server database is encrypted starting from IQ Bot Version 6.5. The added protection can increase the database size by up to 4x. This is due to the encryption obfuscation.
- When upgrading IQ Bot Version 5.3.x to Version 6.5 and above, the installer encrypts data related to files in the database.

Note: See [IQ Bot database encryption](#).

11.3.1.1 Upgrading to IQ Bot Version 11.3.3.1

Install IQ Bot Version 11.3.3.1 using the installation checklist provided in the installer zip file.

- Upgrading to IQ Bot Version 11.3.3.x
When upgrading IQ Bot, the group numbers under learning instances can change due to data migration to Version 11.3.3.x. To see the mapping between the old groups in Version 6.0.x and new groups in Version 11.3.3.x, user would need to go through the installation-helper.log file, in C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Logs folder.
Note: The upgrade changes the group number only, and not the data.

Related concepts

[IQ Bot Release Notes](#)

Related reference

[Version 6.5 Release Notes](#)

IQ Bot version compatibility matrix

Before you install or upgrade, read the compatible versions of IQ Bot with the Enterprise Control Room.

IQ Bot versions and Enterprise Control Room compatibility matrix

See the following table to verify which IQ Bot version is compatible with specific Automation Anywhere Enterprise 11.x.

IQ Bot versions	Enterprise Control Room versions	Notes
Version 11.3.5	Version 11.3.5 Version 11.3.4.3	-
Version 11.3.4	Version 11.3.5 (also compatible with IQ Bot 11.3.4.x patch releases) Version 11.3.4 Version 11.3.3 Version 11.3.2 Version 11.3.1.1 and later	
Version 11.3.3.1	Version 11.3.5 Version 11.3.4 Version 11.3.3 Version 11.3.2 Version 11.3.1.1 and later	<ul style="list-style-type: none"> For Enterprise Control Room Version 11.3.5, Version 11.3.4, Version 11.3.3, add <code>ignite.tls.disable=true</code> For Enterprise Control Room Version 11.3.2, add <code>ignite.security.disable=true</code> <p>See the Create or update cluster.properties file section below.</p>
Version 6.5	Version 11.3.5 (also compatible with IQ Bot Version 6.5.2) Version 11.3.4 Version 11.3.3 Version 11.3.2 Version 11.3.1.1 and later	<ul style="list-style-type: none"> For Enterprise Control Room, Version 11.3.5, Version 11.3.4, Version 11.3.3, add <code>ignite.security.disable=true</code> <code>ignite.tls.disable=true</code> For Enterprise Control Room Version 11.3.2, add <code>ignite.security.disable=true</code> <p>See the Create or update cluster.properties file section below.</p>
Version 6.0.1	Version 11.3.3 Version 11.3.2	<ul style="list-style-type: none"> For Enterprise Control Room Version 11.3.3, add <code>ignite.security.disable=true</code> <code>ignite.tls.disable=true</code>

IQ Bot versions	Enterprise Control Room versions	Notes
	Version 11.3.1.1 and later	<ul style="list-style-type: none"> For Enterprise Control Room Version 11.3.2, add <code>ignite.security.disable=true</code> See the Create or update cluster.properties file section below.
Version 6.0	Version 11.3.1.1 and later	-
5.3.1.x (Unofficial Release)	10.5.5	-
5.3.0	10.5.5	-
5.2.x	10.5.5	-
5.1.x	10.5.2 10.5.5	-
5.0	10.4	-

Create or update cluster.properties file

Based on the compatibility information in the table, update your cluster.properties file for the listed parameters.

1. Locate the file in your Enterprise Control Room directory (for example, C:\Program Files\Automation Anywhere\Enterprise\config\).

If the file does not exist in your Enterprise Control Room directory:

- a) Create a file with the filename cluster.properties.
 - b) Add the property options to the file as mentioned in the Notes column of the table.
2. Save the cluster.properties file.
 3. Restart the following services:
 - a) Automation Anywhere Control Room Caching
 - b) Automation Anywhere Control Room Messaging
 - c) Automation Anywhere Control Room Service

Related concepts

[IQ Bot Release Notes](#)

Related reference

[IQ Bot feature comparison matrix](#)

IQ Bot feature comparison matrix

Compare features between different product releases.

IQ Bot initial features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	V 5
Pre-built domains	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
User confidence threshold	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Learning instance creation/editing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Document image pre-processing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Document image classification	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Document image OCR	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Bot creation/editing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Designer/Preview/Test	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Production toggle	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Validator	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
CSV output files	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Learning instance import/export	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Y
Learning Instance tab enhancements	Yes	No	No	No	No	No	No	M
Ease-of-use features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	V 5
Web-based UI	Yes	Yes	Yes	Yes	Yes	Yes	No	M
Domain import/export	Yes	Yes	Yes	Yes	Yes	Yes	No	M
Hover over text segment to view OCR	Yes	Yes	Yes	Yes	Yes	No	Yes	Y
Re-size mapped box in Designer	Yes	Yes	Yes	Yes	Yes	No	Yes	Y
Delete mapped box in Designer	Yes	Yes	Yes	Yes	Yes	No	Yes	Y
Populate text in End of table/section indicator	Yes	Yes	Yes	Yes	Yes	No	No	M
Single click to extract text in the Validator	Yes	Yes	Yes	Yes	No	No	No	M
Validator enhancements <ul style="list-style-type: none"> Hide optional form fields Hide successful form fields 	Yes	No	No	No	No	No	No	M
Document group description	Yes	Yes	Yes	Yes	No	No	No	M
See extraction results action displays list of all training documents in an alpha-numeric sequence	Yes	Yes	Yes	Yes	No	No	No	M
InstallShield patch installer has simplified the upgrade/downgrade process for IQ Bot	Yes	Yes	Yes	No	No	No	No	M

IQ Bot initial features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	Version 5.3.0
IQ Bot Installer enhancements: pre-installation check	Yes	No	No	No	No	No	No	No
Extraction/validation features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	Version 5.3.0
Original IQ Bot text segmentation / document classifier from IQ Bot Version 5.3.0 / 6.0	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
New IQ Bot text segmentation / document classifier from IQ Bot Version 5.3.1 / 6.5	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Option to select classifier version of existing learning instances during IQ Bot upgrade: <ul style="list-style-type: none"> Version 1 (IQ Bot 5.3.0 or before / 6.0) Version 2 (IQ Bot 5.3.1 / Version 6.5 Beta) 	Yes	Yes	Yes	Yes	Yes	No	No	No
Enhanced compatibility with ABBYY FineReader Engine 12.2 Plugin	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Automated installation of ABBYY FineReader Engine 12.2 Plugin	Yes	Yes	Yes	Yes	Yes	No	No	No
Validator auto-correction	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Checkbox extraction	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Advanced extraction: Repeated tables / sections; linking tables / sections; map some header-less columns	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Alternative to stop extraction at End of table/section indicator	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Select text segments that enclose or are enclosed by other text segments	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Option to select default training document	Yes	Yes	Yes	Yes	Yes	No	Yes	No
Formula validation	Yes	Yes	Yes	Yes	Yes	No	Yes	No
List validation in UI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
List validation via external file	No	No	No	No	No	No	Yes	No
Microsoft Azure Computer Vision API (OCR)	Yes	Yes	Yes	Yes	No	No	No	No

IQ Bot initial features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	V 5
Add user logic in the Designer	Yes	Yes	Yes	Yes	No	No	No	M
View and test all documents in the Designer > See extraction results	Yes	Yes	Yes	Yes	No	No	No	M
IQ Bot extensions	Yes	Yes	Yes	No	No	No	No	M
Import standard form domains	Yes	Yes	Yes	No	No	No	No	M
(Beta) Enabled data capture and OCR using Google Vision API API for Asian languages	No	Yes	No	No	No	No	No	M
(GA) Enabled data capture and OCR using Google Vision API API for Asian languages	Yes	No	No	No	No	No	No	M
(Beta) Enabled data capture and OCR using Tegaki API OCR engine for Asian languages	Yes	No	No	No	No	No	No	M
Magnetic ink character recognition (MICR) extraction	Yes	Yes	No	No	No	No	No	M
Option to turn off PDFBox as OCR engine	Yes	Yes	No	No	No	No	No	M
Enterprise features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	V 5
Access IQ Bot without device license (without Bot Creator or Bot Runner license)	Yes	Yes	Yes	Yes	Yes	No	No	M
Access IQ Bot as Validator users without Bot Creator or Bot Runner license	Yes	Yes	Yes	Yes	Yes	No	No	M
Database encryption	Yes	Yes	Yes	Yes	Yes	No	No	M
Roles-based access (RBAC) for new learning instances	Yes	Yes	Yes	Yes	Yes	No	No	M
RBAC enhancements (role assignment from UI)	Yes	No	No	No	No	No	No	M
Audit logs	Yes	Yes	Yes	Yes	Yes	No	No	M
Windows authentication	Yes	Yes	Yes	Yes	Yes	No	No	M
Azure PaaS Database Service	Yes	Yes	Yes	Yes	Yes	No	No	M
Counter for number of uploaded pages in production	Yes	Yes	Yes	Yes	Yes	No	No	M
API access	Yes	Yes	Yes	Yes	No	No	No	M

IQ Bot initial features	Version 11.3.5	Version 11.3.4	Version 11.3.3 / Version 11.3.3.1	Version 6.5.2 / IQ Bot A2019	Version 6.5	Version 6.0.x	Version 5.3.1.x	V 5
Access IQ Bot without sysadmin role that includes support for Amazon Relational Database Service (RDS) out of the box	Yes	Yes	Yes	Yes	No	No	No	M
Internationalization	Yes	Yes	Yes	Yes	Yes	No	No	M
UI Localization: Chinese Simplified, Chinese Traditional, French, German, Japanese, Korean, and Spanish	Yes	Yes	Yes	Yes	Yes	No	No	M
UI Localization: Italian and Portuguese	Yes	Yes	Yes	Yes	No	No	No	M
Migrate learning instances as other learning instances are being edited	Yes	Yes	Yes	No	No	No	No	M

Related concepts

[IQ Bot Release Notes](#)

IQ Bot operating system compatibility

Install IQ Bot as a local profile with administrator permissions. The table provides information about the operating systems that are compatible with the different IQ Bot releases.

IQ Bot version	Microsoft Windows Server 2019 Data Center	Microsoft Windows Server 2016 Data Center	Microsoft Windows Server 2012 R2 Standard	Microsoft Windows 10 Pro/Enterprise
IQ Bot Version 11.3.5	Yes	Yes	Yes	No
IQ Bot Version 11.3.4	Yes	Yes	Yes	No
Version 11.3.3 / Version 11.3.3.1	No	Yes	Yes	No
IQ Bot Version 6.5.2	No	Yes	Yes	No
IQ Bot Version 6.5	No	Yes	Yes	No
IQ Bot Version 6.0.1	No	Yes	Yes	No
IQ Bot Version 6.0	No	Yes	Yes	No
IQ Bot Version 5.3.1	No	Yes	Yes	Yes
IQ Bot Version 5.3	No	Yes	Yes	Yes
IQ Bot Version 5.2.1	No	No	Yes	Yes
IQ Bot Version 5.2	No	No	Yes	Yes
IQ Bot Version 5.1.1	No	No	Yes	Yes

IQ Bot version	Microsoft Windows Server 2019 Data Center	Microsoft Windows Server 2016 Data Center	Microsoft Windows Server 2012 R2 Standard	Microsoft Windows 10 Pro/Enterprise
IQ Bot Version 5.1	No	No	Yes	Yes

Note: The open source software (OSS) disclosure for IQ Bot is stored in the Installation folder with the filename: IQ Bot (version) OSS Disclosures.html.

<Installation folder>\Automation Anywhere IQ Bot \IQ Bot (version) OSS Disclosures.html

IQ Bot database compatibility matrix

The table provides information about the databases that are compatible with the different IQ Bot releases.

IQ Bot version	Microsoft SQL Server 2012	Microsoft SQL Server 2014	Microsoft SQL Server 2016	Microsoft SQL Server 2017	Microsoft SQL Server 2019	Amazon Relational Database Service (Amazon RDS)	Microsoft SQL Azure (RTM)
IQ Bot Version 11.3.5	Yes	Yes	Yes	Yes	Yes	No	Yes
IQ Bot Version 11.3.4	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IQ Bot Version 11.3.3 / Version 11.3.3.1	Yes	Yes	Yes	Yes	No	Yes	Yes
IQ Bot Version 6.5.2	Yes	Yes	Yes	Yes	No	Yes	Yes
IQ Bot Version 6.5	Yes	Yes	Yes	Yes	No	Yes	Yes
IQ Bot Version 6.0.x	Yes	Yes	Yes	Yes	No	No	No
IQ Bot Version 5.3.1.x	Yes	Yes	Yes	Yes	No	No	No

IQ Bot version	Microsoft SQL Server 2012	Microsoft SQL Server 2014	Microsoft SQL Server 2016	Microsoft SQL Server 2017	Microsoft SQL Server 2019	Amazon Relational Database Service (Amazon RDS)	Microsoft SQL Azure (RTM)
IQ Bot Version 5.3.0	Yes	Yes	Yes	Yes	No	No	No
IQ Bot Version 5.2.x	Yes	Yes	Yes	Yes	No	No	No
IQ Bot Version 5.1.x	Yes	Yes	Yes	Yes	No	No	No
IQ Bot Version 5.0.0	Yes	Yes	Yes	Yes	No	No	No

Note: See [IQ Bot hardware and software requirements](#) for Database performance requirements.

Required database information for IQ Bot installation

When you install IQ Bot, you are prompted to provide information specific to the database type you are using. The following table summarizes the required information.

Microsoft SQL Server and Amazon RDS databases	
Required information	Description
Database (SQL Server) authentication	Provide credentials for a Microsoft SQL Server user who has permission to connect to the database.
Database names	<ul style="list-style-type: none"> • FileManager • Classifier • Configurations • MLData • AliasData
Database port	Default: 1433
Service credentials	Provide the user with the following permissions: <ul style="list-style-type: none"> • CONNECT SQL • CREATE ANY DATABASE

Microsoft SQL Server and Amazon RDS databases	
Required information	Description
	<ul style="list-style-type: none"> VIEW ANY DATABASE

Microsoft Azure database	
Required information	Description
Database (SQL Server) authentication	Created when database was created.
Database names	<ul style="list-style-type: none"> FileManager Classifier Configurations MLData AliasData
Database port	Default: 1433
Database role	Database access requires the dbmanager role.

Note: Previous IQ Bot versions had five databases. Starting from IQ Bot A2019 Build 2545 (A2019.10), a single unified database called IQBot is created for any new installation, upgrade, or update. The database name cannot be customized because it is hard-coded for both multiple databases and a unified database.

Related concepts

[IQ Bot hardware and software requirements](#)

IQ Bot hardware and software requirements

Make a note of the following hardware and software requirements before installing IQ Bot.

Important: Install IQ Bot on a dedicated server, and install Enterprise Control Room on a separate server.

Hardware requirements

IQ Bot	Recommendation
Application server optimum requirements	<ul style="list-style-type: none"> 32 GB RAM 8 Octa Core Processor 500 GB hard disk space¹ Ensure C: drive has 100 GB plus free hard disk space.

Database server optimum requirements

Server	Recommendation
IQ Bot application server	<ul style="list-style-type: none"> • 32 GB RAM • 8 Core Processor
For all IQ Bot-related database servers	<ul style="list-style-type: none"> • 16 GB RAM • 8 Core Processor <p>Note: If hosting IQ Bot databases along with other application databases, ensure the hardware resources are increased proportionately.</p>
Microsoft Azure SQL Database: production environment	<ul style="list-style-type: none"> • vCore model (recommended) • DTU model (Premium tier recommended)
Amazon RDS: production environment	db.t3.2xlarge or db.t3.xlarge

Software requirements

The following software is required for IQ Bot installation:

Software	Details
Database Management System	See IQ Bot database compatibility matrix for a list of compatible versions.
Automation Anywhere Enterprise Control Room	See IQ Bot version compatibility matrix for a list of compatible versions.
Web browsers	The Google Chrome and 11 web browsers are supported. Important: When using Internet Explorer 11, you might need to Display intranet sites in Compatible View in the Compatibility View Settings window.
Dependencies	<p>Automation Anywhere is dependent on the following software, which is automatically installed during the installation process:</p> <ul style="list-style-type: none"> • Microsoft .NET Framework v4.7.2. The system prompts for a restart to complete the update. • Erlang v22.0 • RabbitMQ v3.7.17 • NodeJS v10.16.3 • Microsoft SQL Server 2012 Native Client - QFE • Python 3.5.4 (32 bit)

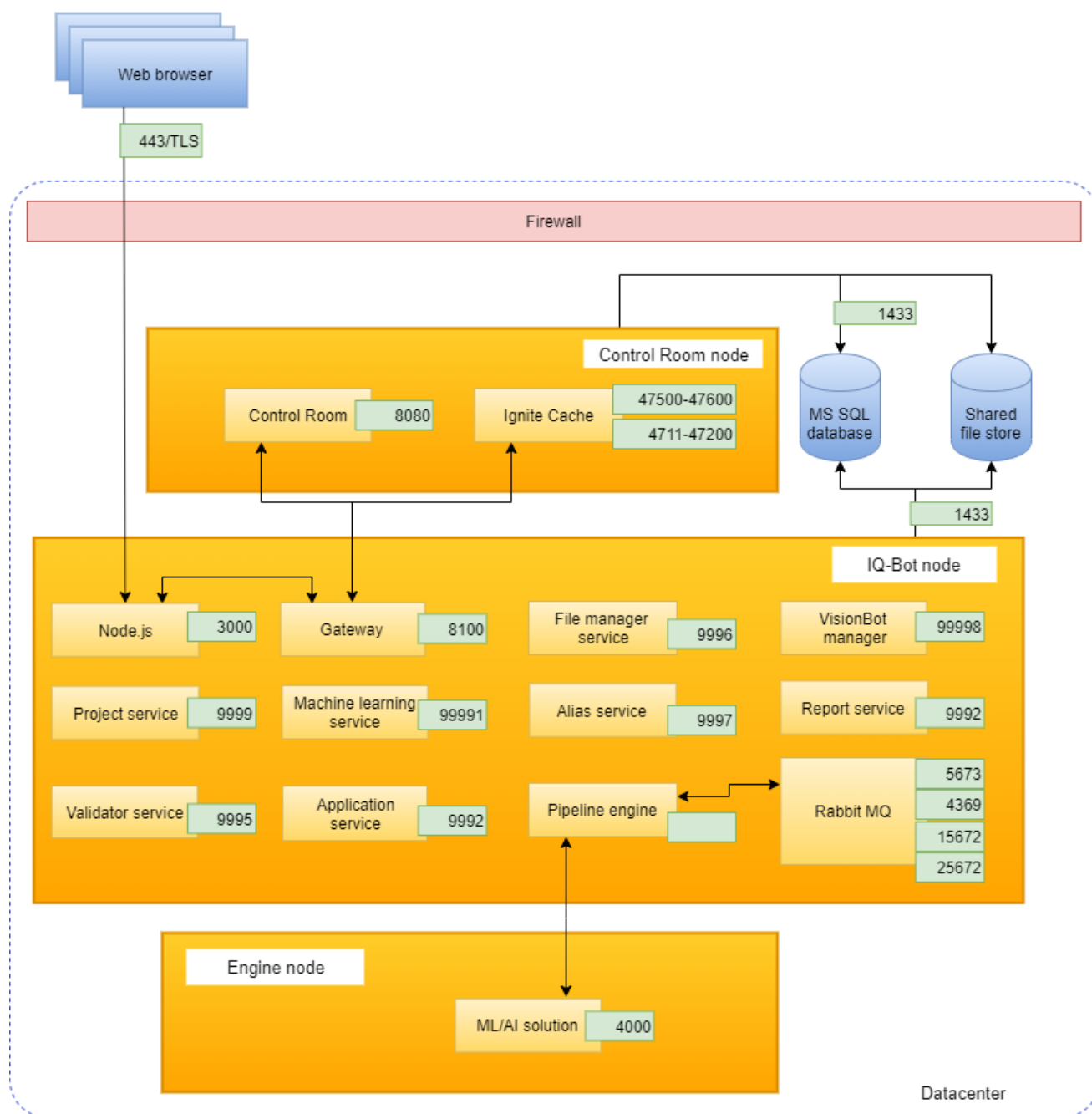
Software	Details
	This is installed automatically by the installer. A system restart is required. Note: In a cluster environment, all dependencies will get installed on each machine where IQ Bot is installed.

Related reference

[Hardware and software requirements for IQ Bot with Extensions](#)

Hardware and software requirements for IQ Bot with Extensions

The following diagram provides the deployment architecture for IQ Bot with Extensions.



This page mentions the minimum requirements for installing Enterprise Control Room node. See [Enterprise A2019 On-Premises prerequisites](#)

See the minimum hardware and software requirements for IQ Bot node with Extensions below:

Supported operating systems for IQ Bot node with Extensions
Microsoft Windows Server 2016 Standard / Data Center
Microsoft Windows Server 2012 R2 Standard / Data Center

Supported operating systems for IQ Bot node with Extensions
Microsoft Windows 10 Pro/Enterprise

Software	Details
Database Management System	Microsoft SQL Server 2012, 2014, 2016, 2017 (Express or Standard or Enterprise or later). Microsoft SQL Azure (RTM) 12.0.2000.8 (optional).
Automation Anywhere Enterprise Control Room	See IQ Bot version compatibility matrix for a list of compatible versions.
Web browsers	The Google Chrome and Internet Explorer 11 web browsers are supported.
Dependencies	<p>IQ Bot is dependent on the following software, which is automatically installed during the installation process:</p> <ul style="list-style-type: none"> • Microsoft .NET Framework v4.7.2. The system prompts for a restart to complete the update. • Erlang v22.0 • RabbitMQ v3.7.17 • NodeJS v10.16.3 • Microsoft SQL Server 2012 Native Client - QFE • Python 3.5.4 (32 bit) <p>Note: This is installed automatically by the installer and requires a system restart.</p>

Note: For IQ Bot extensions feature to work, the custom extraction services needs to be running on an engine node. We recommend that this engine node be part of a different machine instead of the one that has the IQ Bot node. The configuration of the machine running the engine node (as described in the figure) depends on the requirements of the custom extraction service built for the specific fixed format documents.

Related concepts

[IQ Bot hardware and software requirements](#)

IQ Bot Version 11.3.5 Release Notes

Review the new features, changed features, fixed features, and known limitations in Version 11.3.5 for Automation Anywhere IQ Bot. There are no security fixes in this release.

New features

Select an OCR engine when creating a new learning instance

You can now select different OCR engines directly from the UI based on your requirements for data extraction from specific document types when creating a new learning instance. You do not have to stop and restart IQ Bot services for implementing the engine change.

A new OCR Engine column is available in the My learning instance page that shows the different OCR engines used to create each learning instance. You can use this information when deciding on document processing and to track the different OCR engines at a glance, after importing the learning instances.

[Select an OCR engine](#)

Pre-installation check

The IQ Bot installer now checks for dependent software and required ports before starting the installation process. The installer displays any software that is running an incompatible version and dependent ports that are being used by other services.

The installer also provides you the option to run the pre-installation check again and continue the installation process.

[Installing IQ Bot in Express mode | IQ Bot Custom installation](#)

(Beta) Enable data capture and OCR extraction for Asian languages using Tegaki API OCR engine

Use the Beta version of the Tegaki API OCR engine with IQ Bot to improve the accuracy of the OCR (optical character recognition) results for training documents in Asian languages, particularly in Japanese and Korean. Tegaki API files are installed on your machine automatically during IQ Bot installation. However, you have to use your private license keys to use this engine.

[Install \(beta\) Tegaki API OCR engine](#)

Changed features

Enable or disable PDFBox option

You can enable or disable the My PDF documents do not have images check box directly in the UI when creating a learning instance. Previously, users had to configure the Settings.txt file.

[Disable PDFBox option](#)

Use Google Vision API GA version

Besides providing better accuracy for Asian languages, Google Vision API can now be used for all languages supported by this OCR engine.

[Install Google Vision API OCR engine](#)

Support for ABBYY FineReader Engine versions 12.2 and 12.3

When you install IQ Bot Version 11.3.5, ABBYY FineReader Engine version 12.3 is installed as the default version. However, the product supports all learning instances created using ABBYY FineReader Engine versions 12.2 and 12.3.

[Install ABBYY FineReader Engine OCR engine in IQ Bot](#)

Role-based access control (RBAC) enhancements

IQ Bot now allows more granular access control over various learning instance actions to different groups of users. Users can achieve this by allocating or deallocating custom roles to learning instances. A new permission Assign Roles is introduced in Enterprise Control Room Version 11.3.4.3 to enable this action.

[Define access to learning instances using custom roles](#)

Validator enhancements

Some of the Validator enhancements are as follows:

- You can now hide the Skip to next file and Mark as Invalid options using configuration settings. The options are currently enabled by default.

To enable the option to hide them, contact Automation Anywhere Support.

- You can now hide the Hide successful fields and Hide optional fields options using configuration settings. The options are enabled by default.

To enable the option to hide them, contact Automation Anywhere Support.

Note: Selecting the Hide successful fields and Hide optional fields check boxes hides all the valid fields and reduces the display of a large number of fields, thus making correction easier. However, if there is an invalid field, it continues to be displayed because the invalid field requires correction.

- Clicking in any column field expands the column width to accommodate the text entry. The Validator shows the value of the field that is being validated, in the document.
- Draw an area around single or multiple values in the document image to automatically populate a field in the Validator. This function is similar to the Designer.

[Text segment](#)

Fixed features

Service Cloud case ID	Description
00474578	During the migration of learning instances between different environments, the group description for each learning instance is now carried over successfully, and users can easily identify the group details and document type in a specific classification group.
--	When a user changes permission for a specific role in the Enterprise Control Room, the IQ Bot page is now automatically refreshed and implements the permission update.

Service Cloud case ID	Description
00451917	If import with append for a modified learning instance fails, IQ Bot now shows an appropriate error message, and learning instance migration works as expected with the append option.
00440868	IQ Bot classifies documents as expected even when the aliasName length exceeds 75 characters.
	A CSV file is now generated with the right content on the validation page for large documents.
00492446	Learning instances with 100 and more fields now load faster, so users can train or validate them without delay.
00481720	The Service account user password can now include special characters. The service account will not be locked and all the IQ Bot services will start successfully after an installation, irrespective of whether the password has special characters.
00348696	After login, when you change the UI display language to Japanese, the UI translations in the selected language display correctly. The translations did not display accurately in IQ Bot Version 6.5.
--	After any node is removed from a cluster, the cookies are no longer stored in the environment variable. This enables a clean re-installation.
00248270	The Learning Instance details page loads as expected. Previously, there was a delay in loading the page.
--	When you create learning instances with permissions for the role View the learning instances having the same role, you can now see learning instances created by your user role only. Previously, you were able to see learning instances created by other users as well.
--	The learning instance details page now correctly shows all data for a bot and the available options. Previously, the system displayed the following message: No current groups in this instance.
00339407	Draw box functionality for field labels now ensures that the selected value is treated as an entire word rather than distinct characters. You can now select multiple system identified regions (SIRs) or a specific part of a single SIR from a field label, which enables accurate data extraction in the IQ Bot Designer.

Known limitations

You have to manually refresh the Learning Instances page in IQ Bot to apply and update any permission changes made in the Enterprise Control Room.

When uploaded file names have spaces in them, any attempt to delete or archive learning instances using the delete or archive API end points fails, showing an error message.

After installing IQ Bot, when you try to log in, the web page shows an "Access token expected in the 'X-Authorization' header" message instead of the dashboard.

Recommended: Restart the Automation Anywhere Control Room Reverse Proxy service to resolve this issue.

In the IQ Bot installer, the scroll bar for the pre-check screen that shows a list of all ports, services, and software dependencies for the installation is not displayed.

Note: This is a limitation of the InstallShield tool.

Sometimes, when editing a bot, when you click Test Run, the custom logic script fails to run and no error message is displayed.

Related concepts

[IQ Bot Release Notes](#)

[IQ Bot operating system compatibility](#)

[IQ Bot database compatibility matrix](#)

[Required database information for IQ Bot installation](#)

[IQ Bot hardware and software requirements](#)

Related reference

[Upgrade considerations](#)

[IQ Bot version compatibility matrix](#)

[IQ Bot feature comparison matrix](#)

IQ Bot Version 11.3.4.2 Release Notes

Review the changed features, fixed features, and known limitations for IQ Bot Version 11.3.4.2 patch release. There are no new features or security fixes in this release.

Changed features

Performance improvements

Further performance improvements are introduced in this release for handling concurrent users and page load time over IQ Bot Version 11.3.4.1 patch release.

Fixed features

You can now access a particular document in the Validator using the Validator URL API.

Known limitations

If you have installed the IQ Bot Version 11.3.4.1 patch, you must uninstall it before installing the Version 11.3.4.2 patch.

After installing or uninstalling any IQ Bot Version 11.3.4.x patch, the desktop shortcut will not work. Follow the prerequisite steps provided in the upgrade topic: [Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch](#).

Related tasks

[Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch](#)

IQ Bot Version 11.3.4.1 Release Notes

The release notes describes new capabilities and changed features for IQ Bot Version 11.3.4.1.

New features

IQ Bot Version 11.3.4.1 new features	
Feature	Description
New IQ Bot patch installer	<p>Users can now install the updated patch files using the new patch installation process. Uninstalling the patch reverts IQ Bot to the base version.</p> <p>For example: IQ Bot Version 11.3.4 is the base version, and the patch updates IQ Bot to version Version 11.3.4.1.</p> <p>Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.1 patch release</p>

Changed features

IQ Bot Version 11.3.4.1 changed features	
Feature	Description
IQ Bot performance enhancement	<p>IQ Bot caches some static and semi-static data from API calls for some time to improve performance.</p> <p>Data for these static API calls are stored (cached) in the browser for short periods of time. Subsequently, when API calls for that same data are made within the caching time span, the browser responds immediately with the cached data.</p> <p>Users should be able to see the latest refreshed data within two minutes.</p>

Security fixes

There are no security fixes in this version.

Deprecated features

There are no deprecated features in this version.

Known limitations

During the Version 11.3.4.1 patch uninstallation process, the IQ Bot services are stopped and uninstalled. After the process is complete, the services are reinstalled and restarted.

Related concepts

[IQ Bot operating system compatibility](#)

[IQ Bot database compatibility matrix](#)

[IQ Bot hardware and software requirements](#)

[Required database information for IQ Bot installation](#)

Related tasks

[Uninstall IQ Bot Version 11.3.4.x patch](#)

Related reference

[Upgrade considerations](#)

[IQ Bot version compatibility matrix](#)

[IQ Bot feature comparison matrix](#)

Version 11.3.4 Release Notes for IQ Bot

The release notes for IQ Bot Version 11.3.4 describes new capabilities, changed features, fixed features (resolved issues), security fixes, deprecated features, and known behavior or limitations.

New features

IQ Bot Version 11.3.4 new features	
Feature	Description
(Beta) Enabled data capture and OCR using Google Vision API for Asian languages	<p>Use the Beta version of the Google Vision API with IQ Bot to improve the accuracy of the optical character recognition (OCR) results for training documents in Asian languages, particularly in Japanese and Korean. Google Vision API files are installed on your machine automatically during IQ Bot installation.</p> <p>Install Google Vision API OCR engine</p>
Magnetic ink character recognition (MICR) extraction	<p>Use the MICR OCR feature with ABBYY FineReader Engine v12.2 to extract MICR data from financial checks.</p> <p>Extract data using magnetic ink character recognition</p>
Option to turn off PDFBox as OCR engine	<p>Users have the option to turn off the PDFBox value to false to use the extraction functionality of the selected OCR engine such as Tesseract4 OCR, ABBYY FineReader Engine, and Microsoft Azure API. Disabling the PDFBox</p>

IQ Bot Version 11.3.4 new features	
Feature	Description
	<p>OCR optimizes extraction from hybrid documents that have a mix of images and digital values.</p> <p>Disable PDFBox option</p>

Changed features

IQ Bot Version 11.3.4 changed features	
Service Cloud ticket number	Description
Enterprise Control Room > Administration > Settings IQ Bot	When a user tries to register IQ Bot with the Enterprise Control Room, the system now shows an error message if you enter an incorrect URL.
UI auto-refresh in IQ Bot is disabled	<p>The system does not automatically refresh (auto-refresh) the IQ Bot UI, unless the user loads a screen or clicks Refresh to manually refresh data on a page. This feature helps reduce the response time for loading new data or performing any action in IQ Bot.</p> <p>Refresh data in Learning Instance details page</p>
--	<p>Previously, the user had to select the certificate from a provided list. Now, during the installation process:</p> <ul style="list-style-type: none"> • The CA.crt is automatically created in the <installation path>/Portal/keys folder. • The public certificate is added to the Java keystore in <installation path>\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x64\lib\security\cacerts.
--	<p>No updates are required in the cluster.properties file for IQ Bot Version 11.3.4 to work with earlier versions.</p> <p>IQ Bot version compatibility matrix</p>

Fixed features

IQ Bot Version 11.3.4 fixed features	
Service Cloud ticket number	Description
--	After correcting the field values in the Validator when a user saves the changes, the Validator updates only the

IQ Bot Version 11.3.4 fixed features	
Service Cloud ticket number	Description
	edited values. The IQ Bot Dashboard now displays the correct accuracy value for that learning instance.
--	After you correct a field value, the ML suggestion works as expected and provides suggestions for that field value in other documents as well. The user is able to select the ML suggested value on the first click.
--	The system now generates a valid response for the AAE_IQ Bot Admin role when accessing dashboard accuracy details for a specific project ID.
00417631 / 00423076	Uploading a document with a long file name does not return an empty learning instance success folder anymore. Instead, the file name is now visible and is successfully processed to the success folder.
--	HTTP response header settings related to security vulnerability are now fixed.
--	A user can now successfully install a later version of IQ Bot even if an existing Version 11.3.3 is installed on their machine. The system does not create duplicate data in the contentclassification table. In case duplicate data is created, the system displays an error message and rolls back the installation. The user then has to manually verify and remove the duplicate data from the contentclassification table.
00358689	The user can no longer see the system-created temporary files after the processing of documents in the IQ Bot server.

Security fixes

Critical security fix: TLS 1.2 is required for HTTPS connections to IQ Bot

To maintain security standards and promote the safety of data, the earlier TLS 1.1 encryption protocol is disabled in IQ Bot. Starting with Version 11.3.4, all inbound connections to IQ Bot must use TLS 1.2.

Users must verify that their browsers are compliant with TLS 1.2.

Deprecated features

There are no deprecated features listed for this version.

Known limitations

IQ Bot Version 11.3.4 known limitations	
Service Cloud ticket number	Description
--	If the value of <code>PDFBoxOCREnabled</code> is set to <code>False</code> in the <code>settings.txt</code> file, some multilingual documents do not get classified.
00356534	IQ Bot does not support migration of learning instances created using custom domains, unless the custom domains were imported in the same order, and the field IDs between the source and target system match.
--	<p>With Google Vision API OCR, for accurate value extraction, use training documents that are single language only.</p> <p>For example: Documents cannot have a mix of Japanese and English language fields. They must be fully Japanese only.</p>
--	The system is unable to generate CSV files with the appropriate extraction results for documents with more than 10 to 15 pages that are sent for validation.
--	<p>The Bot training page displays the bot ID in the URL. If a user manually changes the bot ID in the URL, the system creates a new bot with that ID instead of showing an error message.</p> <p>Note: IQ Bot does not support manual modification of the bot ID in the URL.</p>
--	<p>Sometimes the user is unable to edit or add new fields to existing learning instances in a cluster environment. The new field is not available in the Designer for training, as it did not get added to the learning instance. In such cases, reach out to support.</p> <p>This does not affect learning instances in the standalone mode.</p>
--	<p>The Validator does not stop data extraction at the end of a table/repeated section for the first table, but continues on to extract data from different fields in the following tables as well. This leads to incorrect data extraction and the result is shown in the See extraction results screen for the first table.</p> <p>Tip: As a workaround, we recommend using the Advanced table options setting in the Validator and enabling the Stop extraction at "End of table indicator" check box. This stops the table extraction at the table footer.</p>
--	When a user tries to install a newer version of IQ Bot, the system uninstalls any existing previous version of the product on the user machine. The system then installs the

IQ Bot Version 11.3.4 known limitations	
Service Cloud ticket number	Description
	newer version without displaying any notification for the user.
--	When a user with an AAE_IQ Bot Admin role tries to create a learning instance with IQ Bot extensions, the system displays a forbidden access with admin role message. Tip: As a workaround, we recommend assigning the user with the AAE_Basic role in addition to the AAE_IQ Bot Admin role .
--	The image invoice document classification is inconsistent. The system deletes such documents from the temporary folder after an upload, which leads to results showing that no classification occurred.
--	If a user has configured a new output and log path in the Settings file, the system fails to update the change. This results in the audit logs being unavailable at the new location.
--	The data validation error checklist in the system is not working according to defined priority, thus impacting validation results.
--	IQ Bot is unable to generate system identified regions (SIRs) for PDF files with multiple formats in different pages. Tip: As a workaround, we recommend turning off the PDFBox option as an OCR engine. Disable PDFBox option
--	In the Learning Instance details page when a user deletes a learning instance, and then navigates to the Bots tab and sets the same learning instance to production, the system fails to display an error message stating that the learning instance cannot be found.
--	IQ Bot is unable to identify some check boxes, or is extracting incorrect values from some of them from the uploaded documents.
--	The IQ Bot classifier performance is inconsistent for the same learning instances, and for learning instances with the same domain and custom fields.

Related concepts

[IQ Bot hardware and software requirements](#)[IQ Bot operating system compatibility](#)[IQ Bot database compatibility matrix](#)[Required database information for IQ Bot installation](#)

Related reference

[Upgrade considerations](#)[IQ Bot version compatibility matrix](#)[IQ Bot feature comparison matrix](#)

Version 11.3.3.1 Release Notes for IQ Bot

This topic for IQ Bot Version 11.3.3.1 describes fixed features.

Note: IQ Bot Version 11.3.3.1 is a full release that also has new, changed, and fixed features from IQ Bot Version 11.3.3 General Availability release. See: [Version 11.3.3 Release Notes for IQ Bot](#).

New Features

There are no new features listed for IQ Bot in this version.

Changed Features

The installation process for upgrading to IQ Bot Version 11.3.3.1 in the custom mode requires some specific steps. Follow the installation checklist provided in the installer zip file. See [Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x](#).

Fixed Features

The following fixed features are listed for IQ Bot in this version.

IQ Bot Version 11.3.3.1 Fixed Features	
Service Cloud ticket number	Description
14380	IQ Bot installer runs without any interruption, as the issue that occurred during the installation of Python dependencies has been resolved. The required Python packages are now provided with the installer.
--	The installation continues despite inconsistent data, which is logged in the installer-helper.log file.
14445	Users are able to access IQ Bot without any HTTP 431 error message.

Deprecated Features

There are no deprecated features listed for IQ Bot in this version.

Known Limitations

There are no known limitations listed for IQ Bot in this version.

Related concepts

[IQ Bot operating system compatibility](#)

[IQ Bot database compatibility matrix](#)

[IQ Bot hardware and software requirements](#)

Related reference

[Upgrade considerations](#)

[IQ Bot feature comparison matrix](#)

[IQ Bot version compatibility matrix](#)

Related information

[Version 6.5.2 Release Notes](#)

[Version 11.3.3 Release Notes for IQ Bot](#)

Version 11.3.3 Release Notes for IQ Bot

This topic for IQ Bot Version 11.3.3 describes new capabilities, changed features, fixed features, security fixes, deprecated features, and known behavior or limitations.

Important: To better align the new release cycles for IQ Bot with the Enterprise Control Room, the versioning convention has been streamlined to be in sync. IQ Bot version 6.6 has been renamed to IQ Bot Version 11.3.3.

Note: IQ Bot Version 11.3.3 is the first General Availability release that also has new, changed, and fixed features from IQ Bot Version 6.5.2 Limited Availability release. See: [Version 6.5.2 Release Notes](#).

New Features

IQ Bot Version 11.3.3 New Features	
Feature	Description
IQ Bot Extensions	<p>Create learning instances that leverage custom extraction services to process complex, fixed-format forms (also known as standard forms) without requiring any training.</p> <p>See IQ Bot Extensions for custom extraction.</p>
Import standard form domains	<p>Import domains for standard form documents to use IQ Bot Extensions feature. These domains become available for use from the drop-down list, when creating a learning instance.</p> <p>See Import domains for fixed format documents.</p>
Internet Explorer 11 support	<p>IQ Bot Version 11.3.3 now supports Internet Explorer 11.</p> <p>Important: When using Internet Explorer11, you might need to Display intranet sites in Compatible View in the Compatibility View Settings window.</p>
IQ Bot patch installer	<p>The IQ Bot patch installer simplifies the upgrade and downgrade process and supports modifying the affected files only. For minor changes you do not have to uninstall and reinstall the IQ Bot solution package.</p> <p>Note: To revert to the original version, uninstall the patch.</p>

Changed Features

IQ Bot Version 11.3.3 Changed Features	
Feature	Description
Check box data extraction enhancement	The IQ Bot check box data extraction ML model has been retrained to capture more variations for check boxes.
RabbitMQ and Erlang/OTP upgrade	IQ Bot Version 11.3.3 has been updated with RabbitMQ 3.7.17 and Erlang/OTP 22.0. Note: IQ Bot Version 11.3.3 is also backward compatible with the earlier versions of RabbitMQ. See RabbitMQ and Erlang/OTP upgrade .
Migrate learning instances as other learning instances are being edited	An administrative user can now migrate learning instances, even while other learning instances are being edited.
Microsoft Azure Computer Vision OCR engine	This feature is now official, and no longer beta. IQ Bot has native support for Microsoft Azure Computer Vision OCR engine. For example: It can help handwriting, driver licenses, and passport extraction. Note: Internet connectivity is required.
Use custom logic (Python scripts) to improve extraction	The custom logic feature is now part of the standard IQ Bot package from this release. There's no separate configuration required to enable the feature. Add custom logic in IQ Bot Designer to improve automatic extraction in production

Fixed Features

IQ Bot Version 11.3.3 Fixed Features	
Zendesk/Support ticket/Service Cloud	Description
-	CSS vulnerability is no longer found in Veracode scan.
Customer service: 431	Learning instances load faster than before.
Customer service: 13467	After you edit a learning instance with a large number of bots, clicking the Back to training button loads the Designer window.

IQ Bot Version 11.3.3 Fixed Features	
Zendesk/Support ticket/Service Cloud	Description
-	When you edit a learning instance in any group with a large number of bots, the See extraction results > Back to training action works faster than before.
-	Uploading training files to a learning instance using API processes works as expected.
Customer service: 551	Multi-page document navigation and processing does not stop, but completes as expected.
Customer service: 13847	Classifier successfully processes learning instances even with more than 2100 groups.
Customer service: 534	When you click an empty validator field on a multi-page document in the webpages (Designer/See extraction results/Validator), the cursor now remains on the given page instead of jumping back to page 1.
Zendesk: 242261	In the Designer window, when you click the See extraction result button, the extracted results display faster than before.

Security fixes

There are no security fixes listed for this version.

Deprecated Features

There are no deprecated features for this version.

Known Limitations

Note: In addition to the known limitations in the table below, IQ Bot Version 11.3.3 General Availability release has the known limitations listed for IQ Bot Version 6.5.2 Limited Availability release.

See [Version 6.5.2 Release Notes](#).

IQ Bot Version 11.3.3 Known Limitations	
Zendesk/Support ticket/Service Cloud	Description
Zendesk: 221115	In select use cases , with unexpected diagonal line marks on the page, document orientation displays incorrectly in the Validator.
-	In production, during batch upload of files, sometimes an <code>express-http-proxy</code> error can occur due to which one or more files can be lost. The environment shows high-compute usage with database Microsoft Azure SQL service.
Zendesk: 240900	Importing a learning instance with an empty hashkey for layoutTrainSet fails.

IQ Bot Version 11.3.3 Known Limitations	
Zendesk/Support ticket/Service Cloud	Description
Internet Explorer 11	When using Internet Explorer 11, icons disappear after a page refresh. A hard refresh (Ctrl+F5) helps fix the issue.
Customer service: 422 and 526	<p>With ABBYY FineReader Engine in IQ Bot, the text segments / system identified regions (SIRs) for some documents get offset or are not generated, creating problems with mapping.</p> <p>With ABBYY FineReader Engine, for some documents, the SIRs are not generated as expected.</p>
-	In production, the Validator is unable to make auto-suggestions for Japanese unicode, requiring a fix to a third party library.
Service Cloud: 00342272	Classifier worker keeps on creating duplicates of the number classifier executors, using more system resources (primarily CPU, and secondarily RAM) than necessary, that slows down IQ Bot.
Service Cloud: 00331297	Documents are stuck in processing without completing classification, and an error message is displayed.
Customer Service: 146	Optical character recognition (OCR) accuracy can impact light colored fonts.
-	The red icon and red highlighted text boxes, indicating a validation error for a field, can disappear if the user clicks on the field but moves to a different field without making any corrections.
-	The IQ Bot dashboard does not always show accurate metrics (for example, number of documents processed) for standard forms that get processed.
-	During IQ Bot uninstall process, the Finish screen displays incorrect version information of the third party components.
-	Standard form documents in IQ Bot: Learning instances, created with a domain for standard forms, cannot be exported/imported with IQ Bot.
-	User is able to register IQ Bot in the Enterprise Control Room with an incorrect URL.
-	During the processing of IQ Bot extensions, the blue bounding boxes do not completely cover the extracted text.
-	<p>In the Validator, when correcting errors for a IQ Bot extensions document:</p> <ul style="list-style-type: none"> • user is unable to see the highlighted value in the document.

IQ Bot Version 11.3.3 Known Limitations	
Zendesk/Support ticket/Service Cloud	Description
	<ul style="list-style-type: none"> on selecting a bounding box on the document, the value does not get extracted to the field text box.
-	The Microsoft Azure Computer Vision OCR engine returns single characters for languages such as Japanese. That can lead to unclassified documents in IQ Bot, if domains or learning instances in IQ Bot rely on field names to be multi-character words instead of single characters.
-	In the Validator, a user has to select the ML auto-suggested value twice to apply it to a field on that document.
-	User could see a Windows Defender SmartScreen message about <code>unrecognized app</code> at the start of the IQ Bot installation process. To resolve the issue, see Windows unrecognized application message .
-	While accessing the IQ Bot dashboard, a user with IQ Bot administrator role could get a <code>403 Forbidden Error</code> message. To resolve this issue, ensure the user also has the <code>AAE_BASIC</code> role assigned in the Enterprise Control Room.
-	In Validator, the suggested value for a field does not get selected from the drop-down.
-	When documents are getting classified, or a learning instance is in edit mode, the Export Status of that learning instance shows as available in Migration utility page.

Related reference

[Upgrade considerations](#)

Related information

[Version 6.5.2 Release Notes](#)

Version 6.5.2 Release Notes

This document for IQ Bot Version 6.5.2 describes new capabilities, changed features, fixed features (resolved issues), security fixes, deprecated features, and known behavior or limitations.

Note: IQ Bot Version 6.5.2 is a restricted release, and is not listed on the customer or partner portals. For access, contact your Automation Anywhere representative.

New Features

IQ Bot Version 6.5.2 New Features	
Feature	Description
Single click to extract text in the Validator	In the Validator, users can click on any text region to select the text instead of typing it.
API access	<p>New APIs have been added for:</p> <ul style="list-style-type: none"> Return a list of filenames for validation status. Download a zip folder containing files. Delete specified files in the output folder.
Document group description	A Description tab has been added for entering a descriptive label or information, such as vendor names, about the associated document group.
Microsoft Azure Computer Vision OCR engine ¹	<p>IQ Bot now has native support for Microsoft Azure Computer Vision OCR engine. For example: It can help handwriting, driver licenses, and passport extraction.</p> <p>Important: Internet connectivity is required.</p>
Add user logic in the Designer	<p>In the Designer, under Logic, Python language support has been added, so power users can add custom code to:</p> <ul style="list-style-type: none"> improve extraction and validation in production skip Validator flag errors that could not be flagged before reduce post-processing of IQ Bot output
Internationalization and localization: Italian and Portuguese	<p>You can now select Italian and Portuguese to show the UI in that language.</p> <p>Note: Any part of IQ Bot UI that is linked to the database appears only in English. Language support for these is upcoming in a future release.</p>

Note 1:

This is a beta feature.

Changed Features

IQ Bot Version 6.5.2 Changed Features	
Feature	Description
Updated SDK modules	The SDK has been updated to match Enterprise Control Room Version 11.3.x. This removes the need to change the ignite.security flag.
Access IQ Bot without sysadmin role that includes support for Amazon Relational Database Service (RDS) out of the box	<p>The sysadmin SQL database role requirement has been removed from the IQ Bot installer. The following privileges are checked instead:</p> <ul style="list-style-type: none"> • SQL connection • database creation • view any database <p>Installation with Microsoft Azure SQL requires the following role: dbmanager</p>
Localized text in UI updated	The localized UI text has been updated for Chinese Simplified, Chinese Traditional, French, German, Italian, and Japanese.
View and test all documents in the Designer > See extraction results	Users can select and test not some but any of the uploaded documents in See extraction results, to train more robust bots.
Role-Based Access Control updates for IQ Bot Version 6.5.2	All standard roles and permissions for IQ Bot work as before with the exception of custom roles. See Define access to learning instances using custom roles for more information.

Fixed Features

Note: For future releases all fixed features will be tracked via external ticket system. For current and previous releases, customers and partners filled out external tickets or worked with internal representatives who helped file internal tickets on their behalf.

IQ Bot Version 6.5.2 Fixed Features	
COG internal ticket number	Description
COG-15749 AND COG-15664	Reworked migration utility feature to better support classifier versioning at the learning instance level, which fixes the migration overwrite option.
COG-17242 (Zendesk - 209799)	IQ Bot upgrade from v5.2 to v6.5 succeeds despite large increase in SQLServer log volume.
COG-15745 AND COG-15767	In a cluster environment:

IQ Bot Version 6.5.2 Fixed Features	
COG internal ticket number	Description
	<ul style="list-style-type: none"> No files are lost during document processing in production environment. My total and My learning instance tiles on dashboard displays are in sync when showing the STP %. Documents sent to the Validator are automatically validated and show the correct STP %.
COG-15426	IQ Bot shows the correct bot numbers when importing learning instances with the merged option.
COG-17211	IQ Bot is able to import learning instances with unclassified group.
COG-17178 (Zendesk 210705)	IQ Bot Version 6.5 performance is improved when loading the learning instance page with a large number of Bots.
COG-15355	Trying to access a learning instance created by a different user role shows an error message instead of a blank screen.
COG-15864 AND COG-15883	<p>IQ Bot Designer is responsive:</p> <ul style="list-style-type: none"> the text segments display correctly. results are displayed when the See extraction results button is clicked.
COG-16765	Japanese and Korean unicode character corrections are getting stored correctly in the Bot database.
COG-16086	The width of the field value input box is now the same as the width of the field name input box.
COG-15417	If a user moves column fields from one table to another table in Designer, the sequence of selection of these fields will appear in See extraction results view.
COG-17032	Even if a document is open for ~20 minutes in the Validator, user is able to validate all the errors and save the document.
COG-17348	Displays the correct Copyright year for all IQ Bot DLLs.
COG-15669	IQ Bot can continue with pen sessions over a period of few days without slowing down or the need to restart services. The system can continue to work and be responsive.
COG-17909	On a learning instance page, when navigating through pages for listed groups, the pagination is stable and works as expected.
COG-17908	When there are lot of groups in a learning instance, navigating back to the Back to training page does not take long.

IQ Bot Version 6.5.2 Fixed Features	
COG internal ticket number	Description
COG-17108	IQ Bot is able to recognize the spaces in specific content. For example: "Logitech M100 Mouse" is output correctly with the appropriate spaces in between the words.
COG-17338	In the Validator page, user is able to scroll through the entire document using the scroll bar.
COG-17721	In a non-cluster environment, My total and My learning instance tiles on the IQ Bot dashboard display the correct document processed count and STP %.
COG-17515	IQ Bot does not display any error screen after learning instance creation and before opening the document in Designer.

Deprecated Features

There are no deprecated features listed for IQ Bot in this version.

Known Limitations

IQ Bot Version 6.5.2 Known Limitations	
JIRA/Zendesk ticket number	Description
Customer service: 13420	Text segments might not get generated for PDFs with multiple file formats on different pages. Tip: A current workaround is to convert the PDFs to TIFF files before uploading to IQ Bot.
CGNSRV-436	IQ Bot UI response can be slow due to multiple users. The dashboard refresh can be slow due to ~50+ learning instances or a large number of groups per learning instance.
COG-18016	Users can experience longer file upload times for files whose cumulative size is greater than 10MB, when using the APIs.
CGNSRV-362, CGNSRV-457, CGNSRV-521, COG-16030	Several customers have reported cases where some tables, without headers, spanning multiple pages could have skipped rows during extraction.
CGNSRV-356, CGNSRV-368, CGNSRV-372, COG-16891	Several customers have reported table extraction skipping some required rows to be extracted.
CGNSRV-467	IQ Bot healthcheck can incorrectly return a NOT OK message when learning instances are loading.
COG-18977	While upgrading to a different IQ Bot version, incorrect timestamp is inserted for the uploaded documents. The

IQ Bot Version 6.5.2 Known Limitations	
JIRA/Zendesk ticket number	Description
	previous version of files have the local timestamp, and the new uploaded files have the timestamp based on the time of the machine (UTC).
COG-19485	If a new group is created in production, or if a user uploads documents to IQ Bot in production, and retroactively toggles the learning instance to production, the download API feature does not work for those documents.

Related concepts

[IQ Bot operating system compatibility](#)

Related reference

[Upgrade considerations](#)

[IQ Bot version compatibility matrix](#)

[IQ Bot feature comparison matrix](#)

Version 6.5 Release Notes

These release notes contain changed features, fixed features, and security fixes introduced in IQ Bot Version 6.5.x.

New features

Extraction/Validation features

- Select document classifier version:

During upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. Select that prior version of IQ Bot from a drop-down list to keep the document classifier version for the existing learning instances.

See [Keep learning instance document classifier version during IQ Bot upgrade](#).

- Select between optical character recognition (OCR) engines:

Select between Tesseract4 or ABBYY FineReader Engine v12.2 as IQ Bot's OCR engine for each new learning instance, and still continue to leverage IQ Bot's native document classification, autocorrection, and extraction capabilities. IQ Bot installation now automatically installs ABBYY FineReader Engine v12.2, and with an open runtime license. This means that the license is pre-activated, and can be on as many IQ Bot servers you run, and works with or without terminal server.

- Expanded language support:

Access text segmentation and OCR support for 190 languages including: Chinese Simplified, Chinese Traditional, Japanese, Korean

See [IQ Bot list of supported languages](#).

Enterprise features

- Access IQ Bot without device license (without a Bot Creator or Bot Runner license):

Log in to IQ Bot without an assigned device license in the Automation Anywhere Enterprise Control Room. The roles are custom or defined by the system. The user view of the UI depends on the assigned role.

See [Access IQ Bot without a Bot Creator or Bot Runner device license](#).

- Access IQ Bot Validator without a Bot Creator or Bot Runner license:

Log in to IQ Bot with a Validator role (defined in Enterprise Control Room) without a Bot Creator or Bot Runner license. This function supports and permits an unlimited number of Validators in IQ Bot simultaneously.

See [Access IQ Bot Validator without a license](#).

- Internationalization and localization:

At log in, select from a drop-down list of eight languages, that shows the IQ Bot UI in the selected language. Choose from the following languages:

- English
- Chinese Simplified
- Chinese Traditional
- French
- German
- Japanese
- Korean
- Spanish

Note: Any part of IQ Bot UI that is linked to the database appears only in English. Language support for these is upcoming in a future release.

- Database encryption:

IQ Bot document data stored in database tables and columns are encrypted for security of potentially sensitive information. This does not yet apply to field value data that humans manually correct in the IQ Bot validation queue. Database encryption occurs during the following tasks:

- Fresh install of IQ Bot
- Migration of a learning instance
- Upgrade of IQ Bot

See [IQ Bot database encryption](#).

Note: All APIs that use this data work as before.

- Role-Based Access Control for new learning instances:

Role-Based Access Control (RBAC) is configured through the Enterprise Control Room, which enables or restricts access to the IQ Bot learning instances, related features, and functionality that are based on permissions defined in the user role. Create and assign custom roles to users. Without permissions for the custom role, users get an error message when trying to log in to the system.

See [Define access to learning instances using custom roles](#).

- Audit logs for IQ Bot:

The administrator sees action logs for all IQ Bot users in the Audit Logs tab of the Enterprise Control Room. Successful and unsuccessful actions are logged with reasons for failure logs.

See [IQ Bot audit log in Enterprise Control Room](#).

- Windows authentication:

The IQ Bot platform administrator is able to enable Windows authentication, during IQ Bot platform installation, to connect SQL databases with Windows or dual authentication.

See [IQ Bot Microsoft Windows authentication](#).

- Microsoft Azure SQL database service Platform as a Service (PaaS):

The IQ Bot platform administrator can enable Microsoft Azure SQL database service during IQ Bot platform installation to use the SQL database services.

- Counter for number of pages uploaded:

In the IQ Bot UI, users can now view the number of pages uploaded in production to manually compare with their license limit. Automatic comparison with their license limit is forthcoming in a future release.

Changed features

The following features were migrated from IQ Bot Version 5.3.1.x to Version 6.5:

Extraction/validation features

- Production field value autocorrection:

Fix field value errors in the IQ Bot Validator. As IQ Bot learns, it can autocorrect field value errors for which it reaches 90% confidence. If users upload additional documents in production, IQ Bot can autocorrect these errors, skip Validator, and count the documents as STP.

See [Use Machine Learning to fix extraction errors](#).

- Check box extraction:

When a user maps check boxes or radio buttons, IQ Bot's artificial intelligence (AI) returns a Yes/No/No check box found value for whether the check boxes have check marks. That applies to a single check box, group of check boxes, and repeated sections of check boxes.

See [Extract data for single/group check box](#).

- Improved text segmentation:

Improved text segmentation, such as, grouping and separation of related or unrelated text, provides more accurate results to support OCR, document classification, and data extraction.

For example, the improvement helped increase STP (percent of documents processed successfully without human intervention) by 9% on a sample dataset of 4,300 documents. The example increase is based on comparing IQ Bot Version 6.5 with IQ Bot Version 6.0.1 on that sample dataset, and was replicated for IQ Bot Version 6.5 versus IQ Bot Version 5.3.0.

See [Text segment](#).

- Map table columns without mapping table headers:

In the IQ Bot Designer, map only one column header per table. If other column headers in the table do not exist or have low quality text, users can map these columns without headers to extract the column data.

- Repeated table/section extraction:

In the IQ Bot Designer, for a specific document with repeated tables/sections, users only have to map the first table or section. Automatic extraction occurs for the repeated tables or sections with similar structure or content in the remainder of the document. That automation can continue to production documents.

See [Map repeated tables and sections](#).

- Link tables/sections:

In the IQ Bot Designer, select one or more fields to link tables or sections. For example, link health insurance claims data to services data.

That linking automatically continues to production documents, facilitating and eventually merging these tables or sections in RPA.

- Choose a different training document for a group:

During document training, a user can look at unique document layouts available in a group, and choose a different document from the default one chosen by IQ Bot Designer, that is more representative of documents across that group.

See [Choose training document for a group](#).

- IQ Bot Designer and Validator formula validation:

Use formulas for selected fields to flag whether the formulas catch errors. For example, sum of column item totals equals Invoice Total.

See [Formulas](#).

- Formula validation migrates during upgrade from Version 5.3.x to 6.5.x:

When upgrading from IQ Bot Version 5.3.x to 6.5.x, the formula validation also migrates, and this prevent the task of re-adding the formula validation manually.

Ease-of-use features

- Resize box around a text segment:

In the Designer, resize a box around a mapped field value in any direction, without having to redraw or reselect a box. In the Designer, Validator, and Preview mode, (See Extraction Results), hover over any text segment to preview its OCR result.

See [Resize mapping area](#).

- Preview OCR result for a text segment:

In the Designer, Validator, and Preview mode, (See Extraction Results), hover over any text segment to preview its OCR result.

- Delete mapping in the Designer:

Delete mapping of field labels or field values, by selecting the X delete symbol next to the mapped label or value.

See [Delete mapping in the Designer](#).

- Use blue-bound box to populate text in End of table/section indicator:

Select a blue-bounded box to populate the text value for the End of table/section indicator in the IQ Bot Designer.

See [Stop extraction at End of table/section indicator](#).

Fixed features

- End of table/section indicator:

Stop extraction at End of table/section indicator permits the end of table indicator to work in additional cases.

See [Stop extraction at End of table/section indicator](#).

- Migration utility

Option 1: triggers the functionality for Appends only new learning instance(s), if the learning instance ID in the .iqba file (for example, from development environment) differs from the ID in the target environment (for example, production environment). If a learning instance ID in the .iqba file is the same as an ID in the target environment, that .iqba learning instance is not appended.

Option 2: triggers the functionality for Merges new groups and trainings (bots) in existing learning instance(s).

See [Migration Utility](#).

- Numeric format autocorrection:

For international languages, for example, French or German, if a numeric field has a comma misread as a period (100000.00), then an international number pattern (999,00) can autocorrect the values (100000,00).

For the English language, if a numeric field has a period misread as a comma (100000,00), then an English number pattern (999.00) can autocorrect the values (100000.00).

Technical updates

- Microsoft .NET framework updated from v4.6 to v4.7.2. The system prompts for a restart to complete the update.
- SQL client updated from v11.0 to v2012. The system prompts for a restart to complete the update.
- NodeJS updated from v6.10.2 to v10.15.0. Minimum requirement is v8.0.0.
- JDBC driver updated from v4.2 to v7.2.

Known limitations

- Import/export of learning instances from IQ Bot Version 6.5 Beta to Version 6.5 is not supported just as this is not supported for IQ Bot Version 5.2 to 5.3, and IQ Bot Version 6.0.1 to Version 6.5 and so on.

See [IQ Bot upgrade options](#), which includes migration workarounds.

- When importing learning instances, the import option 3 (overwriting data) can create new groups unexpectedly. Use the other import options instead.

See [Import a learning instance](#).

- Database encryption:
 - Performance and database size are impacted.
 - Encryption for learning instance export is not supported for IQ Bot Version 6.5.

Related reference

[Upgrade considerations](#)

[IQ Bot version compatibility matrix](#)

[IQ Bot feature comparison matrix](#)

IQ Bot architecture overview

Find the technical details for IQ Bot Version 6.5.

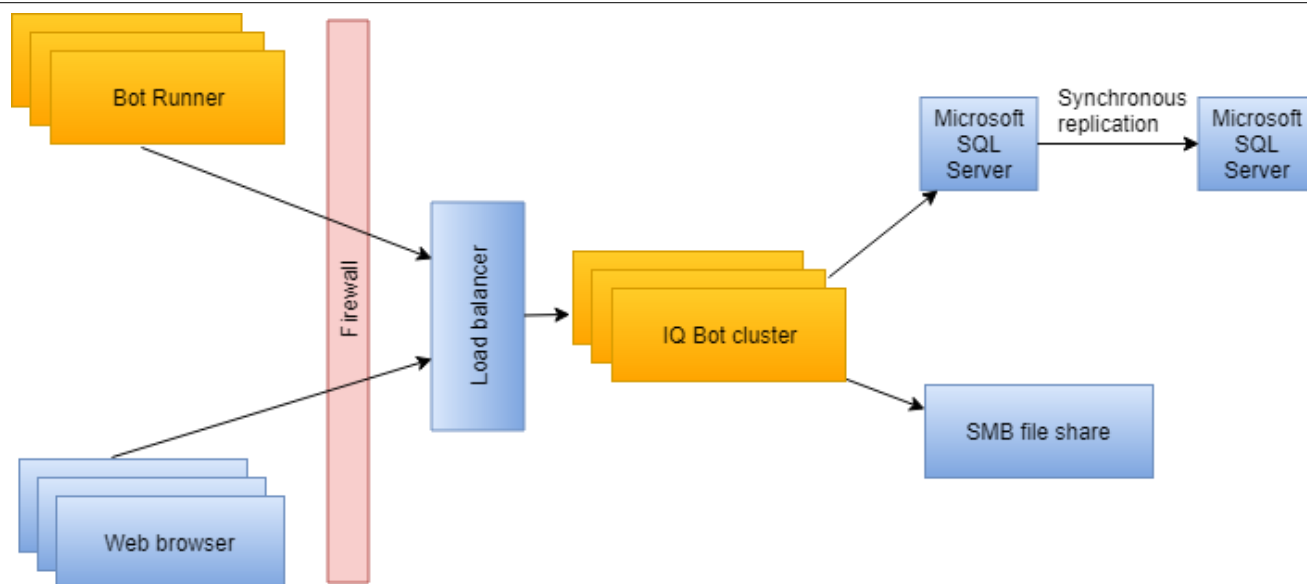
IQ Bot technical details are as follows:

- Deployment
- Protocols
- Ports
- Encryption and credentials
- Sensitive user information
- [Architecture diagram](#)
This diagram shows the different components of IQ Bot architecture.
- [Protocol specifications](#)
A standard set of regulations and requirements that allow two electronic items to connect to and exchange information with one another.
- [Ports and services](#)
Find out a list of port numbers for all services used for IQ Bot.
- [Credentials](#)
IQ Bot relies on Control Room authentication and does not store any user credentials.
- [High Availability and Disaster Recovery overview](#)
High Availability (HA) provides a failover solution in the event an IQ Bot service, server, or database fails.
Disaster Recovery (DR) provides a recovery solution across a geographically separated distance in the event of a disaster that causes an entire data center to fail.
- [Operations](#)
Find out about the important IQ Bot operations supported by IQ Bot.

Architecture diagram

This diagram shows the different components of IQ Bot architecture.

Use the IQ Bot, components, Designer and Validator for designing and validating bots, respectively. In a typical scenario, IQ Bot portal and IQ Bot platform communicate through a network firewall and a load balancer.



Various protocols are used to communicate between the different components. A database server, a file storage server, and servers for IQ Bot are used. An organization has the flexibility of using a separate server for the database or using the Control Room cluster database. A firewall is between the external components, web browser and Bot Runner, and the data center load balancer. Chrome is the supported browser.

Protocol specifications

A standard set of regulations and requirements that allow two electronic items to connect to and exchange information with one another.

The following table lists the protocols IQ Bot uses to enable various task.

Component Communication	Protocol	Notes
Microsoft Azure Computer Vision OCR engine	HTTPS	Open port: 443
Google Vision API OCR engine	TCP	Open port: 443
Browser to Web server	HTTPS, REST/JSON	TLS typically terminates on a firewall.
IQ BotLite command to Web server	HTTP(S), REST/JSON	TLS typically terminates on a firewall.
Web server to Gateway	HTTP(S), REST/JSON	
Web server to Enterprise Control Room	HTTP(S), REST/JSON	TLS typically terminates on a firewall.
Gateway to Microservices	HTTP(S), REST/JSON	

Component Communication	Protocol	Notes
Gateway to Message queue	HTTP	Encrypted communication will be mandatory in a future release.
Enterprise Control Room to Web server	HTTP(S), REST/JSON	TLS typically terminates on a firewall.
Microservices to Enterprise Control Room	HTTP(S), REST/JSON	Use of encryption is not controlled by the Cognitive team.
Microservices to database	TCP	Encrypted communication will be mandatory in a future release.

Related concepts

[Ports and services](#)

Ports and services

Find out a list of port numbers for all services used for IQ Bot.

Important:

- Configure to expose ports 47100 through 47200 on the Enterprise Control Room server as inbound listening for Control Room cluster communication.

The following table displays port numbers for all services used in IQ Bot:

Micro Service	Communication-Mode/ Port-Number	Notes
Alias service	9997	Used internally within server.
Application service	9002	Used internally within server.
Enterprise Control Room	8080	
File Manager service	9996	Used internally within server.
Firewall/TLS	443	Default HTTPS TLS port.
Gateway service	8100	Used internally within server.
Machine Learning	9991	Used internally within server.
Project service	9999	Used internally within server.
RabbitMQ	<ul style="list-style-type: none"> • 6.5 5672 • 11.3.3 5673 	Used internally within server.
RabbitMQ Admin portal	15672	This port comes into use only when we enable RabbitMQ administration plugin.

Micro Service	Communication-Mode/ Port-Number	Notes
RabbitMQ Cluster ports	4369 and 25672	These ports come into use when RabbitMQ nodes are added to the cluster. They should be exposed between cluster nodes through firewall.
Report service	9992	Used internally within server.
Microsoft SQL Server	1433	Used by the microservices.
Validator service	9995	Used internally within server.
VisionBot Manager	9998	Used internally within server.
Web Server (Node js)	3000	Should be exposed through firewall for communication.

Related concepts

[Protocol specifications](#)

Credentials

IQ Bot relies on Control Room authentication and does not store any user credentials.

All the credentials stored by IQ Bot are encrypted with the AES256 encryption algorithm.

High Availability and Disaster Recovery overview

High Availability (HA) provides a failover solution in the event an IQ Bot service, server, or database fails. Disaster Recovery (DR) provides a recovery solution across a geographically separated distance in the event of a disaster that causes an entire data center to fail.

IQ Bot HA and DR solution

In the context of IQ Bot, implementation of High Availability (HA) and Disaster Recovery (DR) reduces downtime and maintains continuity of business (CoB) for your bot activities.

- **High Availability (HA)**—High availability is an architectural system design that attempts to safeguard a system against certain failure scenarios. This means that even if parts of a system is failing, as a whole it is still available and usable. High availability solutions typically protect against specific scenarios such as: server failures, single component failures, dependency failures, variable load increases, and networks splits where dependent on system components that become unreachable on a network.
- **Disaster Recovery (DR)**—Disaster recovery involves a set of policies and procedures to enable the recovery or continuation of vital infrastructure and systems following a natural or human-induced disaster. Disaster recovery addresses many different causes of failures in a system where high availability typically accounts for a predictable few. Disaster recovery has a focus on re-establishing services after an incident not just failover. Recovery of a system includes scenarios such as: restarting a service or system, restoring configuration files or a database from backups.

To ensure HA and DR protection of your IQ Bot components, configure your existing HA and DR infrastructure, load balancing, and failover systems to include IQ Bot servers and services. See your data center administrator for your approved local HA and DR procedures.

Required HA and DR infrastructure elements

- **Distributed Approach**—In addition to clustering IQ Bot related data center components, we also recommend that you deploy IQ Bot on multiple physical and, or virtual servers.
- **Load balancing**—Performed by a load balancer, this is the process of distributing application or network traffic across multiple servers to protect service activities and allows workloads to be distributed among multiple servers. This ensures bot activity continues on clustered servers.
- **Databases**—Databases use their own built-in failover to protect the data. This ensures database data recovery.
 - Between the HA clusters, configure synchronous replication between the primary (active) and secondary (passive) clustered MS SQL servers in the data center. This ensures consistency in the event of a database node failure.

For the required HA synchronous replication, configure one of the following:

- Backup replica to Synchronous-Commit mode of SQL Server Always On availability groups
- SQL to Server Database Mirroring
- Between the DR sites, configure your database to provide asynchronous replication from the primary (production) DR site to the secondary (recovery) DR site that is at a geographically separated location from the primary DR site.

Sample scenario

Point all IQ Bot instances within the same cluster to the same database and repository files. This is required to enable sharing data across multiple servers and ensuring data integrity is maintained across IQ Bots servers within a cluster.

HA and DR deployment models

To ensure your IQ Bot is protected by HA and, or DR, configure your data centers according to the deployment models described in:

- [High Availability deployment model](#)
- [Disaster Recovery deployment model](#)

HA implementation requirements

- Install IQ Bot on multiple servers.
- Access to IQ Bot is through a load balancer.
- Open a RabbitMQ synchronization port between IQ Bot servers.
- Configure the Microsoft SQL Server in high availability mode.

Installation HA and DR configuration requirements

- The IQ Bot installer does not directly support cluster installation. To set up a cluster do the following:
 - Run the installer on each application server node.

- Share the `output` folder using the access role `Everyone`.
- Post installation, execute the `messagequeue_cluster_configuration.bat` with appropriate command line arguments.
- Configure IQ Bot in a high availability configuration.
- Open firewall ports: 4369 and 25672.
- Install RabbitMQ on every IQ Bot node in the cluster.

The first node where IQ Bot is installed becomes the primary RabbitMQ node. The host name of the primary node is used to configure the RabbitMQ cluster.

- The load balancer is required to distribute a traffic to all IQ Bot server nodes.
- Configure Microsoft SQL Server for high availability. Use the Microsoft SQL Server Always On option.
- For RabbitMQ specific installation, see your RabbitMQ documentation.

HA and DR known limitations

- To discover the availability of IQ Bot instances, a load balancer periodically sends pings, attempts connections, or sends requests to test the IQ Bot instances. These tests are called health checks.
- Health checks do not verify the availability of RabbitMQ instances.
- [HA cluster configuration overview](#)
To support Automation Anywhere your data center, configure an HA cluster. Follow your company methods and procedures for implementing your data center cluster.
- [Disaster Recovery deployment model](#)
The Disaster Recovery (DR) deployment model uses high availability (HA) clusters distributed over a geographic area.

HA cluster configuration overview

To support Automation Anywhere your data center, configure an HA cluster. Follow your company methods and procedures for implementing your data center cluster.

HA clusters protect services and data in the event of a server or service failure. The following is a list of processes associated with clusters.

Database replication

Configure synchronous replication between the primary site (active) and secondary site (passive) MS SQL servers to ensure consistency in the event of a database node failure.

Downtime

The amount of downtime depends on the number of restart attempts the administrator configures for the primary server services, the number of failovers allowed per number of hours, and the failback configuration.

Failback

After the primary server is returned to normal, fail back the workload from the secondary servers to the primary servers. The primary server becomes the active server again.

Restoring operations to the primary system or site after a failover or disaster recovery on a secondary system or site.

Failover

If one of the primary servers fails, the workload of the failed server automatically shifts to the secondary server in the cluster. This automatic process is called failover. Failover ensures continuous availability of applications and data. When failover completes, the secondary server becomes the active server.

When a (primary) system detects a fault or failure, it automatically transfers control to a (secondary) duplicate system. This applies to HA clusters, where failover is from one server to another.

Graceful degradation

Process allowing cluster dependencies to operate gracefully on a degraded primary site.

Redundancy

HA clusters use redundancy to prevent single points of failure (SPOF), such as a failed server or service. HA clusters include primary (active) servers that host services or databases and secondary (passive) servers that host replicated copies of the services and databases.

Replication

The secondary servers have the same configuration and software as the primary servers, they are a duplicate (redundant copy) of the primary. Data is replicated (copied) from the primary servers to the secondary servers.

To support HA and DR for Automation Anywhere, configure the selected components in your data center for HA.

Note: In the context of clusters, though the terms server, host, and node each have specific meaning, they are frequently used interchangeably.

Cluster

A cluster is a set servers (nodes) that are connected by physical cables and software. In an HA environment, these clusters of servers are allowed to be in the same physical data center.

Cluster group (role)

Group of clustered services that failover together and are dependent on each other.

Host

The cluster machine that is hosting the services.

Multiple servers

The HA technique where operations are available across multiple servers with workload managed by a load balancer. This applies to IQ Bot instances.

Node

A generic term for a machine in a cluster.

Primary node

The active node in the cluster. The machine where the production activities run. This applies to the database servers.

Secondary node

The machine that is designated as the target in the event of a failover. The secondary node is a passive duplicate of the primary node. This applies to the database servers.

Server

The machine in the cluster installed with the server operating system.

HA cluster technologies guard against three specific types of failures:

Application and service failures

These affect application software and essential services.

Site failures in multisite organizations

This is caused by natural disasters, power outages, or connectivity outages.

System and hardware failures

This affects hardware components such as CPUs, drives, memory, network adapters, and power supplies.

This ability to handle failure allows clusters to meet two requirements that are typical in most data center environments:

High availability

The ability to provide end users with access to a service for a high percentage of time and reduces unscheduled outages.

High reliability

The ability to reduce the frequency of system failure.

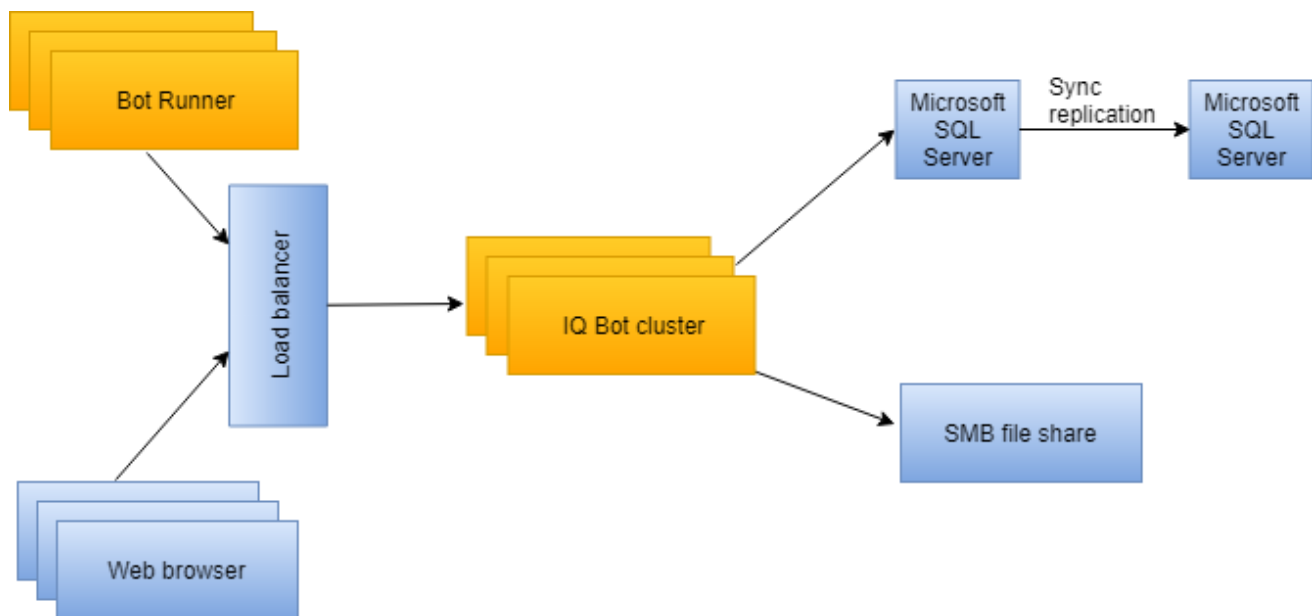
- [High Availability deployment model](#)

The High Availability (HA) deployment model provides failure tolerance for the IQ Bot servers, services, and databases.

High Availability deployment model

The High Availability (HA) deployment model provides failure tolerance for the IQ Bot servers, services, and databases.

The following shows IQ Bot and data center components.



In this example, the IQ Bot servers and Microsoft SQL Servers have HA redundancy.

- Multiple users have access the IQ Bot cluster through their web browsers. The web browsers communicate to the IQ Bot cluster through the load balancer.
- Multiple Bot Runners communicate to the IQ Bot cluster through the load balancer.
- The server message block (SMB) file share and the Microsoft SQL Server store data from the IQ Bot cluster.
- Microsoft SQL Server uses redundancy through replication syncing to the clustered Microsoft SQL Server.

Pros

Maintains availability when server failures occur within a single data center.

Cons

Does not provide protection against data center outage.

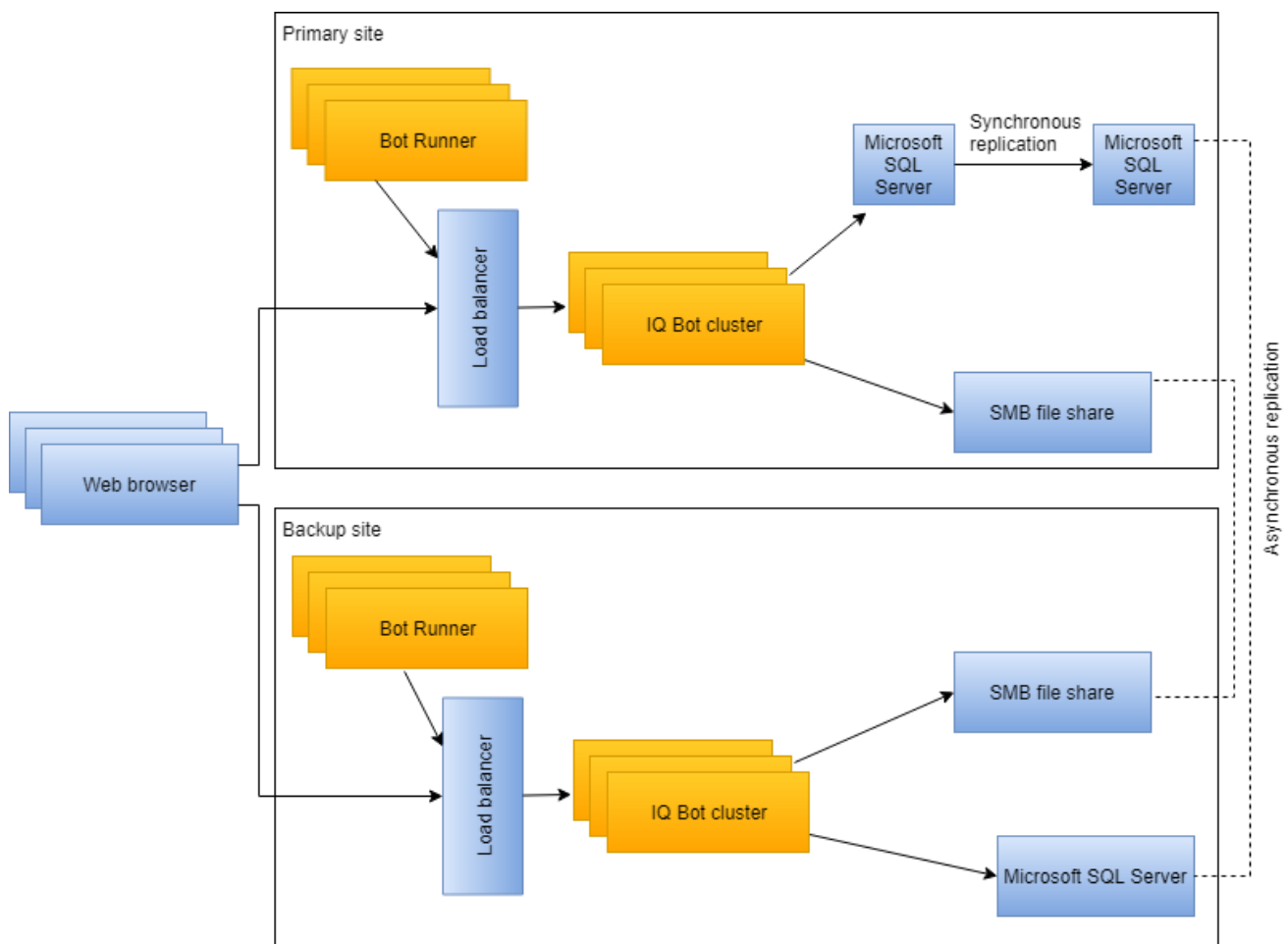
Use Cases

Small to medium-size businesses that do not require multi-site disaster recovery.

Disaster Recovery deployment model

The Disaster Recovery (DR) deployment model uses high availability (HA) clusters distributed over a geographic area.

Disaster Recovery (DR) is a method where the two High Availability (HA) data center configurations are separated geographically. The extra benefit here from a single location HA configuration, is in the event of a localized disaster, the physically removed data center resumes functions with minimum downtime.



In this example, all the servers have redundancy.

- Multiple users have access the IQ Bot cluster through their web browsers. The web browsers communicate to the IQ Bot clusters through the load balancers.
- Multiple Bot Runners communicate to their IQ Bot cluster through the load balancer.
- The server message block (SMB) file share and the Microsoft SQL Server store data from their IQ Bot cluster. Both servers are asynchronously replicated to the backup disaster recovery site.

- Microsoft SQL Server uses redundancy through replication syncing to the clustered Microsoft SQL Server on the primary disaster recovery site.

For disaster recovery in IQ Bot environment.

- Deploy a second IQ Bot HA cluster in an additional data center that is in a separate geographic location.
- In the event of a primary site failure, do the disaster recovery manually. See the [Disaster recovery failover steps overview](#).

Note: When a failover to a backup site occurs, it is possible that very recent changes made on the primary site are lost.

Pros

Provides business continuity when faced with data center outage or loss.

Cons

Increased operational burden.

- [DR configuration requirements](#)
When you configure your Disaster Recovery enabled data centers for IQ Bot, ensure the listed conditions are met.
- [Disaster Recovery preparation](#)
Describe the settings and configuration required to ensure recovery in the event of a failed site.
- [Disaster recovery failover steps overview](#)
Overview of failover steps for IQ Bot recovery after a disaster.
- [Re-establish a duplicate DR site](#)
After a secondary (backup) site is recovered as the primary (production) site, establish a new secondary DR site.

DR configuration requirements

When you configure your Disaster Recovery enabled data centers for IQ Bot, ensure the listed conditions are met.

Disaster Recovery configuration requirements

- Asynchronous replication—Configure asynchronous, rather than synchronous replication, between DR sites for all supporting services. This ensures off-site replication does not impact performance of the primary site.
- AD domain—Ensure the same Active Directory domain is available to both the primary and backup sites.
- Site domains—Ensure the backup site Enterprise Control Room and device machines are members of the same domain as the primary site Enterprise Control Room and machines.
- Licenses—Assign floating licenses for users, so that they are able to log into devices on the backup site.
- Backup site services—Shutdown the Enterprise Control Room services at the backup site until they are needed.
- Site configurations—Ensure the machines at the primary site and backup site have the same specification and configuration. This includes the Enterprise Control Room, Bot Runners, associated devices, and login credentials. This is required to ensure equal level of service during an outage.

Note: Schedules are stored in UTC and therefore run at the same time regardless of the physical location or time zone settings of the server.

Database Replication Details

The database replication configuration for disaster recovery is an extension of the high availability configuration. This configuration requires the use of Always On availability groups.

- Configure the primary site replica in Synchronous-Commit mode.
- Configure the recovery site replica in Asynchronous-Commit mode. Asynchronous-Commit mode ensures that the latency and reliability of the inter-datacenter does not impact the performance and availability of the primary site.
- Do not configure the recovery site replica to offer any database services until a recovery failover is triggered.

Failure mode

With asynchronous replication there is the possibility that a transaction that occurs on the primary site does not reach the recovery site replica before the failure occurs.

Note: This possibility of losing the most recent transactions applies to all DR automated application solutions using asynchronous replication, not just Automation Anywhere solution.

Deployment requires strict consistency between distant geographical locations. Synchronous-Commit configured between replicas with significant latency has a detrimental effect on all Enterprise Control Room operations.

To prevent work items being processed twice when a failure occurs, some work items awaiting delivery to a device are placed into an error state. This ensures they can be manually reviewed and marked as ready to be processed or complete as appropriate.

Disaster Recovery preparation

Describe the settings and configuration required to ensure recovery in the event of a failed site.

Prior to installing IQ Bot, prepare your Disaster Recovery sites.

Hardware failure protection

Deploy multiple IQ Bot servers locally on each DR site.

Data corruption protection

Backups

Perform regular on-site full and daily backups of database server, the IQ Bot repository, configuration and task files.

DR sites

Apply the same storage configuration on both the primary and secondary DR sites. Apply replication methods to update the secondary DR site from the primary DR site. Example content describes using the Windows feature, Distributed File System (DFS).

Environmental disaster protection

Geographic separation

Protect against a geographical or environmental disaster, complete regular backups of the secondary DR site.

Primary site

The location where the active cluster resides.

Recovery

In the event of a disaster, some events could stop part way through execution. Retrieve task level log files and other intermediate files to identify the state of any pending processes. Example content describes using SQL Server 2012 AlwaysOn Availability Groups.

The process of shifting the production activities from a failed primary site to the secondary backup site.

This applies to DR sites, where recovery is from one site to another.

Recovery site

The secondary (redundant) site, that is geographically separated from the primary DR site. This secondary site is a passive replication of the primary site. It is designated as the target location in the event of a disaster.

Disaster recovery failover steps overview

Overview of failover steps for IQ Bot recovery after a disaster.

Prerequisites

Complete the disaster recovery deployment on two geographically separated sites, where one site is primary (active) and the other is a backup (passive) site. Disaster recovery is performed on remote backup site.

The procedure is identical regardless of whether switching over from primary to secondary (recovery), or secondary to primary.

If the failed IQ Bot nodes are still available:

Procedure

1. Shut off all IQ Bot services at the primary site.
2. Failover all IQ Bot-related databases using the database tools.
3. Failover your Server Message Block (SMB) share using the appropriate tools to make the recovery site SMB file share writable.
4. Start IQ Bot services at the recovery site.
5. Wait until the IQ Bot web interface is available.
6. Login to the web interface as an administrator.
7. After the recovery site is operating as the primary site, configure a replacement secondary site. Using the database tools, set replication from the recovery primary site to the replacement secondary site.

Re-establish a duplicate DR site

After a secondary (backup) site is recovered as the primary (production) site, establish a new secondary DR site.

Prerequisites

The recovery site is up and running as the new production site.

The process of returning activity to a primary (active) production site, plus secondary (backup) site depends on the state of the original primary site.

Procedure

- If the old production environment becomes available again, complete the following to switch back to the original DR primary site.
 1. Restore/replicate the DR database and file system to the original production database and file system respectively.
 2. Bring up the new DR primary (production) IQ Bot.
 3. Verify new DR primary (production) environment is working, as expected.
 4. Stop the DR IQ Bot services on the DR recovery site.
 5. Establish the replication between the new DR primary (production) and DR secondary (standby) IQ Bot (DB and NAS).
- If the old DR primary production environment is rendered completely unusable due to the disaster, re-establish a new secondary (standby) DR site. Complete the recovery DR steps to re-establish primary and secondary DR sites.
 1. Restore/replicate the database and file system data from DR environment to the new production environment.

Next steps

No additional steps are required. The DR primary and secondary sites are restored.

- The bot Activation utility does not need to be run again. Activation occurs when IQ Bot is first deployed to the DR cluster sites only.
- For any subsequent disasters, only the database query needs to be run on DR secondary (standby) IQ Bot database. This is required because the replication between DR primary (production) and DR secondary (standby) overwrites DR secondary site Bot Runner data in DR secondary site database with DR primary (production) Bot Runner data.
- Similarly, the mapping between DR primary and DR secondary Bot Runner is established. Use the same mapping for all subsequent disasters or mock drills.

Operations

Find out about the important IQ Bot operations supported by IQ Bot.

IQ Bot provides information about the following:

- different logs generated for IQ Bot components and the location of logs,
- enabling tracing in the logs for the various components of IQ Bot,
- status of IQ Bot services using the healthcheck APIs, and
- recommended database maintenance plan.

- [Log files in IQ Bot](#)
Find out the different logs generated for IQ Bot components and the location of logs.
- [Enabling tracing in logs](#)
Log files are generated by the system that store messages from various application and system components. Different logs are generated for IQ Bot components for which you can enable tracing.
- [Monitoring and alerts](#)
Find out the status of the IQ Bot services using the health check APIs.
- [Monitoring services](#)
Find the status of the IQ Bot services using the healthcheck.
- [Database maintenance plan](#)
Find out the details about the recommended database maintenance plan.

Related concepts

[Log files in IQ Bot](#)

[Enabling tracing in logs](#)

[Monitoring services](#)

[Database maintenance plan](#)

Log files in IQ Bot

Find out the different logs generated for IQ Bot components and the location of logs.

IQ Bot components

Component	Log File	Related Feature or Functionality	Location
Installer	<ul style="list-style-type: none"> • IQBotSetupLog.log • MSI****.log 		%temp%
Gateway service	Gateway.log	<p>Provides connectivity to Enterprise Control Room(authorization, roles, permissions, and auditing)</p> <p>Gateway for all inward requests to other micro-services</p>	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Alias service	Alias.log	<p>Serves different domains, language, fields or columns, and their alias related APIs</p> <p>Add, Import, or Export domain</p>	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Application service	Application.log	Serves handshake for App registration, updating on	%public%\Documents

		configuration IN DB and the V2 API's	\Automation Anywhere IQBot Platform\Logs
Classifier service	ClassifierWorker.log	<p>Supports RabbitMQ for incoming classification requests</p> <p>For each request, it spins a Classifier Executor</p> <p>It is not a API service, but only takes operation work through RabbitMQ queue (topic_classification)</p>	%public%\Documents\Automation Anywhere IQBot Platform\Logs\Engine
File Manager service	FileManager.log	Serves different APIs related to files	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Project service	ProjectService.log	<p>Serves different APIs related to project (Learning Instance)</p> <p>IQBA Migration</p>	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Report service	Reports.log	Dashboard and Metrics	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Validator service	Validator.log	Responsible for activities (Visionbot) after a production document is processed	%public%\Documents\Automation Anywhere IQBot Platform\Logs
VisionBotEngine service	VisionBotWorker.log	<p>Supports RabbitMQ for incoming Visionbot related requests</p> <p>For each request, it invokes VisionbotEngine Executor</p>	%public%\Documents\Automation Anywhere IQBot Platform\Logs\Engine
VisionBot Manager	VisionbotService.log	Serves different APIs related to Visionbot	%public%\Documents\Automation

			Anywhere IQBot Platform\Logs
Machine Learning	<ul style="list-style-type: none"> MLTranslationService.log MLWebService.log 	Responsible for validator input and output based supervised learning data	%public%\Documents\Automation Anywhere IQBot Platform\Logs
Web Server (Node.js) Gateway Client	ClientGateway.txt	Front end server that serves as a gateway for all requests to IQBot (e.g. from frontend, visionbot command)	%public%\Documents\Automation Anywhere IQBot Platform\Logs

Other Automation Anywhere applications interacting with IQ Bot

Component	Log File	Related Feature or Functionality	Location
Control Room	<ul style="list-style-type: none"> query-engine-xxxx.log WebCR_xxxx.log aa_cr_elasticsearch_xxxx.log zoomdata_xxxx.log 		%ProgramData%\AutomationAnywhere\Logs
Enterprise Client	ClientServiceLog.log	Provides essential features to record, modify, manage, and run tasks	%public%\Documents\Automation Anywhere Client Files\LogFiles\ServiceLogs

Third party applications interacting with IQ Bot

Component	Log File	Related Feature or Functionality	Location
SQL Server	<ul style="list-style-type: none"> Application Windows 		Start Menu > Event Viewer > Windows Logs
RabbitMQ	rabbit@<hostname>.log	Serves as a message broker	%appdata%\RabbitMQ

See [Set up log file automatic rollover](#).

Related concepts

[Download a document from a learning instance](#)

Enabling tracing in logs

Log files are generated by the system that store messages from various application and system components. Different logs are generated for IQ Bot components for which you can enable tracing.

To enable tracing, open the log configuration file of the component. See [Enabling tracing in logs \(A-People login required\)](#) on steps for enabling tracing.

Monitoring and alerts

Find out the status of the IQ Bot services using the health check APIs.

For more information about the status of the IQ Bot services using the healthcheck APIs, see link in the Related information section.

Related tasks

[Healthcheck API response if RabbitMQ fails to start](#)

Monitoring services

Find the status of the IQ Bot services using the healthcheck.

Performing a Health Check

If needed, use the Healthcheck API to perform a detailed verification on the desired service. The request/response details of the Healthcheck API are as follows:

REQUESTS

The following table lists the API requests sent for performing healthcheck of the different IQ Bot services:

Service Name	URL
Alias	<code>http://<hostname/IP>:9997/healthcheck</code>
Application service	<code>http://<hostname/IP>:9002/healthcheck</code>
Project service	<code>http://<hostname/IP>:9999/healthcheck</code>
FileManager service	<code>http://<hostname/IP>:9996/healthcheck</code>
Visionbot	<code>http://<hostname/IP>:9998/healthcheck</code>
Validator service	<code>http://<hostname/IP>:9995/healthcheck</code>
Report service	<code>http://<hostname/IP>:9992/healthcheck</code>
Gateway service	<code>http://<hostname/IP>:8100/healthcheck</code>
Frontend or Console service	<code>http://<hostname/IP>:3000/healthcheck</code>

Service Name	URL
RabbitMQ	<RabbitMQ installation directory>\sbin \rabbitmqctl.bat status

In the table listing, simply replace <hostname/IP> with the IQ Bot Host name or IP address to create the Healthcheck API request using a web browser on the machine on which IQ Bot is installed.

For example, if your IQ Bot is accessible at <http://localhost:3000>, the FileManager Healthcheck can be accessed using the URL

<http://localhost:9996/healthcheck>

Database maintenance plan

Find out the details about the recommended database maintenance plan.

The following database backup strategy is strongly recommended.

- Weekly: Full database backup
- Every 3 Days: Differential backups
- Daily: Incremental backups every 24 hours
- Hourly: Transaction log backup every hour

Installing IQ Bot

This is the landing page for the collection of topics related to IQ Bot installation. For details on the installation types and methods, see the topics below to install Automation Anywhere IQ Bot.

IQ Bot installation core tasks

Follow the installation task list to install IQ Bot:

Step 1: Pre-installation

Review and verify the requirements and options before installing IQ Bot. This topic provides you important information about the supported operating systems, hardware and software requirements, and the prerequisite steps you have to complete even before you begin the installation process.

[IQ Bot installation prerequisites](#)

Verify the hardware, software, and configuration required to install IQ Bot in your environment. Follow the pre-installation checklist before installing IQ Bot.

Step 2: IQ Bot installation

Install IQ Bot using any of the following installation options:

[Installing IQ Bot in Express mode](#)

Install IQ Bot in Express mode with the default settings.

[IQ Bot Custom installation](#)

Use Custom mode to install IQ Bot with configuration details.

[Installing IQ Bot in Cluster mode](#)

Install IQ Bot in Cluster mode for improved throughput.

[Installing in Cluster mode on machines with IQ Bot preinstalled](#)

If you have IQ Bot already installed on your machine, uninstall IQ Bot, stop [RabbitMQ](#) service, and clean the existing RabbitMQ cookies before installing IQ Bot in Cluster mode.

[Installing IQ Bot in Cluster mode on Amazon EC2](#)

Install IQ Bot in the cluster mode on Amazon Elastic Compute Cloud (Amazon EC2).

Step 3: Post installation

After downloading IQ Bot, register with the Enterprise Control Room and do the various configurations as required. You would also go through the checklist to ensure all services, databases, tables, and configuration settings are in place.

[IQ Bot post installation configuration](#)

After installing IQ Bot complete the configuration settings to ensure registration with Enterprise Control Room, confirm the creation of all required databases, create the appropriate certificates, configure the HTTP and HTTPS settings, generate the authorization token for performing any task, and verify the completion of all tasks in the post-installation checklist.

Step 4: Validation

Create and register IQ Bot specific users in the Enterprise Control Room, and do other validation actions as required.

[IQ Bot post installation validation](#)

After installing IQ Bot and completing the post-installation tasks, validate the installation by creating IQ Bot specific roles, accessing the Validator without a license, accessing the product without a device license, and understanding permissions for role-based access control to the learning instances.

[IQ Bot upgrade and uninstallation](#)

Follow the upgrade and uninstallation steps for IQ Bot to ensure a smooth and seamless process.

- [IQ Bot installation prerequisites](#)

Verify the hardware, software, and configuration required to install IQ Bot in your environment. Follow the pre-installation checklist before installing IQ Bot.

- [Installing IQ Bot in Express mode](#)

Install IQ Bot in Express mode with the default settings.

- [Installing IQ Bot in Custom mode](#)

Use Custom mode to install IQ Bot with configuration details.

- [Installing IQ Bot in Cluster mode](#)

Install IQ Bot in Cluster mode for improved throughput.

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- [IQ Bot upgrade and uninstallation](#)

Follow the upgrade and uninstallation steps for IQ Bot to ensure a smooth and seamless process.

IQ Bot installation prerequisites

Verify the hardware, software, and configuration required to install IQ Bot in your environment. Follow the pre-installation checklist before installing IQ Bot.

Hardware requirements

Important: As a prerequisite step, open ports 4369 and 25672 and add inbound firewall rules to allow traffic to these ports on each target machine. To add nodes to the cluster, sync the RabbitMQ cookies to enable running any RabbitMQ commands . If IQ Bot is already installed on the target machine, clean up and remove the existing cookies.

[IQ Bot hardware and software requirements](#)

Make a note of the following hardware and software requirements before installing IQ Bot.

[IQ Bot version compatibility matrix](#)

Before you install or upgrade, read the compatible versions of IQ Bot with the Enterprise Control Room.

[IQ Bot operating system compatibility](#)

Install IQ Bot as a local profile with administrator permissions. The table provides information about the operating systems that are compatible with the different IQ Bot releases.

[IQ Bot database compatibility matrix](#)

The table provides information about the databases that are compatible with the different IQ Bot releases.

Prerequisite

[IQ Bot prerequisite steps](#)

Complete the steps before you begin installing IQ Bot.

[IQ Bot service configuration](#)

In some IQ Bot deployments, the service account can be different from the login account. As an administrator, provide the service credentials during installation.

[IQ Bot Windows services](#)

IQ Bot Windows services are automatically installed when running the installation and setup.

[RabbitMQ and Erlang/OTP upgrade](#)

The IQ Bot Version 11.3.x installation package includes the latest versions of RabbitMQ version 3.7.17 and Erlang/OTP version 22.0.

[Installation limitations](#)

Learn about the installation limitations before installing IQ Bot.

[Prerequisites for installing in Cluster mode](#)

Complete the prerequisites to set up [IQ Bot](#) in cluster mode.

[Prerequisites for installing IQ Bot in Express mode](#)

Complete the prerequisites to set up [IQ Bot](#) in express mode.

- [IQ Bot prerequisite steps](#)
Complete the steps before you begin installing IQ Bot.
- [IQ Bot service configuration](#)
In some IQ Bot deployments, the service account can be different from the login account. As an administrator, provide the service credentials during installation.
- [IQ Bot Windows services](#)
IQ Bot Windows services are automatically installed when running the installation and setup.
- [RabbitMQ and Erlang/OTP upgrade](#)
The IQ Bot Version 11.3.x installation package includes the latest versions of RabbitMQ version 3.7.17 and Erlang/OTP version 22.0.
- [Installation limitations](#)
Learn about the installation limitations before installing IQ Bot.
- [Prerequisites for installing in Cluster mode](#)
Complete the prerequisites to set up [IQ Bot](#) in cluster mode.
- [Prerequisites for installing IQ Bot in Express mode](#)
Complete the prerequisites to set up [IQ Bot](#) in express mode.

Related tasks

[Installing IQ Bot in Express mode](#)

[Installing IQ Bot in Custom mode](#)

[Installing in Cluster mode on machines with IQ Bot preinstalled](#)

[Installing IQ Bot in Cluster mode on Amazon EC2](#)

[IQ Bot prerequisite steps](#)

Complete the steps before you begin installing IQ Bot.

Procedure

1. User needs to have SYSADMIN or following privileges for SQL database account as this is used during installation to create database and run the BULK INSERT statement.

6.5.2 IQ Bot 6.5.2 onwards, the SYSADMIN role is not a mandatory requirement by the installer. Instead, it verifies if the user has the following privileges:

- SQL connection (CONNECT SQL)
- Database creation (CREATE ANY DATABASE)
- View any database (VIEW ANY DATABASE)

Note: Installation with Microsoft Azure SQL requires the dbmanager role.

Note: Installation with AWS RDS requires a role with the above three privileges. These privileges are already assigned to the db_owner role in RDS.

Grant permissions for a specific database user and see the permissions for that role using the following TSQL query:

```
SELECT * FROM fn_my_permissions(NULL, 'SERVER').
```

2. First enable HTTPS, to configure IQ Bot with HTTPS. Keep the following HTTPS certificate files ready for use:
 - Enterprise Control Room certificate in .crt format (Certificate Authority list bundle).
 - Enterprise Control Room certificate in .crt format (Server side public certificate).
 - IQ Bot server certificate in .pfx and .crt format.

Attention: Install the .crt certificates for Enterprise Control Room manually to their appropriate certificate stores.

Note: See [Configuring IQ Bot with HTTP and HTTPS](#) for more information.

3. Keep the following ports open because they are used by IQ Bot services:
See [Ports and services](#).

- Application access port (configurable): 3000
- Database access port (configurable): 1433
- Internal application services ports (fixed): 8100, 9002, 9991, 9992, 9995, 9996, 9997, 9998, 9999
- Ignite cache ports to communicate with Control Room from backend: 47500 through 47600 and 47100 through 47200
- RabbitMQ
 - **6.5** Port: 5672
 - **11.3.3** Port: 5673

0. IQ Bot Version 6.5 ships with a portable version of Java 1.8.
1. When upgrading from IQ Bot Version 5.3.1.x, if you have learning instances that rely on the 5.3.1.x check box or linked table functionality, clear the validation queue before upgrading to IQ Bot Version 6.5.x and above.
2. If your SQL Server version is older than SQL Server Native Client 2012, a dialog box appears, giving you the option to upgrade. Open services.msc and stop the SQL Server (MSSQLSERVER) to do the upgrade. Then continue with the installation process.
3. During the upgrade process, the installer will detect existing learning instances from a previous version of IQ Bot. To retain the original classifier for those learning instances, select that earlier version of IQ Bot from the drop-down list. This ensures consistency in the behavior of the learning instances with that earlier version.
4. IQ Bot installer is case sensitive about the user account created for SQL Server or Windows.
Attention: Use the username as it appears on the Microsoft SQL Server Management Studio under Security > Logins. If it was created in upper case, then use upper case for the username to launch the installer. Additionally, verify if the collation database property is set to case sensitive.

- [Windows unrecognized application message](#)

The system might display a Windows Defender SmartScreen message about unrecognized applications at the start of the installation process. The Administrator can either choose to continue with the installation (by selecting Run anyway) or perform specific steps before installation to prevent the message from appearing.

Windows unrecognized application message

The system might display a Windows Defender SmartScreen message about unrecognized applications at the start of the installation process. The Administrator can either choose to continue with the installation (by selecting Run anyway) or perform specific steps before installation to prevent the message from appearing.

Procedure

1. Click the Windows key to display the Start menu.
2. Enter `gpedit.msc`, and select the result (which can be Group Policy Editor or `gpedit.msc`).
3. Navigate to Computer Configuration > Administrative Templates > Windows Components > File Explorer.
4. Double-click the policy Configure Windows Defender SmartScreen and set it to Disable.
5. Click OK to save the change.

IQ Bot service configuration

In some IQ Bot deployments, the service account can be different from the login account. As an administrator, provide the service credentials during installation.

IQ Bot Installer supports service credentials during Microsoft Windows or SQL server authentication. When installing Services for IQ Bot, in the service installation window, the Local System Account check box is selected by default. You can deselect this and provide a username and password.

Note:

- Use Windows authentication with a valid system administration user in service configuration.
- Use Windows authentication with a local system for a system administration user.
- When using a remote SQL server to create a database, the combination of local system account for service credentials and Windows authentication for SQL connection is not supported.
- The service account used for IQ Bot services must have full rights to the IQ Bot installation folder.

If you do not select the Local System Account checkbox, provide your user credentials to run the IQ Bot Services.

Note:

- A valid system administrator user requires Windows authentication with the Services user credentials.
- When entering user credentials, ensure the credentials are associated with a domain. For example: example.com/testuser. User is unable to use this function without the domain.

See [Installing IQ Bot in Custom mode](#) to view the use of service credentials in IQ Bot.

IQ Bot Windows services

IQ Bot Windows services are automatically installed when running the installation and setup.

Make sure that the following Windows services are set when installing IQ Bot.

Service name	Description
Automation Anywhere Cognitive Alias	IQ Bot service that manages domains, domain dictionary, aliases, and languages supported in the system.
Automation Anywhere Cognitive Application	IQ Bot service that provides support for all Enterprise Control Room integration points and information about IQ Bot application configuration.
Automation Anywhere Cognitive Classifier	IQ Bot service that provides support to classify documents in a learning instance, into different groups.
Automation Anywhere Cognitive Console	IQ Bot user interface.
Automation Anywhere Cognitive File Manager	IQ Bot service that manages documents in the file management system.
Automation Anywhere Cognitive Gateway-2	IQ Bot Gateway for all the IQ Bot backend services, handling authorization and validation of request/response of APIs.
Automation Anywhere Cognitive MLScheduler Service	IQ Bot service scheduler for ML Web Service.
Automation Anywhere Cognitive MLWeb Service	IQ Bot service that prepares models based on user validation.
Automation Anywhere Cognitive Projects	IQ Bot service managing learning instances.
Automation Anywhere Cognitive Report	IQ Bot dashboard.
Automation Anywhere Cognitive Validator	IQ Bot service to manage documents that go for validation.
Automation Anywhere Cognitive Visionbot Manager	IQ Bot service to manage vision bots in the system.
Automation Anywhere Cognitive VisionbotEngine Service	IQ Bot service to process document based on different inputs provided.

Note: All the services can be configured either in Local System or Domain account when IQ Bot is installed in Custom mode. For IQ Bot installed in Express mode, all the services are run in Local System account.

RabbitMQ and Erlang/OTP upgrade

The IQ Bot Version 11.3.x installation package includes the latest versions of RabbitMQ version 3.7.17 and Erlang/OTP version 22.0.

The following information explains different scenarios for upgrading RabbitMQ/Erlang/OTP:

- Fresh installation of IQ Bot Version 11.3.x:

For a fresh installation, you do not have to perform any additional steps, as RabbitMQ version 3.7.17/ Erlang/OTP version 22.0 are included in the IQ Bot Version 11.3.x installation package. These get installed automatically on the machine during the installation process.

- Upgrade from previous version of IQ Bot to Version 11.3.x:

Uninstall the earlier version of RabbitMQ / Erlang/OTP.

- An earlier version of RabbitMQ/Erlang/OTP exists on the machine and the user wants to upgrade to the latest versions:

You need to manually remove any older versions from the system using a batch utility file provided by Automation Anywhere. Contact the Automation Anywhere Support team to get the utility. You can then proceed with installing IQ Bot Version 11.3.x.

- [Uninstall previous version of RabbitMQ / Erlang/OTP](#)

When upgrading to IQ Bot Version 11.3.x, you need to uninstall the previous version of RabbitMQ / Erlang/OTP.

Related tasks

[Uninstall previous version of RabbitMQ / Erlang/OTP](#)

[Healthcheck API response if RabbitMQ fails to start](#)

Uninstall previous version of RabbitMQ / Erlang/OTP

When upgrading to IQ Bot Version 11.3.x, you need to uninstall the previous version of RabbitMQ / Erlang/OTP.

Except for a fresh installation of IQ Bot Version 11.3.x, all upgrades to Version 11.3.x require you to uninstall older RabbitMQ Erlang/OTP instances.

Follow these steps to uninstall RabbitMQ or Erlang/OTP:

Procedure

1. Uninstall existing RabbitMQ and Erlang/OTP from the Control Panel.
2. Run the Cleanup_Components.bat file as an administrator.
3. Restart your machine.
4. After running the scripts, verify that RabbitMQ and Erlang/OTP are removed completely. If not, uninstall them manually to delete any remaining files from the program files folder, and then repeat Step 3.

Related concepts

[RabbitMQ and Erlang/OTP upgrade](#)

Related tasks

[Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x](#)

Installation limitations

Learn about the installation limitations before installing IQ Bot.

Database encryption limitations

Installation time increases when encryption of the SQL database backup file is in progress, and also when the database backup file size increases.

The encryption process of the SQL database might result in the creation of large transaction logs. Allocate at least 3 to 4 more disk space than the database backup file size.

IQ Bot has been tested for basic compatibility with Microsoft Azure SQL PaaS. However, the functionality for the following scenarios was not fully verified for the Version 6.5 release:

- IQ Bot services configured in the Active Directory
- IQ Bot Portal secured with HTTPS
- IQ Bot operating in a Cluster mode
- Using Microsoft Windows authentication to connect to the database
- Microsoft Windows authentication with the local system works only if the NT Authority/System user has system administration permissions.
- The combination of Local System Account for service credentials and Microsoft Windows authentication for the SQL connection is not supported if you are using the remote SQL server to create databases.

Prerequisites for installing IQ Bot in Cluster mode

Complete the prerequisites to set up IQ Bot in cluster mode.

To set up a cluster, do the following:

Procedure

1. Run the installer on each application server node.
2. Share the output folder with the access role Everyone.
3. Run the messagequeue_cluster_configuration.bat post-installation with appropriate command line arguments provided in the [RabbitMQCluster Configuration guide](#).
4. Set up [Control Room](#) in High Availability mode when you set up IQ Bot in the High Availability mode as well.
5. Install RabbitMQ with cluster configuration in a multi-node setup.
6. Configure the firewall to have ports 4369 and 25672 open.
The first node where IQ Bot is installed becomes the primary RabbitMQ node. The host name of the primary node is used to set up the RabbitMQ cluster configuration.
7. Ensure you have a load balancer for a cluster setup to distribute traffic to all application server nodes.
8. Configure the SQL server in the High Availability setup.
9. Ensure the SQL server is set up in always on mode.

Related tasks

[Installing IQ Bot in Cluster mode](#)

Prerequisites for installing IQ Bot in Express mode

Complete the prerequisites to set up IQ Bot in express mode.

Complete the following steps before you begin installing IQ Bot in express mode.

Procedure

1. Preinstall the Automation Anywhere Enterprise Control Room Version 11.3.1 base plus either Version 11.3.1.1 or Version 11.3.1.2 patch on the target machine in express mode. This is required for communicating with the Enterprise Control Room using default settings.
2. Ensure that SQL Server Browser service is up and running before installing IQ Bot in express mode.
3. Start the SQL Server Browser service in any one of the following ways:

Option 1	a) Launch the SQL Server Configuration Manager. b) Go to SQL Server Services. c) Start the SQL Server Browser services.
Option 2	a) Launch the Task Manager. b) Go to the Services tab. c) Start the SQLBrowser services.

4. Use the `Automation_Anywhere_IQ_BOT_<version_number>.exe` file to install IQ Bot.
5. The setup wizard guides you through the installation process. During installation, any software dependencies or missing prerequisites are installed.
 Note: When a file is uploaded to a fresh IQ Bot instance, the database administrator is unable to extract any information about that file from the database as the data is encrypted.

6. Enable SQL authentication.

Enable the TCP protocol on the SQL server and listen to the local host at port 1433.

7. Set the SQL server instance name to AACRSQLEXPRESS.

8. Create a user with sysadmin permissions for username

aaadmin

, and password

aabots@123

9. **6.5** If you install IQ Bot Version 6.5, with the Enterprise Control Room, ensure you update the `cluster.properties` file and set `ignite.security.disable=true` and `ignite.tls.disable=true`. If you install IQ Bot Version 6.5.2, ensure you update the `cluster.properties` file and set `ignite.tls.disable=true`.

a) Locate the file in your Enterprise Control Room directory (for example, `C:\Program Files\Automation Anywhere\Enterprise\config\`). If the file does not exist in your Enterprise Control Room directory, then create it using a text editor:

a) Create a file with the filename, `cluster.properties`.

Note: Ensure all file extensions are shown and your editor is opened with Administrator rights.

b) For IQ Bot Version 6.5, add `ignite.security.disable=true` and

`ignite.tls.disable=true`.

c) For IQ Bot Version 6.5.2, add `ignite.tls.disable=true`.

b) Save the `cluster.properties` file.

c) Restart the following services:

- d) Automation Anywhere Control Room Service
- e) Automation Anywhere Control Room Caching
- f) Automation Anywhere Control Room Messaging

Next steps

See [Installing IQ Bot in Express mode](#) for steps to install in Express mode.

Installing IQ Bot in Express mode

Install IQ Bot in Express mode with the default settings.

Prerequisites

Complete the prerequisites: [Prerequisites for installing IQ Bot in Express mode](#)

Procedure

1. Double-click the Automation_Anywhere_IQ_BOT_<version_number>.exe file.
2. In the IQ Bot Setup Wizard, click Yes, and then click Next.
Note: The Enterprise Control Room installation does not have to be in Express mode to install IQ Bot Version 6.5 in Express mode.
3. In the Prerequisites page, review the prerequisites and click Next.
4. In the License Agreement page, review the license agreement, accept the terms, and click Next.
IQ Bot runs a pre-installation check.

The pre-installation screen appears, displaying the applications that do not have the required version and necessary ports along with the services occupying those ports.

5. If the pre-installation check is not successful, uninstall the mentioned software and free the required ports.
 - a) Click Retry.
 - b) When the pre-installation check is successful, click Next.

The Installation Type page appears with Express and Custom options.

Note: Express installation installs HTTP-based IQ Bot without Active Directory support.

6. Select Express and click Next.
7. After you click Next, the `unable to proceed with installation` message might appear if one of the following conditions is not met.
 - a) If Enterprise Control Room Version 11.3.1 base plus either Version 11.3.1.1 or Version 11.3.1.2 patch are not pre-installed on the target machine in Express mode.
 - b) If the installer is unable to communicate with the Enterprise Control Room or SQL Express.

If the error message appears, perform these steps:

- a) Click Back to review or change the installation settings. Alternatively, exit the Setup Wizard and click Cancel.
- b) In the confirmation dialog box, click Yes to exit the Setup Wizard.

This rolls back all the changes.

- c) Click No to resume.
8. In the Ready to install the program page, click Install.
The express installation begins and the system shows the Finished page after a few minutes to indicate a successful installation.
9. For the Enterprise Control Room, set the cluster.properties file as required based on the release version.
For more information about the associated cluster.properties file for each release version, see [IQ Bot version compatibility matrix](#).

IQ Bot is installed with the following default settings:

- Security Type: None (HTTP)
- Web configuration: <web url:port>

- Database configuration: <database url:port> (user: aaadmin ; Authentication: SQL)
- Database password: aabots@123
- Host Gateway: <gateway:port> (SSL Offloading: No)
- Output Path: C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Output
- Logging Path: C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Logs
- Installation Path for IQ Bot Version 11.3.5: C:\Program Files (x86)\Automation Anywhere IQ Bot
- Installation path for IQ Bot A2019: C:\Program Files (x86)\Automation Anywhere IQ Bot A2019

Next steps

[Registering IQ Bot with the Enterprise Control Room](#)

Register IQ Bot with Automation Anywhere Enterprise Control Room.

Related tasks

[Installing IQ Bot in Custom mode](#)

[Installing IQ Bot in Cluster mode](#)

[Installing IQ Bot in Cluster mode on Amazon EC2](#)

Installing IQ Bot in Custom mode

Use Custom mode to install IQ Bot with configuration details.

Procedure

1. Run the Automation_Anywhere_IQ_BOT_<version_number>.exe installation file as an administrator.
2. For all installations for IQ Bot Version 6.5 and later, Microsoft SQL Server 2012 Native Client - QFE is installed automatically.
For first-time installations, a server restart might be required after the installation. Restart the IQ Bot installation process if required.
3. In the Automation Anywhere IQ Bot setup wizard, click Next.
 - a) Click Next in the Prerequisites window.
4. Read the license agreement, accept the terms, and click Next.
IQ Bot runs a pre-installation verification.

The pre-installation screen appears, displaying the applications that do not have the required version and necessary ports along with the services occupying those ports.

5. If the pre-installation verification is not successful, uninstall the mentioned software and free the required ports.
 - a) Click Retry.
 - b) When the pre-installation verification is successful, click Next.

The Installation Type page appears with Express and Custom options.
Note: Express installation installs HTTP-based IQ Bot without Active Directory support.
6. Select the Custom option and click Next.
7. On the Database Configuration window, add these details:
 - a) Hostname or IP: Enter the hostname or IP address.
Note: An underscore is not accepted in a hostname.
 - b) Port: Enter the port number.

Note: If a Microsoft Windows SQL Server Express database is installed locally on the target machine, the hostname is auto-populated as localhost, and port as 1433.

8. Enter the following database server details on the Database Configuration window, and click Next.

Option	Description
Option 1	Provide your Microsoft Windows SQL Server user credentials to log in to the database server.
Option 2	If you select the Use Windows Authentication check box, you do not need to provide the Microsoft Windows credentials to log in to the database server because the installer detects them automatically.

The Unable to connect to the SQL server with given configuration error message appears if the following scenarios occur:

- Incorrect server name/IP address, and port number
- Incorrect database server credentials
- Insufficient user privileges to connect to the database

Notes:

- When installing IQ Bot, configure the credentials of a newly hosted database on Microsoft Azure SQL PaaS. This can take up to 300 seconds to verify the credentials and move to the next screen. However, if the on-premise database for IQ Bot is already migrated to Microsoft Azure SQL PaaS before the installation, there is no delay during the database configuration.
 - IQ Bot does not support retry logic for Microsoft Azure SQL PaaS. Avoid operating IQ Bot during planned maintenance events in the Microsoft Azure SQL database.
 - When IQ Bot and the database instance already exist, and IQ Bot is installed again, and IQ Bot takes the default database instance during installation.
 - Windows authentication with the local system works only if the NT Authority\System user has system administrator permissions.
 - The combination of the Local System account for Service credentials and the Microsoft Windows authentication for SQL connection is not supported if you use the remote SQL server to create databases.
9. In the Services Configuration window, select the Local system account check box and click Next.
- Select the Local system account check box to run the services on your local system account.
 - If you do not select the Local system account check box, provide your user credentials to run the IQ Bot services.
 - A valid system administrator user requires Windows authentication with the Services user credentials.
 - When entering user credentials, ensure the credentials are associated with a domain. For example: `example.com/testuser`. The user cannot avail this function without the domain.
10. Enter the following details in the IQ Bot Portal Configuration window and click Next.

Portal security
Select the security type: HTTPS or HTTP.
If you select HTTPS, verify that you can browse and then select a valid PFX certificate file from the Certificate Path field.
Configuring IQ Bot with HTTP and HTTPS
If you select HTTP then go to the next step.

Portal security
Enter a valid certificate passphrase from the Certificate Passphrase field.

Portal configuration	
Hostname or IP	Enter the hostname or IP address of IQ Bot or use the auto-populated default, which is the fully qualified domain name (FQDN) of the machine on which you are installing IQ Bot. Note: This is auto-populated by default with the FQDN of the machine on which you are installing IQ Bot.
Port	Enter the port number or use the auto-populated default, 3000.

11. In the Load Balancer Configuration window, do the following:

- a) Select the Use same as IQ Bot Portal check box to use the same hostname and port number for the load balancer as specified previously in the IQ Bot Portal Configuration window. This check box is selected by default. Keep this check box selected if any of the following conditions exist:
 - b) You are installing the IQ Bot on a single machine
 - c) You plan to keep the load balancer configuration the same as the IQ Bot page
- d) If the configuration values for the load balancer are different from the IQ Bot page, clear the Use same as IQ Bot Portal check box and enter the following:
 - e) Load Balancer Hostname: Enter the hostname or IP address.
 - f) Load Balancer Port: Enter the port number.

g) Select the Load Balancer can handle SSL Offloading check box if required, and click Next.

Note: When configuring the load balancer, if you set the security mode to HTTPS in the IQ Bot Portal Configuration window, the SSL offloading is disabled by default. To enable SSL offloading for the load balancer, select HTTP in the IQ Bot Portal Configuration window.

These are some additional load balancer customization options:

- h) When you install IQ Bot on AWS, to access the IQ Bot server from an external location, replace the Host Gateway name with the Public DNS .
 - i) During re-installation, the hostname of the load balancer and port are automatically detected by the installer based on the previous installation details stored in the Enterprise Control Room. Change them as required because this is useful when you install multiple instances of IQ Bot for scalability (because you are not required to remember the details for each instance).
 - j) When using an HTTPS certificate in the load balancer with an alias name, which is different from the hostname of the machine (FQDN), enter the alias name as the hostname.
 - k) The installer takes the value from the IQ Bot Portal Configuration window, (from the previous page), but shows the previously retrieved values in the disabled text boxes from the Enterprise Control Room.
12. In the Destination Folder window, make the required changes to the destination folders and click Next.
- Installation Path: Select a different installation path if required.

The default installation path is: C:\Program Files(x86)\Automation Anywhere IQ Bot <version number>\

- Output Path: Select the output path where the output is stored. The output path can also be a shared network path. During re-installation, the Output Path is automatically detected by the installer (based on the previous installation details stored in IQ Bot's Configuration database). Change the details if required.

The default output path is: C:\Users\Public\Documents\Automation Anywhere IQ Bot Platform\Output

13. In the Ready to Install the Program window, verify and review your installation settings and click Install to start the installation.
 - On first installation, during the installation process, a Microsoft Windows Security alert can prompt you to allow the installer to install Erlang. If prompted, click Allow access.
 - Sometimes, the Windows Security Alert window is not visible (it can be hidden behind other active windows). Use the Alt plus tab key combination, and verify that the Windows Security Alert window is not hidden behind other visible windows.
14. Click Allow access to complete the installation, and in the Installation Successful window, click Finish. An IQ Bot icon is created on the desktop.

If you encounter an error in launching IQ Bot, you might have to restart the Automation Anywhere Control Room Reverse Proxy and the Automation Anywhere Cognitive Console services.

15. For the Enterprise Control Room, set the cluster.properties file as required based on the release version.. For more information about the associated cluster.properties file for each release version, see [IQ Bot version compatibility matrix](#).

Next steps

Registering IQ Bot with the Enterprise Control Room

Register IQ Bot with the Enterprise Control Room.

- [IQ Bot Custom installation](#)
Install IQ Bot in Custom mode to configure and install specific requirements, for example, connection to an SQL database, load balancer details, and output folder definitions.

Related tasks

[Post-installation checklist](#)

[Configuring IQ Bot with HTTP and HTTPS](#)

[Reinstalling HTTPS SSL certificate for secure communication when it expires](#)

[Creating a self-signed certificate with Subject Alternative Name](#)

[Installing IQ Bot in Cluster mode](#)

Related reference

[IQ Bot version compatibility matrix](#)

IQ Bot Custom installation

Install IQ Bot in Custom mode to configure and install specific requirements, for example, connection to an SQL database, load balancer details, and output folder definitions.

If you have not done so already, first review [IQ Bot Architecture Guide](#) and [IQ Bot installation prerequisites](#) and ensure you have the following available on Windows Server 2016 Standard / Data Center or 2012 R2 Standard / Data Center:

- Google Chrome browser
- Microsoft SQL Server Express 2014 SP1
- Microsoft SQL Server Management Studio (SSMS)
- Automation Anywhere Enterprise Control Room
- Automation Anywhere Enterprise client
- IQ Bot installation file
- SSL certificate

- License file for IQ Bot

The Custom mode installation enables users to set up IQ Bot with the following process:

Step 1: Create a role

See [Create a role](#) for information on creating a role.

Step 2: [User roles and permissions](#)

Find out about the roles and associated permissions required for each IQ Bot user to know the role you need access to. Your permission to access specific areas in IQ Bot are defined and depend on your user role.

Step 3: [Installing IQ Bot in Custom mode](#)

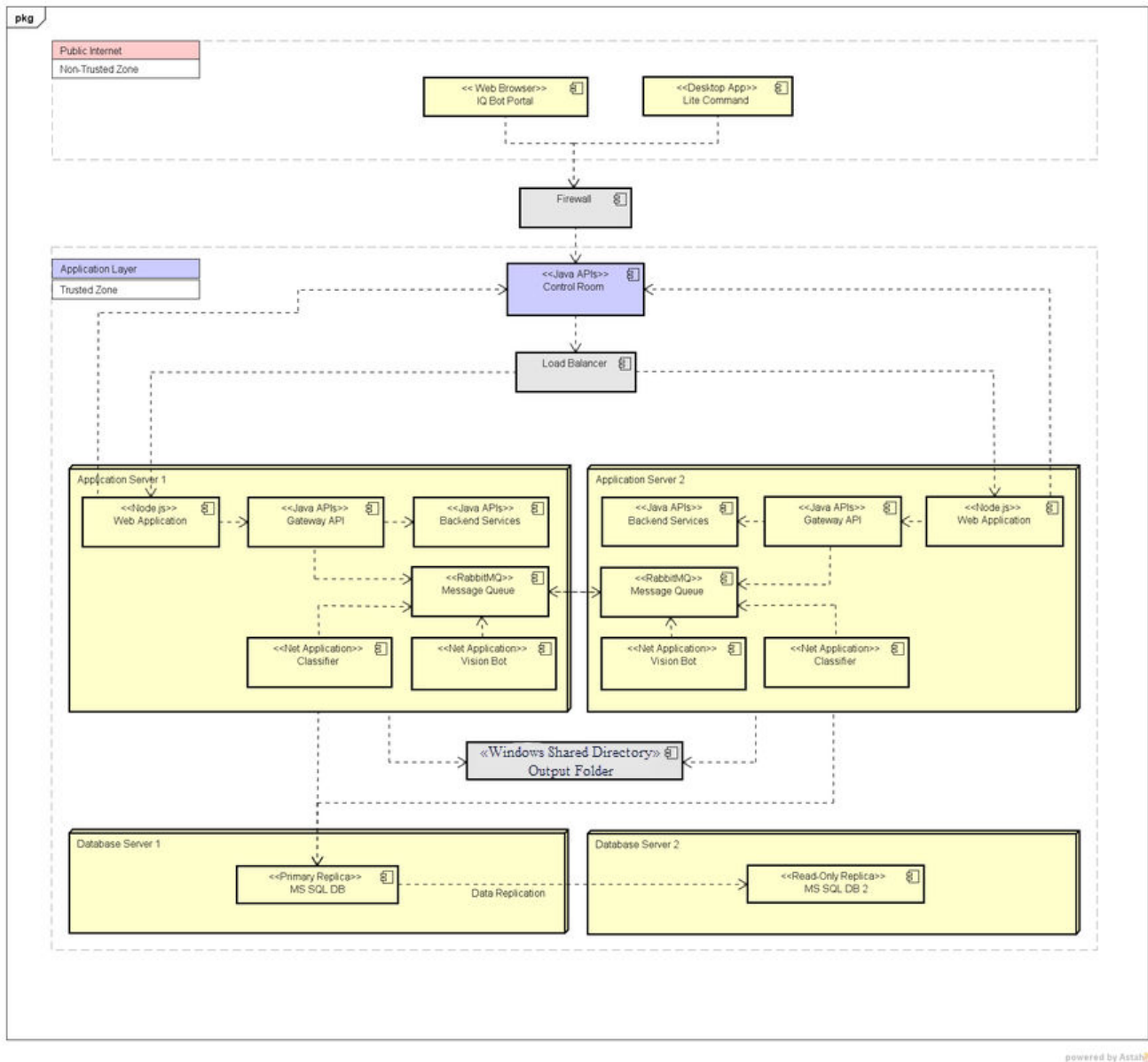
IQ Bot scales horizontally in Custom mode to support improved throughput.

Step 4: [Registering IQ Bot with the Enterprise Control Room](#)

IQ Bot can be accessed after registering it with Enterprise Control Room

Installing IQ Bot in Cluster mode

Install IQ Bot in Cluster mode for improved throughput.



IQ Bot supports clustering of up to five IQ Bot installations.

Procedure

1. Install IQ Bot on the target machines in the custom mode. During installation, on the Load Balancer Configuration screen, type in the load balancer host name and port.
2. Select the Load Balancer can handle SSL Offloading option, if the load balancer supports is to enable SSL offloading.
3. Provide the shared output path on the Destination Folder screen.
4. During installation, use the same database server details on all the nodes.

Next steps

After completing the installation, do the following for each node to complete the process:

1. Get the host name of the primary node.
Note: The primary node is the node where IQ Bot was first installed.
2. Using administrator permissions, open the command prompt.
3. Navigate to the <installation Directory>\Configurations> folder.
4. Run messagequeue_cluster_configuration.bat and pass the host name of the primary node:

```
C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations>
messagequeue_cluster_configuration.bat Server1
```

- [Make a Shared Folder Accessible](#)

Related tasks

[Make a Shared Folder Accessible](#)

[Installing IQ Bot in Cluster mode on Amazon EC2](#)

Make a Shared Folder Accessible

Follow the steps to make your shared folder accessible to IQ Bot.

Procedure

1. Change log on of the application services with .\Administrator account on all cluster nodes.
2. On primary (shared folder) node, change following settings:
 - a) Click Control Panel > Network and Internet > Network and Sharing Center > Advanced Sharing Setting
 - b) Expand Private and click Network Discovery.
 - c) In Network Discovery:
 - a) Select Turn on Network Discovery.
 - b) Check the Turn on automatic setup of network connected devices checkbox.
 - c) Click File and Printer Sharing and then select the Turn on file and printer sharing checkbox.
 - d) Expand Guest or Public and click Network Discovery.
 - e) In Network Discovery:
 - a) Select Turn on Network Discovery.
 - b) Click File and Printer Sharing and then select the Turn on file and printer sharing checkbox.

Open "Local Group Policy Editor". Go to Local Computer Policy >> Windows Settings >> Security Settings >> Local Policies >> Security Options. Find "Network access : Sharing and security model for local accounts". Change it to "Guest only - local users authenticate as Guest".

- f) Click Local Group Policy Editor.
- g) Click Local Computer Policy > Windows Settings > Security Settings > Local Policies > Security Options.
- h) Find Network access : Sharing and security model for local accounts and change it to Guest only - local

users authenticate as Guest

i) Execute this Powershell script:

```
Set-ItemProperty -Path "HKLM:\SYSTEM\CurrentControlSet\Services
\LanmanWorkstation\Parameters" -Name "AllowInsecureGuestAuth" -Type DWord
-Value 1
```

You need to execute this Powershell script on every machine which is a part of the cluster.

Installing IQ Bot in Cluster mode on machines with IQ Bot preinstalled

If you have IQ Bot already installed on your machine, uninstall IQ Bot, stop [RabbitMQ](#) service, and clean the existing RabbitMQ cookies before installing IQ Bot in Cluster mode.

Prerequisites

- Open ports 4369 and 25672 and add inbound firewall rules to allow traffic to these ports on each target machine.
- To add nodes to the cluster, sync the RabbitMQ cookies to enable running any RabbitMQ commands . If IQ Bot is already installed on the target machine, clean up and remove the existing cookies.

Follow the clean up procedure before setting up a cluster:

Procedure

1. Uninstall IQ Bot from Program and Features.
2. Stop the RabbitMQ service, by running the command:

```
net stop RabbitMQ /yes
```
3. Uninstall RabbitMQ from %Programfiles%\RabbitMQ Server\uninstall.
4. Stop the epmd.exe and its descendants by running this command:

```
Taskkill /IM epmd.exe /F
```
5. Stop erl.exe and erlsrv.exe and its descendants by running the following commands:
 - a)

```
Taskkill /IM erl.exe /F
```
 - b)

```
Taskkill /IM erlsrv.exe /F
```
6. Uninstall Erlang from %Programfiles%\erl8.2\Uninstall.
7. Remove the following folders if they were not removed from the uninstall:
 - a) %Programfiles%\Rabbit MQ Server
 - b) %Programfiles%\erl8.2
8. Remove the following folders: %appdata%\RabbitMQ, %WINDIR%\erlang.cookie, %USERPROFILE%\erlang.cookie.

Next steps

Do the following after completing the installation steps:

- The load balancer details for the following are available:
 - name of the load balancer
 - port
 - type of security used (For example, HTTP or HTTPS)
 - Share a folder for configuring the output path.
- Note: The user installing IQ Bot requires appropriate access permissions.

Installing IQ Bot in Cluster mode on Amazon EC2

Install IQ Bot in the cluster mode on Amazon Elastic Compute Cloud (Amazon EC2).

If you install IQ Bot in Cluster mode on Amazon EC2, make a note of the following.

- The name for the Amazon EC2 RabbitMQcluster is in this format: `rabbit@ip-XXX-XXX-XX-XX`.
- Connecting to a node works if both the nodes are in the same local network, but if you connect to a cluster outside the local Amazon EC2 network, configure the host file of node 2.
- Add an entry in the host file where `AA.AA.AAA.AAA` is the public IP of node 1.

```
AA.AA.AAA.AAA
ip-XXX-XX-XX-XX
```

If all the IQ Bot instances in a cluster are not a part of the same domain, ensure that the following services are running using the Administrator user login on each instance.

- Automation Anywhere Cognitive Projects
- Automation Anywhere Cognitive Validator
- Automation Anywhere Cognitive File Manager

To run a service using the Administrator user login, do the following procedure.

1. Click Task Manager > Services > Open Services.
2. Right-click the target service, for example, Automation Anywhere Cognitive Projects, and click Properties.
3. In the Properties dialog box, select This account and enter the credentials for the administrator user.
4. Click OK and restart this service. Repeat these steps for the remaining services on this instance and all the other IQ Bot instances in the cluster.

Related tasks

[Installing IQ Bot in Cluster mode](#)

IQ Bot post installation configuration

After installing IQ Bot complete the configuration settings to ensure registration with Enterprise Control Room, confirm the creation of all required databases, create the appropriate certificates, configure the HTTP and HTTPS settings, generate the authorization token for performing any task, and verify the completion of all tasks in the post-installation checklist.

Enterprise Control Room installation

Review the installation core tasks and topics for installing Enterprise Control Room in a data center on an on-premise server or a cloud service provider server instance.

- [Registering IQ Bot with the Enterprise Control Room](#)
IQ Bot is integrated with Enterprise Control Room for user management. Installation of the Enterprise Control Room and Enterprise client is not a prerequisite for installing IQ Bot. However, you are required to log in to the Enterprise Control Room and register before using IQ Bot.
- [Install Microsoft Azure Computer Vision OCR engine](#)
IQ Bot Version 6.5.2 installation automates some installation steps for Microsoft Azure Computer Vision OCR engine.
- [Install ABBYY FineReader Engine OCR engine in IQ Bot](#)
IQ Bot installation now automates the installation of ABBYY FineReader Engine (FRE) optical character recognition (OCR) plug-in.
- [Install Google Vision API OCR engine](#)
Use the beta version of Google Vision API OCR engine with IQ Bot Version 11.3.4 and patches, to improve the accuracy of the optical character recognition (OCR) results for training documents in Asian languages, particularly in Japanese and Korean. Google Vision API (GA) OCR engine in IQ Bot Version 11.3.5 supports all languages supported by the engine.
- [Install \(beta\) Tegaki API OCR engine](#)
Use the beta version of the Tegaki API OCR engine with IQ Bot to improve the accuracy of the optical character recognition (OCR) results for training documents in Asian languages, particularly in Japanese and Korean. Tegaki API files are installed on your machine automatically during installation of IQ Bot.
- [Databases created during IQ Bot installation](#)
Learn which databases and tables are created after installing IQ Bot.
- [Creating a self-signed certificate with Subject Alternative Name](#)
Create a self-signed certificate with Subject Alternative Name (SAN) when you want to use an SSL certificate for multiple domains.
- [Configuring IQ Bot with HTTP and HTTPS](#)
This section describes single and multiple domain scenarios when installing IQ Bot and Enterprise Control Room with various server certificates.
- [Post-installation checklist](#)
Verify if IQ Bot is installed, and ensure the IQ Bot services are running using the healthcheck APIs.

Related tasks

[Registering IQ Bot with the Enterprise Control Room](#)
[Install Microsoft Azure Computer Vision OCR engine](#)
[Install ABBYY FineReader Engine OCR engine in IQ Bot](#)
[Databases created during IQ Bot installation](#)
[Creating a self-signed certificate with Subject Alternative Name](#)
[Configuring IQ Bot with HTTP and HTTPS](#)
[Post-installation checklist](#)

Registering IQ Bot with the Enterprise Control Room

IQ Bot is integrated with Enterprise Control Room for user management. Installation of the Enterprise Control Room and Enterprise client is not a prerequisite for installing IQ Bot. However, you are required to log in to the Enterprise Control Room and register before using IQ Bot.

Prerequisites

Do the following before registering IQ Bot with Enterprise Control Room:

- Launch the Enterprise Control Room and create an admin user.
- Install the license for IQ Bot.

Note: Remember to install the IQ Bot-specific license. See [Installing a license](#) for more information.

IQ Bot can be accessed after registering it with Enterprise Control Room. When installing IQ Bot, use the following guidelines:

For Express installation:

Enterprise Control Room Version 11.3.1 base plus Version 11.3.1.1 or later patch must be installed in Express mode before installing IQ Bot.

For Custom installation:

Enterprise Control Room Version 11.3.1 base plus Version 11.3.1.1 or later patch must be installed in Custom mode before installing IQ Bot.

Note: Make a note of the database credentials used for the Enterprise Control Room installation. This is required for IQ Bot installation if you are using the same database.

Procedure

1. Log in to Control Room as an administrator.
If you already logged into Enterprise Control Room in the same browser session, you are automatically logged in to IQ Bot.
2. Click Administration > Settings > IQ Bot.
3. Click Edit in the IQ Bot section, and a text box appears.
4. Enter the correct IQ Bot URL for example,
`http(s)://IQBotURL/`
, and click Save changes.
If the application registration fails, try registering again.

Next steps

Log in to IQ Bot.

Note: IQ Bot supports Google Chrome.

- [Unregistering IQ Bot from the Enterprise Control Room](#)
You have to unregister IQ Bot from the Enterprise Control Room if the IQ Bot URL changes because of installation or uninstallation of IQ Bot, or when a load balancer is added.
- [Resolving IQ Bot registration failure](#)
Use this task to resolve an IQ Bot registration failure.

Related tasks

[Resolving IQ Bot registration failure](#)

[Unregistering IQ Bot from the Enterprise Control Room](#)

Unregistering IQ Bot from the Enterprise Control Room

You have to unregister IQ Bot from the Enterprise Control Room if the IQ Bot URL changes because of installation or uninstallation of IQ Bot, or when a load balancer is added.

After unregistering IQ Bot from the Automation Anywhere Enterprise Control Room, restart the Automation Anywhere Cognitive Console service.

Procedure

1. Using the sysadmin role, run two separate SQL queries in different databases.
2. Run the first SQL query in the Automation Anywhere Enterprise Control Room database to delete the following data:
 - `DELETE FROM [dbo].[APP_USER] WHERE [type]='IQBOT'`
 - `DELETE FROM [dbo].[USERS] WHERE user_type='APP'`
 - `DELETE from dbo.ACTIVEMQ_ACKS`
 - `DELETE from dbo.ACTIVEMQ_MSGS`
3. Run the second SQL query in the IQ Bot configuration database to delete the following data:
 - `DELETE FROM [Configurations].[dbo].[Configurations] where [key]='controlRoomVersion'`
 - `DELETE FROM [Configurations].[dbo].[Configurations] where [key]='appRegistered'`
 - `DELETE FROM [Configurations].[dbo].[Configurations] where [key]='controlRoomUrl'`
 - `DELETE FROM [Configurations].[dbo].[Configurations] where [key]='appId'`

You have unregistered successfully.

Related tasks

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

Resolving IQ Bot registration failure

Use this task to resolve an IQ Bot registration failure.

If IQ Bot registration with the HTTPs URL fails, do the following:

Procedure

1. Restart the Enterprise Control Room Service and update the Enterprise Control Room HTTPs URL by logging in to Control Room > Administration > Settings > General.
2. Restart the Console service.
3. Restart the Automation Anywhere Enterprise Control Room Reverse Proxy.
4. Register IQ Bot again with the HTTPs URL in the Enterprise Control Room.

Related tasks

[Unregistering IQ Bot from the Enterprise Control Room](#)

Install Microsoft Azure Computer Vision OCR engine

IQ Bot Version 6.5.2 installation automates some installation steps for Microsoft Azure Computer Vision OCR engine.

Note: IQ Bot Version 6.5.2 is a restricted release, and is not listed on the customer or partner portals. For access, contact your Automation Anywhere representative.

6.5.2

Note: When creating a learning instance, you can select any language from the IQ Bot's drop-down list. During processing, the OCR engine tries to auto-detect the primary language and can override the user selection. For example, you can specify English, but if you upload Spanish, the API would try to process Spanish. Microsoft Azure Computer Vision OCR engine provides approximately 18% STP and 80% accuracy with data extraction.

6.5.2

Follow the steps to install and use Microsoft Azure Computer Vision OCR engine.

Procedure

1. Ensure your IQ Bot server has internet connectivity and external DNS resolution.
Check to enable communication for the API endpoint on default port = 443: `default_endpoint = https://aai-iq-bot-ocr.cognitiveservices.azure.com/`.
Note: To validate connectivity to the API endpoint and the server open a web browser on the server and type in the complete URL for the API endpoint. If the browser returns a "404 error", then a response from the API endpoint was received.
 2. You can use your own Microsoft Azure Computer Vision OCR engine subscription or spellcheck keys. See [Use your own keys for Microsoft Azure Computer Vision OCR engine](#) for more information.
 3. From the C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations folder, open the Settings.txt file, and change the OCR engine value to `OCREngine=Tesseract4` or `OCREngine=Abbyy to OCREngine=MicrosoftAzureAPI`. Then save the file.
 4. Run the `stopanduninstallallservices.bat` file at C:\Program Files (x86)\Automation Anywhere IQ Bot \Configurations.
Remember: After stopping the services, run `installandstartallservices.bat` file to install and start the services.
 5. Create learning instances in IQ Bot, and use Microsoft Azure Computer Vision OCR engine for the text segmentation and OCR engine for these learning instances.
At the same time, for these learning instances, you would continue to use the IQ Bot capabilities for document classification, auto-mapped fields, cognitive extraction, and field value autocorrection.
- [Use your own keys for Microsoft Azure Computer Vision OCR engine](#)
You can use your own Microsoft Azure Computer Vision OCR engine subscription or spellcheck keys.

Use your own keys for Microsoft Azure Computer Vision OCR engine

You can use your own Microsoft Azure Computer Vision OCR engine subscription or spellcheck keys.

Follow the steps to use your own keys for Microsoft Azure Computer Vision OCR engine.

Procedure

1. By default, IQ Bot's encrypted Microsoft Azure Computer Vision OCR engine subscription and spellcheck keys are used. If you prefer to use your own Microsoft Azure Computer Vision OCR engine subscription and/or spellcheck keys, go to C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurationsand folder Configurations > `AzureOCREngineSettings.json` file, and specify your keys.
If both `SubscriptionKey` and `SubscriptionClientKey` are specified, then `SubscriptionClientKey` is used:
 - `VisionSubscriptionKey`
 - `VisionSubscriptionClientKey`
 - `SpellCheckSubscriptionKey`
 - `SpellCheckSubscriptionClientKey`

2. Enter your keys correctly to ensure proper API calls as follows:
Before:

```
{
  "VisionServiceUrl": "https://aai-iq-bot-ocr.cognitiveservices.azure.com/",
  "EngineType": 0,
  "VisionSubscriptionKey": "",
  "VisionSubscriptionClientKey": "",
  "SpellCheckSubscriptionKey": "",
  "SpellCheckSubscriptionClientKey": "",
  "EnableDebugging": false,
  "DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQ Bot Platform\\Output\\Engine\\Azure",
  "HttpTimeoutInSec": 300,
  "EnableReprocessLowConfidentSegment": true,
  "EnableAutoCorrectSegmentText": true,
  "EnableResolveOverlappedSegment": true,
  "EnableFieldMerging": true,
  "EnableFieldRegions": true
}
```

After:

```
{
  "VisionServiceUrl": "https://aai-iq-bot-ocr.cognitiveservices.azure.com/",
  "EngineType": 0,
  "VisionSubscriptionKey": "",
  "VisionSubscriptionClientKey": "191234d5e7abc1f382123459d4399e33",
  "SpellCheckSubscriptionKey": "",
  "SpellCheckSubscriptionClientKey": "336f8f6a503a4c30ba123456834d4abc",
  "EnableDebugging": false,
  "DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQ Bot Platform\\Output\\Engine\\Azure",
  "HttpTimeoutInSec": 300,
}
```

```

"EnableReprocessLowConfidentSegment": true,
"EnableAutoCorrectSegmentText": true,
"EnableResolveOverlappedSegment": true,
"EnableFieldMerging": true,
"EnableFieldRegions": true
}

```

3. Run the stopanduninstallallservices.bat file as an administrator. The default location of the file is at C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations.
4. Run the installandstartallservices.bat file as an administrator. The default location of the file is at C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations .
Log in or refresh your IQ Bot web page.

Install ABBYY FineReader Engine OCR engine in IQ Bot

IQ Bot installation now automates the installation of ABBYY FineReader Engine (FRE) optical character recognition (OCR) plug-in.

Note: IQ Bot supports ABBYY FineReader Engine version 12.2 and 12.3 for IQ Bot Version 6.5 and above.

When installing IQ Bot Version 6.5 and above, the system automatically installs an ABBYY FineReader Engine open run-time license on your server.

Use the following steps to manually install ABBYY FineReader Engine:

Procedure

1. Download the OCR plug-in with IQ Bot Version 6.5 or above.
2. Unzip the OCR plug-in folder in your downloads folder, and place that unzipped folder, at C:\Program Files (x86)\Automation Anywhere IQ Bot <version>.
3. Ensure the folder says \OCR Plugins\ABBYY SDK\12\... , and the unzipping does not create OCR Plugins\OCR Plugins twice.
4. To use ABBYY FineReader Engine with IQ Bot you have the following options:

Options	Description
Set ABBYY FineReader Engine as your default OCR engine	Configure the Settings.txt file. Note: Follow steps 5 and 6 to configure the Settings.txt file.
Select ABBYY FineReader Engine OCR engine from the UI	To select from the UI, see Select an OCR engine .

5. To set ABBYY FineReader Engine as your default OCR engine, from the C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations folder, open the Settings.txt file, change OCREngine=Tesseract4 to OCREngine=Abbyy, and save the file.
6. Next, run the stopanduninstallallservices.bat file at C:\Program Files (x86)\Automation Anywhere IQ Bot \Configurations.

Remember: After stopping the services, run installandstartallservices.bat file to install and start the services.

7. Create learning instances in IQ Bot, and use ABBYY FineReader Engine for the text segmentation and OCR engine for these learning instances. At the same time, for these learning instances you still partner with the IQ Bot capabilities on document classification, auto-mapped fields, cognitive extraction, and field value autocorrection.

Note: If you install IQ Bot Version 6.5 and later versions in a different folder besides C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5 Beta, find and open the Configurations > ABBYYOCREngineSettings.txt folder, and update the embedded EnginePath and LicensePath to match the different folder.

For example:

```
{
  "UseOpenRuntimeLicense": true,
  "EnginePath": "C:\\Program Files (x86)\\Automation Anywhere IQ Bot 6.5 B
eta\\OCR Plugins\\ABBYY SDK\\12\\FineReader Engine\\Bin",
  "DeveloperSN": "",
  "ProjectId": "",
  "LicensePath": "C:\\Program Files (x86)\\Automation Anywhere IQ Bot 6.5
Beta\\Configurations\\Runtime.ABBYY.LocalLicense",
  "LicensePassword": ""
}
```

- [Installation steps if ABBYY FineReader Engine remains installed from a previous IQ Bot version](#)

If ABBYY FineReader Engine remains installed from a previous IQ Bot version, use the IQ Bot ABBYY FineReader Engine open run-time license.

- [Use your own ABBYY FineReader Engine license](#)

Follow the steps to use your own ABBYY FineReader Engine license.

Installation steps if ABBYY FineReader Engine remains installed from a previous IQ Bot version

If ABBYY FineReader Engine remains installed from a previous IQ Bot version, use the IQ Bot ABBYY FineReader Engine open run-time license.

Procedure

1. Navigate to the IQ Bot installation directory > configuration folder, and open the AbbyyOCREngineSettings.json file to update the following properties:
Change the EnginePath and paste the installed ABBYY FineReader Engine engine path. For example, C:\Program Files\ABBYY SDK\12\FineReader Engine\Bin. Ensure the path includes separators as two backward slashes.
2. Go to the ABBYY FineReader Engine installation directory, open the Bin folder, and remove the Protection.Developer.dll file.
3. From the C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations folder, open the Settings.txt file, modify or ensure OCREngine=ABBYY FineReader Engine, and save the file.
4. Run the stopanduninstallallservices file at C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations.

5. Run the `installandstartallservices` file and log in, or refresh your IQ Bot web page.

Use your own ABBYY FineReader Engine license

Follow the steps to use your own ABBYY FineReader Engine license.

Procedure

1. Navigate to the IQ Bot installation directory > configuration folder, and open `AbbyyOCREngineSettings.json` to update the following properties:
 - Change the `EnginePath` and paste the installed ABBYY FineReader Engine engine path. For example, `C:\Program Files\ABBYY SDK\12\FineReader Engine\Bin`. Ensure the path includes separators as two backward slashes. Update the `DeveloperSN` property with the license key.
 - Update the `ProjectId` property with your license project ID.
 - Update the `UseOpenRuntimeLicense` to `false`.
2. From the `C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations` folder, open the `Settings.txt` file to ensure or modify `OCREngine=ABBYY FineReader Engine`, and save the file.
3. Run the `stopanduninstallallservices` file at `C:\Program Files (x86)\Automation Anywhere IQ Bot <version>\Configurations`.
4. Run the `installandstartallservices` file and log in to or refresh your IQ Botweb page.

Install Google Vision API OCR engine

Use the beta version of Google Vision API OCR engine with IQ Bot Version 11.3.4 and patches, to improve the accuracy of the optical character recognition (OCR) results for training documents in Asian languages, particularly in Japanese and Korean. Google Vision API (GA) OCR engine in IQ Bot Version 11.3.5 supports all languages supported by the engine.

Prerequisites

Verify that the default port 443 is available to enable communication for the API endpoint using TCP.

Google Vision API files are installed on your machine automatically during the IQ Bot installation and is provided as a built-in plug-in, with a single-step installation.

- (Beta) Google Vision API does not support documents with more than one language. Before using this feature, ensure you want to primarily extract Japanese or Korean text only.
- IQ Bot Version 11.3.5 supports all languages supported by the Google Vision API OCR engine.

Prior to this release, the engine primarily supported data extraction for Japanese and Korean text only.

[IQ Bot list of supported languages](#)

IQ Bot provides you with the license to use the Google Vision API OCR engine. You can also use your own license key.

[Use your own license keys for Google Vision API OCR engine](#)

You have the following options for using this OCR engine:

Options	Description
Option 1: Set Google Vision API as your default engine	Configure the Settings.txt file.
Option 2: Select Google Vision API engine directly from the UI when creating a learning instance	Select an OCR engine

Procedure

To set Google Vision API as your default OCR engine, configure the Settings.txt file as follows:

1. Run the IQ Bot installer.
2. Navigate to `..\Automation Anywhere IQ Bot\Configurations\Settings.txt`, and modify the following value:
`OCREngine=GoogleVisionAPI`.
This will set Google Vision API OCR engine as the default engine for your environment.
3. The `GoogleOCREngineSettings.json` file is generated within the `..\Automation Anywhere IQ Bot\Configurations` folder with default values as follows:
 - Use the following with (beta) Google Vision API:

```
{
  "ADCJson": null,
  "EngineType": 2,
  "EnableDebugging": false,
  "DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQBot Platform\\Logs\\Engine\\Google",
  "EnableCustomParse": false,
  "DistanceThreshold": 15
}
```

- Use the following with Google Vision API in IQ Bot Version 11.3.5 and later:

```
{
  "ADCJson": null,
  "EngineType": 2,
  "EnableDebugging": false,
  "DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQBot Platform\\Logs\\Engine\\Google",
}
```

4. For Japanese and Korean language documents, update the field: `"EnableCustomParse": true`.
Note: A service restart is not required after making the change.

Next steps

1. Create a new learning instance with the Asian language document you want to train.
2. Train the document and set your learning instance to production.
3. Upload Asian language files and run the bot.
4. Download and view the accuracy of the extraction results.

- [Use your own license keys for Google Vision API OCR engine](#)

You can use your own keys for Google Vision API OCR engine subscription.

Use your own license keys for Google Vision API OCR engine

You can use your own keys for Google Vision API OCR engine subscription.

Users can use their own authentication of Google Vision API. They would need to create Google Cloud Application Default Credentials (ADC) and copy the content from ADC JSON file to the "ADCJson" field in GoogleVisionOCREngineSettings.json..

Note: Use the link to create Google Cloud Application Default Credentials for Google Vision API: <https://cloud.google.com/docs/authentication/production>.

Follow the steps to use your own keys for Google Vision API OCR engine.

Procedure

1. By default, IQ Bot's encrypted Google Vision API subscription keys are used. If you prefer to use your own Google Vision API subscription keys, go to C:\Program Files (x86)\Automation Anywhere IQ Bot <version> \Configurations, and folder Configurations > GoogleVisionOCREngineSettings.json file, and specify your keys.
2. IQ Bot provides you with an inbuilt license for Google Vision API, but you have the option to overwrite this license if you would like to use your own. Copy the content from the ADC JSON file correctly to ensure proper API calls as follows:

```
{
  "ADCJson": {
    "type": "service_account",
    "project_id": "dark-caldron",
    "private_key_id": "9e83979f61cff072d0e0e4f91bf837e6e29bbb",
    "private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvgIBADANBg.....-----E
ND PRIVATE KEY-----\n",
    "client_email": "vision-test@dark-caldron.iam.gserviceaccount.com",
    "client_id": "105342202023265468399",
    "auth_uri": "https://accounts.google.com/o/oauth2/auth",
    "token_uri": "https://oauth2.googleapis.com/token",
    "auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/c
```

```

erts",
  "client_x509_cert_url": "https://www.googleapis.com/robot/v1/metadata/x509/vision-test%40dark-caldron-254807.iam.gserviceaccount.com"
},
"EngineType": 2,
"EnableDebugging": false,
"DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQ Bot Platform\\Logs\\Engine\\Google",
"HttpTimeoutInSec": 300,
"EnableCustomParse": false,
"DistanceThreshold": 15
}

```

Related tasks

[Install Google Vision API OCR engine](#)

Related information

<https://cloud.google.com/docs/authentication/production>

Install (beta) Tegaki API OCR engine

Use the beta version of the Tegaki API OCR engine with IQ Bot to improve the accuracy of the optical character recognition (OCR) results for training documents in Asian languages, particularly in Japanese and Korean. Tegaki API files are installed on your machine automatically during installation of IQ Bot.

IQ Bot provides Tegaki API as a built-in plug-in, with a single-step installation. To set Tegaki API as your default OCR engine, configure the Settings.txt file.

Note: Check to enable communication for the API endpoint on default port = 443, using TCP protocol.

(Beta) Tegaki API supports documents in the following languages:

- Japanese
- Korean
- Japanese - English
- Korean - English

Procedure

1. Run the IQ Bot installer.
2. IQ Bot does not provide you with the license to use the Tegaki API OCR engine. You have to use your own license key.

Follow the steps to install your own license key:

- a) Navigate to C:\Program Files (x86)\Automation Anywhere IQ Bot\Configurations .
- b) Set APIKey = <your key here> in the TegakiOCREngineSettings.json file.

Note:

```
{
  "APIKey": "<your key here>",
  "EngineType": 3,
  "DebuggingFolder": "C:\\Users\\Public\\Documents\\Automation Anywhere IQBot Platform\\Logs\\Engine\\Tegaki"
}
```

3. Navigate to ..\Automation Anywhere IQ Bot\Configurations\Settings.txt, and modify the following value:
OCREngine=TegakiAPI.
The TegakiOCREngineSettings.json file is available after IQ Bot installation.

Next steps

1. Create a new learning instance with the Asian language document you want to train.
2. Train the document and set your learning instance to production.
3. Upload Asian language files and run the bot.
4. Download and view the accuracy of the extraction results.

Databases created during IQ Bot installation

Learn which databases and tables are created after installing IQ Bot.

Log into the database using the

<dbusername>

and

<dbpasswd>

to verify the names of the databases and tables using

<hostname>

,

<dbusername>

, and

<dbpasswd>

.

The system creates the following databases:

- **AliasData:** This is the master database to store data about different aliases related to a field in the system for different document types. This database also has the information about the languages and different document types supported by IQ Bot.
- **ClassifierData:** This database has the data related to the classification output for both layout and content classification.
- **Configurations:** This database stores data about the configurations used when installing IQ Bot, for example, Control Room URL, output path, and so on.
- **FileManager:** This database stores data related to learning instances and the files uploaded related to learning instances and vision bots.

- **MLData:** This database stores the training data used by the Machine Learning (ML) system in IQ Bot.

Creating a self-signed certificate with Subject Alternative Name

Create a self-signed certificate with Subject Alternative Name (SAN) when you want to use an SSL certificate for multiple domains.

1. Create a file with the name `domain.cnf` and add the following configuration as per your requirement:

```
[req]

default_bits = 2048

prompt = no

default_md = sha256

x509_extensions = v3_req

distinguished_name = dn

[dn]

C = ES

ST = MyState

L = MyCity

O = MyOrg

emailAddress = email@mydomain.com (Any email address)

CN = sss-laptop136.aaspl-brd.com (CR FQDN Url Name)

[v3_req]

subjectAltName = @alt_names

[alt_names]

DNS.1 = sss-laptop136.aaspl-brd.com (CR FQDN Url Name)

DNS.2 = sss-laptop151.aaspl-brd.com (IQBOT URL FQDN Name)
```

2. Download the Openssl utility.
3. Create the certificate either on Microsoft Windows or on Linux:
 - Run the following command to create the certificate on Microsoft Windows:

```
openssl.exe req -new -x509 -newkey rsa:2048 -sha256 -nodes -keyout
"D:\ssc\ssc\key.key" -days 3560 -out "D:\ssc\ssc\cert.crt" -config
"D:\ssc\ssc\domain.cnf"
```

- Run the following command to create the certificate on Linux:

```
openssl req -new -x509 -newkey rsa:2048 -sha256 -nodes -keyout /tmp/cert/key.key -days 3560
-out /tmp/cert/cert.crt -config /tmp/cert/domain.cnf
```

4. Create the .pfx file from cert and key file:

- Run the following command to create the .pfx file from the cert and key file on Microsoft Windows:

```
openssl.exe pkcs12 -export -out "D:\ssc\ssc\sss-aspl.pfx" -inkey "D:\ssc\ssc\key.key"
-in "D:\ssc\ssc\cert.crt"
```

- Run the following command to create the .pfx file from the cert and key file on Linux:

```
openssl.exe pkcs12 -export -out /tmp/cert/sss-aspl.pfx -inkey /tmp/cert/key.key -in
/tmp/cert/cert.crt"
```

5. Import the .pfx file in Microsoft IIS.

Use the same .pfx file with the installation of IQ Bot.

6. Run the following command to import the certificate in the Java keystore:

```
keytool.exe -import -alias dev -keystore "C:\Program Files
(x86)\Java\jre1.8.0_91\lib\security\cacerts" -file "D:\cert\xyz.com.crt"
```

Based on the type of operating system 32-bit / 64-bit, this C:\Program Files (x86)\Java\jre1.8.0_91\lib\security\cacerts directory can differ.

If the certificate is not imported in the Java keystore, then Enterprise Control Room shows the following error message: Java security certificate path validator signature check failed.

7. Go to %installation_dir%\Configurations and run stopanduninstallallservices.bat as an administrator.
8. Go to %installation_dir%\Configurations and run installandstartservices.bat as an administrator.
9. Import the cert.crt file to the Trusted Root using the Microsoft Management Console (MMC).

Configuring IQ Bot with HTTP and HTTPS

This section describes single and multiple domain scenarios when installing IQ Bot and Enterprise Control Room with various server certificates.

There are two main scenarios:

- Installing [IQ Bot](#) and [Control Room](#) with wildcard server certificates (single domain).
- Installing [IQ Bot](#) and [Control Room](#) with individual server certificates (different domains).

You can encrypt the communication between IQ Bot and Enterprise Control Room by configuring Two-way (Mutual) SSL. The following steps explain how to configure this and can be achieved by exchanging the SSL certificates between IQ Bot and the Enterprise Control Room.

Note: IQ Bot does not support self-signed certificate.

Prerequisite for single domain

If Enterprise Control Room and IQ Bot are on a single domain, and we name the domain as DomainOne, the following certificate files are required:

- PFX file:

Ensure you have the DomainOne.pfx file. The file size is approximately 7/8 KB. One pfx file is required for a single domain.

- CA Bundled certificate from the Enterprise Control Room (with all intermediate certificate information):

Use any tool to create the bundle certificate, or you can use openssl to create CA/bundled certificate from DomainOne.pfx file.

Use the following example command to create CA/Bundled certificate using openssl for DomainOne.pfx:

```
openssl.exe pkcs12 -in "{DomainOne.pfx file location}" -cacerts nokeys -chain -out "{Outputlocation}\DomainOne_ControlRoom_CA.crt"
```

Note: You will need the Enterprise Control Room bundle certificate for single or multiple domains.

- Public certificates from IQ Bot and Enterprise Control Room:

Use any tool to create the public certificates or use openssl to create Public certificate from the DomainOne.pfx file.

Use the following example command to create the Public certificate using openssl for DomainOne.pfx:

```
openssl.exe pkcs12 -in "{DomainOne.pfx file location}" -clcerts nokeys -ou
```

```
t
"{Outputlocation}\DomainOne_ControlRoom_PublicCertificate.crt
```

Note: For a single domain, there will be one public certificate for both, IQ Bot and Enterprise Control Room.

Prerequisite for multiple domains

If the Enterprise Control Room and IQ Bot are on separate domains, and the domain names are DomainOne (Enterprise Control Room) and DomainTwo (IQ Bot), the following certificate files are required:

- Pfx file:

Ensure you have the DomainOne.pfx and DomainTwo.pfx files. The file size is approximately 7/8 KB.

- Public certificates from IQ Bot and Enterprise Control Room:

Use any tool to create the bundle certificate or use openssl to create Public certificate from DomainTwo.pfx file.

Use the following example command to create the Public certificate using openssl for DomainTwo.pfx:

```
openssl.exe pkcs12 -in "{DomainTwo.pfx file location}" -clcerts nokeys -out
t
"{Outputlocation}\DomainTwo_IQBot_PublicCertificate.crt
```

Note: : If you set up Enterprise Control Room or IQ Bot with HTTPS, then configure IQ Bot with HTTPS before registering.

- [Configuring IQ Bot with HTTPS using single domain](#)
Configure IQ Bot with HTTPS when Enterprise Control Room is configured with HTTPS using single domain.
- [Configuring IQ Bot with HTTPS using multiple domains](#)
Configure IQ Bot with HTTPS when Enterprise Control Room is configured with HTTP using multiple domains.
- [Configuring IQ Bot with HTTPS when Enterprise Control Room is configured with HTTP](#)
Configure IQ Bot with HTTPS when Enterprise Control Room is configured HTTP.
- [Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS](#)
Configure IQ Bot with HTTP and HTTPS to access IQ Bot using HTTPS and HTTP in the IQ Bot URL.

Related tasks

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

Related reference

[Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS](#)

[Configuring IQ Bot with HTTPS using multiple domains](#)

[Configuring IQ Bot with HTTPS using single domain](#)

Configuring IQ Bot with HTTPS using single domain

Configure IQ Bot with HTTPS when Enterprise Control Room is configured with HTTPS using single domain.

1. Set up IQ Bot using the PFX file with HTTPS configuration during installation.

- Put the bundled certificate (DomainOne_ControlRoom_CA.crt) for Enterprise Control Room in the IQ Bot folder after IQ Bot installation at C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\keys. Rename the DomainOne_ControlRoom_CA.crt to ca.crt.
Important:

For IQ Bot Version 11.3.4, if the ca.crt file in the C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\keys folder is already present, then replace it with the new ca.crt file.

- Add the Enterprise Control Room public certificate (DomainOne_ControlRoom_PublicCertificate.crt) to the keystore for IQ Bot by running this command as a system administrator:

```
"{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x64\bin\keytool.exe"
-import -alias cr -keystore "{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x64\lib\security\cacerts" -file "{FolderLocation}\DomainOne_ControlRoom_PublicCertificate.crt"
```

The system will ask for a keystore password, which is
changeit

Note: Sometimes the system shows a message saying cr exists. In this case, change cr in the command to cr1 or something else.

- Next, restart the machine(s) and follow instructions to register IQ Bot.

See [Registering IQ Bot with the Enterprise Control Room](#)

Related tasks

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

Related reference

[Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS](#)

[Configuring IQ Bot with HTTPS using multiple domains](#)

Configuring IQ Bot with HTTPS using multiple domains

Configure IQ Bot with HTTPS when Enterprise Control Room is configured with HTTP using multiple domains.

- Set up IQ Bot using the PFX file with the HTTPS configuration during installation.
- Put the bundled certificate (DomainOne_ControlRoom_CA.crt) for the Enterprise Control Room in the IQ Bot folder after IQ Bot installation at: C:\Program Files (x86)\Automation Anywhere IQ Bot\Portal\keys.

Rename the DomainOne_ControlRoom_CA.crt to ca.crt.

Important: For IQ Bot Version 11.3.4, if the ca.crt file in the C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\keys folder is already present, then replace it with the new ca.crt file.

- Add the Enterprise Control Room public certificate (DomainOne_ControlRoom_PublicCertificate.crt) to the keystore for IQ Bot by running this command as a system administrator:

```
"{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x64\bin\keytool.exe" -import -alias cr -keystore "{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x64\lib\security\cacerts" -file "{FolderLocation}\DomainOne_ControlRoom_PublicCertificate.crt"
```

The system will ask for a keystore password, which is
changeit

Note: Sometimes the system shows a message saying cr exists. In this case, change cr in the command to cr1 or something else.

4. Add the IQ Bot Public certificate (DomainTwo_IQBot_PublicCertificate.crt) to the keystore for the Enterprise Control Room by running the following command as a system administrator:

```
"{Control Room installation directory}\JRE\bin\java.exe" -jar certmgr.jar -appDir "{Control Room installation directory}" -importTrustCert "{FolderLocation}\DomainTwo_IQBot_PublicCertificate.crt"
```

Note: For IQ Bot A2019 (Build 550), change JRE to jrk in the command mentioned above.

5. Next, restart the machine(s) and follow instructions to register IQ Bot.

See [Registering IQ Bot with the Enterprise Control Room](#)

Related tasks

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

Related reference

[Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS](#)

[Configuring IQ Bot with HTTPS using single domain](#)

Configuring IQ Bot with HTTPS when Enterprise Control Room is configured with HTTP

Configure IQ Bot with HTTPS when Enterprise Control Room is configured HTTP.

Procedure

1. Set up IQ Bot using the PFX file with HTTPS configuration during installation.
2. Put the bundled certificate (DomainTwo_IQBot_CA.crt) for Enterprise Control Room in the IQ Bot folder, after IQ Bot installation at C:\Program Files (x86)\Automation Anywhere IQ Bot\Portal\keys. Rename the DomainTwo_IQBot_CA.crt to ca.crt.
Important: For IQ Bot Version 11.3.4, if the ca.crt file in the C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\keys folder is already present, then replace it with the new ca.crt file.

3. Add the IQ Bot Public certificate (DomainTwo_IQBot_PublicCertificate.crt) to the keystore for the Enterprise Control Room by running the following command as a system administrator:

```
"{Control Room installation directory}\JRE\bin\java.exe" -jar certmgr.jar
-appDir "{Control Room
installation directory}" -importTrustCert "{FolderLocation}/DomainTwo_IQBo
t_PublicCertificate.crt"
```

4. Next, restart the machine(s) and follow instructions to register IQ Bot.
See [Registering IQ Bot with the Enterprise Control Room](#)

Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS

Configure IQ Bot with HTTP and HTTPS to access IQ Bot using HTTPS and HTTP in the IQ Bot URL.

1. Put the bundled certificate (DomainOne_ControlRoom_CA.crt) for Enterprise Control Room in the IQ Bot folder after IQ Bot installation at C: \Program Files (x86)\Automation Anywhere IQ Bot\Portal\keys. Rename the ControlRoom_CA.crt to ca.crt.
Important: For IQ Bot Version 11.3.4, if the ca.crt file in the C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\keys folder is already present, then replace it with the new ca.crt file.
2. Add the Enterprise Control Room public certificate (DomainOne_ControlRoom_PublicCertificate.crt) to the keystore for IQ Bot by running this command as a system administrator:

```
"{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-fx-jre8.0.222-win_x6
4\bin\keytool.exe" -import -
alias cr -keystore "{IQ Bot installation directory}\JRE\zulu8.40.0.20-sa-f
x-jre8.0.222-
in_x64\lib\security\cacerts" -file "{FolderLocation}/ DomainOne_ControlRoo
m_PublicCertificate.crt "
```

The system will ask for a keystore password, which is
changeit

Note: Sometimes the system shows a message saying cr exists. In this case, change cr in the command to cr1 or something else.

3. Next, restart the machine(s) and follow instructions to register IQ Bot.

See [Registering IQ Bot with the Enterprise Control Room](#)

Related tasks

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

Related reference

[Configuring IQ Bot with HTTPS using multiple domains](#)

Configuring IQ Bot with HTTPS using single domain

Post-installation checklist

Verify if IQ Bot is installed, and ensure the IQ Bot services are running using the healthcheck APIs.

Automation Anywhere IQ Bot

Ensure that the Automation Anywhere IQ Bot item exists in Control Panel > Programs > Programs and Features of the machine where IQ Bot is installed.

Confirming Automation Anywhere cognitive services are running

Ensure that the following services are installed on the machine where IQ Bot is installed and the status of the services is set to Running on the Microsoft Windows services window.

To see the list of services that are currently running, open services.msc using Start > Run.

- Automation Anywhere Cognitive Alias
- Automation Anywhere Cognitive Application
- Automation Anywhere Cognitive Classifier Service
- Automation Anywhere Cognitive File Manager
- Automation Anywhere Cognitive Console
- Automation Anywhere Cognitive Gateway
- Automation Anywhere Cognitive MLScheduler Service
- Automation Anywhere Cognitive MLWeb Service
- Automation Anywhere Cognitive Projects
- Automation Anywhere Cognitive Report
- Automation Anywhere Cognitive Validator
- Automation Anywhere Cognitive Visionbot Manager
- Automation Anywhere Cognitive VisionbotEngine Service

Doing a healthcheck

If needed, use the Healthcheck API to verify about the required service. The request/response details of the Healthcheck API are described in the following table.

Requests

The following table lists the API requests sent for doing a healthcheck of different IQ Bot services:

Service name	URL
Alias	http://<hostname/IP>:9997/healthcheck
Application Service	http://<hostname/IP>:9002/healthcheck
Project Service	http://<hostname/IP>:9999/healthcheck
FileManager Service	http://<hostname/IP>:9996/healthcheck
Visionbot	http://<hostname/IP>:9998/healthcheck
Validator Service	http://<hostname/IP>:9995/healthcheck

Service name	URL
Report Service	http://<hostname/IP>:9992/healthcheck
Gateway Service	http://<hostname/IP>:8100/healthcheck
Frontend or Console Service	http://<hostname/IP>:3000/healthcheck

In the table listing, replace <hostname/IP> with the host name/IP address of IQ Bot to create the Healthcheck API request using a web browser on the machine on which IQ Bot is installed.

For example, if your IQ Bot is accessible at http://localhost:3000, the FileManager Healthcheck can be accessed using this URL:

<http://localhost:9996/healthcheck>

.

Responses

A typical successful response is in the following code example:

Subsystem

Application: <Service Name>

Status: OK

Application uptime: 0d 3h 45m 6s

Version: 1.2.0-RELEASE

Branch: RC-5.2-1

GIT #: d88e59c0435c3a836bb47cd586081205564904c5

Build Time: 2018-02-17T09:26:52.523Z

Dependencies:

Database Connectivity: OK

MessageQueue Connectivity: OK

Project: OK

VisionBot: OK

****<Service Name> could be alias, application, filemanager, project, reports, gateway, validator, or visionbot.**

Dependencies: lists the status of all the dependent services, for example, database and message queue of probed service.

Checking created databases and tables

Learn which databases and tables are created after installation of IQ Bot.

Log in to the database using the

```
<dbusername>
```

and

```
<dbpasswd>
```

to verify the names of the databases and tables using

```
<hostname>
```

```
,
```

```
<dbusername>
```

```
, and
```

```
<dbpasswd>
```

```
.
```

The system creates the following databases:

- **AliasData:** This is the master database that stores data about different aliases related to a field in the system for different document types. This database also has the information about the languages and different document types supported by the IQ Bot system.
- **ClassifierData:** This database has the data related to classification output for both layout and content classification.
- **Configurations:** This database stores data about the configurations used when installing IQ Bot, for example, Control Room URL, output path, and so on.
- **FileManager:** This database stores data related to learning instances, files uploaded related to learning instances, and vision bots.
- **MLData:** This database stores the training data used by a Machine Learning (ML) system in IQ Bot.

Related tasks

[Healthcheck API response if RabbitMQ fails to start](#)

[Databases created during IQ Bot installation](#)

IQ Bot post installation validation

After installing IQ Bot and completing the post-installation tasks, validate the installation by creating IQ Bot specific roles, accessing the Validator without a license, accessing the product without a device license, and understanding permissions for role-based access control to the learning instances.

- [User roles and permissions](#)
Learn about the roles and associated permissions required for each IQ Bot user.
- [Learn whether a profile is local or roaming](#)
Follow these steps to learn whether a profile is local or roaming.
- [Healthcheck API response if RabbitMQ fails to start](#)
Check the status of each IQ Bot service using the Healthcheck API if RabbitMQ fails to start.
- [Set up log file automatic rollover](#)
This topic addresses setting up automatic rollover of log files based on the file size.
- [Reinstalling HTTPS SSL certificate for secure communication when it expires](#)
Reinstall HTTPS SSL certificate when your HTTPS SSL certificate expires.

User roles and permissions

Learn about the roles and associated permissions required for each IQ Bot user.

Your permission to access specific areas in IQ Bot are defined depending on your user role. For example, a Validator does not have permissions to access the Audit Trail Log page because the tasks on this page are only for Administrators.

All the roles and permissions for the IQ Bot are defined in the Enterprise Control Room. For more information on creating these roles, see Control Room User Guide.

In the Enterprise Control Room, Role-Based Access Control (RBAC) is implemented for only the following options:

- Navigate to Administration > Roles, and select View IQ Bot > View learning instances > View learning instances from the same role.
- Navigate to Administration > Roles, and select View IQ Bot > View learning instances > View ALL learning instances.

Note: 11.3.4

When you enable [Role-based access control](#) caching, the cache in the Enterprise client is active for 15 mins. Therefore, any change in user roles in the Enterprise Control Room is reflected after 15 minutes.

The permissions and areas of IQ Bot that can be accessed by users based on their roles are described in the following table:

Table 1. Roles and permissions for IQ Bot The following table describes the different IQ Bot system defined roles and the associated permissions:

System role	Default IQ Botpermissions	Access to tabs
AAE_IQ Bot Admin	All IQ Bot permissions	<ul style="list-style-type: none"> • Dashboard • Learning Instances • Bots • Domains • Administration Migration utility can be accessed using this tab.
AAE_IQ Bot Services	All permissions available as per View my learning instances	<ul style="list-style-type: none"> • Dashboard • Learning instances • Bots
AAE_IQ Bot Validator	Launch Validator permission available as per View my learning instances	Learning instances

If both Services and Admin roles are allocated to a user, IQ Bot shows the following five tabs:

- Dashboard

- Learning Instances
- Bots
- Domains
- Administration

To learn how to use custom roles, see [Define access to learning instances using custom roles](#).

Next steps

For IQ Bot create Bot Runner and Bot Creator users. See Bot Runners and Bot Creators - overview topic for more information.

- [Define access to learning instances using custom roles](#)
Role-based access control (RBAC) enables or restricts access to new learning instances, related features, and functionality in IQ Bot based on permissions defined for various roles that are configured through the Enterprise Control Room.
- [Creating a user with an IQ Bot specific role](#)
Create users in Enterprise Control Room to access IQ Bot as an administrator, Bot Creator, and Validator.
- [Access IQ Bot without a Bot Creator or Bot Runner device license](#)
Log in and operate IQ Bot without a device license (Bot Creator or Bot Runner) in Automation Anywhere Enterprise Control Room. However, using the IQ Bot command in the Automation Anywhere Enterprise client requires the appropriate device license identified in the table.
- [Access IQ Bot Validator without a license](#)
Access the Validator functionality in IQ Bot without requiring a Bot Creator or Bot Runner license. From the Automation Anywhere Enterprise Control Room, create any number of users and assign them to the system defined Validator role (AAE_IQ Bot Validator).

Define access to learning instances using custom roles

Role-based access control (RBAC) enables or restricts access to new learning instances, related features, and functionality in IQ Bot based on permissions defined for various roles that are configured through the Enterprise Control Room.

Users with the View and manage roles privilege can create custom roles and assign privileges to roles through the Enterprise Control Room.

View learning instances

Users can decide to turn on permissions by selecting any of the following view permissions:

- View my learning instances

Allows users to view only the learning instances created by them.

- View learning instances from the same role

Allows users to only view learning instances created using a particular role.

- View all learning instances

A user with this privilege can view all learning instances created by all users across all roles.

Users can perform actions on learning instances they can access based on the following:

- View permission selected for their roles.
- Learning instances that are also assigned the same role as the user.
- The user is assigned a role with relevant permissions selected.

Note:

- Users can use the Delete learning instance option only if Edit learning instance is also selected for that role.
- If users migrating from IQ Bot versions earlier than Version 11.3.5 are unable to view learning instances as before, an admin user with the Assign Roles privilege has to assign permissions to their custom roles and roles to learning instances as required.

View domains

Users with only this permission can view the Domains tab in IQ Bot but do not have the permission to import or export domains. Select Import Domains and Export Domains permissions to enable importing and exporting domains.

View administration

Users with only this permission can view the Administration tab in IQ Bot but do not have the permission to import or export learning instances. Select View and manage migration to enable importing and exporting learning instances.

The View and manage migration privilege allows users to only migrate learning instances they have access to based on the view permission. Therefore, permissions to view these learning instances are necessary.

Note: View domains and View administration permissions work as expected for the standard AAE_IQBOTAdmin role.

Example

The following example explains some of the combinations of permissions set in custom roles. These roles have specific permissions assigned to them that enable users to access learning instances and perform actions:

Roles

- RoleA = View LI from the same role + Edit + Send learning instance to production
- RoleB = View LI from the same role + Train

Learning Instance

The learning instance is in staging.

Scenario 1

- Learning instance has RoleA assigned
- User2 is assigned RoleA + RoleB

Result:

- Only User1 will be able to access and perform actions on the learning instance.
- User1 can only edit and send the learning instance to production.

Scenario 2

- Learning instance has RoleA assigned
- User1 is assigned RoleA

- User2 is assigned RoleA + RoleB

Result:

- Both User1 and User2 will be able to access the learning instance.
- Both User1 and User2 can edit and send learning instance to production.

Scenario 3

- Learning instance has RoleA + RoleB assigned
- User1 is assigned RoleA
- User2 is assigned RoleB

Result:

- Both User1 and User2 will be able to access the learning instance.
- User1 will be able to edit and send learning instance to production, while User2 will be able to only train the learning instance.

Scenario 4

- Learning instance has RoleA + RoleB assigned
- User1 is assigned RoleA + RoleB
- User2 is assigned RoleB

Result:

- Both User1 and User2 can access the learning instance.
- User1 can edit, train, and send learning instance to production, while User2 will only be able to train the learning instance.

Remember:

- When the permissions of the current user role are changed or the user is assigned to a different role, the access control is updated to reflect the latest permissions configured for the assigned role.
- If a role is deleted, the learning instances created by a user of that role are still accessible to other users with the following roles:
 - AAE_IQ Bot Admin
 - AAE_IQ Bot Services
 - A custom role with permission View all learning instances
 - A custom role assigned to those learning instances with permission View learning instances from the same role
- Using the AAE_IQ Bot Admin role makes any other additional custom role redundant. An admin user has the default view of an administrator and has access to all learning instances.
- Exporting or importing learning instances from one IQ Bot environment to another does not migrate roles. Users can use the Assign Roles feature to reassign roles to learning instances as required in the destination environment.

Views in IQ Bot

A user has the option of three views in IQ Bot based on the roles and permissions assigned to their roles:

Services

Accessible tabs: Dashboard, learning instances, and bots

Note: This is the standard IQ Bot view.

Validator

Accessible tabs: Learning instances (validation only)

Note: This view is visible to a user in the following scenarios:

- The user is assigned only the AAE_IQ Bot Validator role.
- The user is assigned custom roles with only Launch Validator action along with a view permission. If any of the assigned roles has any other actions selected, the default Services view will be visible.

Admin

Accessible tabs: Dashboard, learning instances, domains, bots, and administration

Creating a user with an IQ Bot specific role

Create users in Enterprise Control Room to access IQ Bot as an administrator, Bot Creator, and Validator.

Create administrator, services, and Validator IQ Bot users with Microsoft Windows credentials using the following roles in the Enterprise Control Room:

- AAE_IQBotAdmin
- AAE_IQBotServices
- AAE_IQBotValidator

Tip: The Active Directory users are authenticated with their Active Directory credentials, and the non-Active Directory users are authenticated with the credentials stored in the Enterprise Control Room database.

Users in Enterprise Control Room are created depending on the type of user configured during installation. IQ Bot supports a maximum of five concurrent users.

1. Log in to Enterprise Control Room with superadmin permissions.
2. Go to Administrator > Users.
3. Click the Create User link.

The Create User page appears.

4. Enter the required information on the Create User page.

Note:

- The First name, Last name, and Description fields are optional. For a first name and last name, use numbers, spaces (), period (.), hyphen (-), and underscore (_).
- For a Non- Active Directory user, provide information in each field.
- If you are not configuring the Outgoing Mail Server settings, enter the password .

5. Select a license to be allocated to the user from the Allocate a device license to user area.

If no license slots are available for a role, an alert message appears.

6. To create a user with the administrator role, select AAE_IQBotAdmin. To create a user with the services role, select AAE_IQBotServices, To create a Validator role, select the AAE_IQBotValidator role. .
7. Click Save to create the user.

To switch a user type from Development to Run-time or vice versa, depending on the automation requirements of your organization, update the license type from the License Management page in Enterprise Control Room.

After a Validator or a services user is created, an email is sent to the user. The user is asked to do the following:

- Verify the email ID and set the Enterprise Control Room access password, if the Enterprise Control Room is configured for the Non-Active Directory users.
- Verify the email ID, if the Enterprise Control Room is configured for the Active Directory users.

Related tasks

[User roles and permissions](#)

Access IQ Bot without a Bot Creator or Bot Runner device license

Log in and operate IQ Bot without a device license (Bot Creator or Bot Runner) in Automation Anywhere Enterprise Control Room. However, using the IQ Bot command in the Automation Anywhere Enterprise client requires the appropriate device license identified in the table.

The following table summarizes the roles and associated UI views allowed for each role, with/without an assigned device license. To view or assign device license, go to the Automation Anywhere Enterprise Control Room and navigate to Administration > Users > Allocate a device license to this user?.

User	Device license	UI view in IQ Bot Portal	Comments
Multi/single users: <ul style="list-style-type: none"> • AAE_IQ Bot Admin • AAE_IQ Bot Service • AAE_IQ Bot Validator 	None	Role-specific view	Can access IQ Bot
Users with both roles: <ul style="list-style-type: none"> • AAE_IQ Bot Admin • AAE_Basic 	None	Admin view	Can access IQ Bot
AAE_Basic	None	None	Cannot access IQ Bot. An error message appears with a link to the Enterprise Control Room.
AAE_IQ Bot Service	None	Services	Can access IQ Bot but unable to access the Enterprise client. Therefore, Production documents in the Enterprise client using the IQ Bot lite command are unable to upload.

User	Device license	UI view in IQ Bot Portal	Comments
AAE_IQ Bot Service	Bot Creator	Services	Can access IQ Bot Portal and Enterprise client. In the Enterprise client, to upload production documents, navigate to the New > Workbench > Command tab.
AAE_IQ Bot Service	Bot Runner	Services	Can access the IQ Bot Portal and Enterprise client. In the Enterprise client, select a task and run it. User cannot create/edit a bot.

For more information go to <https://www.automationanywhere.com/products/enterprise>, and see Licenses - an overview

Access IQ Bot Validator without a license

Access the Validator functionality in IQ Bot without requiring a Bot Creator or Bot Runner license. From the Automation Anywhere Enterprise Control Room, create any number of users and assign them to the system defined Validator role (AAE_IQ Bot Validator).

Log in to the IQ Bot Portal and access all the Validator-specific tabs.

Related concepts

[Define access to learning instances using custom roles](#)

Learn whether a profile is local or roaming

Follow these steps to learn whether a profile is local or roaming.

Procedure

1. On your computer, right-click This PC, and click Properties, and then click the Advanced system settings link.
2. In the User Profiles group, click Settings.
In the User Profile window, a list of all the users appears. Local appears in the Type column for the user you have logged in to, to install the product. This user must be an administrator.

If you must switch the user profile from Roaming profile to Local profile, click Change Type.... In the Change Profile Type window, select Local profile and click OK.

Note: Do not install IQ Bot with a roaming profile. Install IQ Bot as a local profile with administrator permissions.

Healthcheck API response if RabbitMQ fails to start

Check the status of each IQ Bot service using the Healthcheck API if RabbitMQ fails to start.

The Healthcheck response for RabbitMQ startup failure is different in case of FileManager, Project, Validator, VisionBot as described in the following table.

Service name	Healthcheck response	Reason for failure
FileManager http:// <hostname>:<9996>/ healthcheck	<u>Failure 1:</u> localhost refused to connect <u>Failure 2:</u> localhost refused to connect	Reason for failure 1: The RabbitMQ node/service went down when the Filemanager service was running. Reason for failure 2: The RabbitMQ node/service was already down when the Filemanager service started.
Project http:// <hostname>:<9999>/ healthcheck	<u>Failure:</u> localhost refused to connect	Reason for failure: The RabbitMQ node/service is down.
Validator http:// <hostname>:<9995>/ healthcheck	<u>Failure:</u> localhost refused to connect	Reason for failure: The RabbitMQ node/service is down.
VisionBotManager http:// <hostname>:<9998>/ healthcheck	<u>Failure:</u> localhost refused to connect	Reason for failure: The RabbitMQ node/service is down.
Gateway-2 service http://<hostname>:8100/ healthcheck	Application: gateway-2 <u>Failure 1:</u> localhost refused to connect	Reason for failure 1: Port is blocked and the Gateway-2 service is running. Reason for failure 2:

Service name	Healthcheck response	Reason for failure
	<u>Failure 2:</u> localhost refused to connect	The Gateway-2 service is not running.

Set up log file automatic rollover

This topic addresses setting up automatic rollover of log files based on the file size.

Once the log files are created, the system continues logging messages that increases the log file size to a point where they are too large to open. This would prevent the user from opening the log files for reviewing the information and error messages.

Note: This would happen sooner if the logging level is increased to DEBUG or TRACE modes.

For all Java services, user can identify the log files under <IQ Bot installation directory>/Services . Open any logging configuration file, and add the following change under <SizeBasedTriggeringPolicy size="100MB" /> in the first occurrence of Policies:

```
<Policies>
<TimeBasedTriggeringPolicy interval="720" />
<SizeBasedTriggeringPolicy size="50MB" />
</Policies>
```

In the following example setting, after the log file reaches 50 MB, the system creates a new file automatically and starts logging in it. Though the user ends up with more files, but each file would be 50 MB only. This is standard practice to manage log files.

This example shows entries a user can add to the setting for IQ Bot Version 11.x. to automatically roll over the logs after the files reach a certain size.

```
<RollingFile name="Alias" fileName="${env:PUBLIC}/Documents/Automation Anywhere
IQBot Platform/Logs/Alias.log"
            filePattern="${env:PUBLIC}/Documents/Automation Anywhere I
QBot Platform/Logs/Archive/${date:yyyy-MM}/Alias-%d{yyyy-MM-dd}-%i.log.zip"
            immediateFlush="true"
            append="true">
    <PatternLayout pattern="CPL1 Alias %X{cid} %d{ISO8601}{UTC}Z %-5lev
el %C %M %msg %n"/>
    <Policies>
```

```

        <TimeBasedTriggeringPolicy interval="720" />
        <SizeBasedTriggeringPolicy size="50MB" />
    </Policies>
    <DefaultRolloverStrategy max="10"/>
</RollingFile>

```

This example shows entries a user can add to the setting for IQ Bot A2019 On-Premises to automatically roll over the logs after the files reach a certain size.

```

<RollingFile name="Alias" fileName="${env:PUBLIC}/Documents/Automation Anywhere IQBot Platform/Logs/Alias.log"
    filePattern="${env:PUBLIC}/Documents/Automation Anywhere IQBot Platform/Logs/Archive/${date:yyyy-MM}/Alias-%d{yyyy-MM-dd}-%i.log.zip"
    immediateFlush="true"
    append="true">
    <PatternLayout pattern="CPL1 Alias %X{cid} %d{ISO8601}{UTC}Z %-5level %C %M %msg %n"/>
    <Policies>
        <TimeBasedTriggeringPolicy />
        <SizeBasedTriggeringPolicy size="50MB" />
    </Policies>
    <DefaultRolloverStrategy max="10"/>
</RollingFile>

```

Related concepts

[Enabling tracing in logs](#)

Reinstalling HTTPS SSL certificate for secure communication when it expires

Reinstall HTTPs SSL certificate when your HTTPS SSL certificate expires.

The HTTPS SSL certificate is required for secure and encrypted communication between your browser and IQ Bot, to protect highly confidential online transactions, for example, online financial and shopping transactions. The padlock icon on your browser indicates that you have an active secure connection.

To enable a secure connection, get the HTTPS SSL certificate as follows:

1. Go to %installation_dir%\Configurations and as an administrator, run stopanduninstallallservices.bat.

Note: In a cluster installation, stop the services on each of the nodes for IQ Bot and Enterprise Control Room cluster.

2. Go to %installation_dir%\Portal\keys and make a backup of the cert.crt, key.key, and ca.crt file.
3. Convert the .pfx of the IQ Bot certificate in the .crt format and .key by running the following commands:
 - Fetch an encrypted key from .pfx.

```
openssl.exe pkcs12 -in "path_to_cert\example.pfx" -nocerts -out
"path_to_cert\example encp.key"
```

- Convert an encrypted key to a readable format.

```
openssl.exe rsa -in "path_to_cert\example encp.key" -out "path_to_cert
\key.key".
This command converts encrypted key to a readable format.
```

- Convert .pfx to .crt format.

```
openssl.exe pkcs12 -in "path_to_cert\example.pfx" -clcerts -nokeys -ou
t
"path_to_cert\cert.crt".
```

- Fetch the ca.crt file from the Control Room certificate (.pfx) file only if the Control Room certificate also expires.

```
openssl pkcs12 -in <filename.pfx> -cacerts -nokeys -chain -out <ca.crt
>
```

4. Copy or replace the cert.crt, and key.key (generated in the previous step), and the ca.cert (generated using the Control Room certificate .pfx file) to the %installation_dir%\Portal\keys folder.
5. Import the IQ Bot public certificate into the Java Key store for IQ Bot by running this command as a system administrator:

```
"JRE Location\bin\keytool.exe" -import -alias iqbot-keystore "cacerts loca
tion of iq bot" -file " iq bot public certificate file"
```

For example: "C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\JRE\1.8.0_161\bin\keytool.exe" -import -alias cr -keystore "C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\JRE\1.8.0_161\lib\security\cacerts" -file "C:\Certificate\Publiccertificate.crt".

6. To import the IQ Bot public certificate into Enterprise Control Room, go to the Enterprise Control Room installation path, such as: C:\Program Files\Automation Anywhere\Enterprise, and run the following command as a system administrator: jre\bin\java -jar certmgr.jar -appDir "C:\Program Files\Automation Anywhere\Enterprise" -importTrustCert "C:\Certificate\Publiccertificate.crt".

For IQ Bot A2019 (Build 550), use the following path: `jrk\bin\java -jar certmgr.jar -appDir "C:\Program Files\Automation Anywhere\Enterprise" -importTrustCert "C:\Certificate\Publiccertificate.crt"`.

7. After importing the certificates, restart services for Control Room and IQ Bot.

If the Enterprise Control Room certificate expires

1. Follow the steps: [Import Control Room HTTPS and CA certificates](#)
2. Convert .pfx to .crt format. `openssl.exe pkcs12 -in "path_to_cert\example.pfx" -clcerts -nokeys -out "path_to_cert\cert.crt"`.
3. Fetch the ca.crt file from the Control Room certificate (.pfx) file. `openssl pkcs12 -in <filename.pfx> -cacerts -nokeys -chain -out <ca.crt>`
4. Copy or replace the ca.crt to the keys folder in IQ Bot.
5. Import the Control Room public certificate into Java Key store for IQ Bot by running this command as a system administrator: `"JRE Location\bin\keytool.exe" -import -alias cr -keystore "cacerts location of iq bot" -file "control room public certificate file"`.

For example: `"C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\JRE\1.8.0_161\bin\keytool.exe" -import -alias cr -keystore "C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\JRE\1.8.0_161\lib\security\cacerts" -file "C:\Certificate\Publiccertificate.crt"`.

Note: To change the Control Room certificate, follow steps here: [Import Control Room HTTPS and CA certificates](#)

Related information

<https://www.instantssl.com/ssl-certificate-products/https.html>

<https://www.websecurity.symantec.com/security-topics/what-is-ssl-tls-https>

IQ Bot upgrade and uninstallation

Follow the upgrade and uninstallation steps for IQ Bot to ensure a smooth and seamless process.

In addition, refer to [Upgrading IQ Bot](#) to learn how to upgrade installation and migrate learning instances to a different version of IQ Bot.

- [Uninstalling IQ Bot](#)
Uninstall IQ Bot and its dependencies.
- [Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)
Upgrade IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS by unregistering [IQ Bot](#) first.
- [Upgrading and downgrading IQ Bot](#)
Uninstall and install a later version to upgrade IQ Bot. Uninstall and install an earlier version of IQ Bot to downgrade.

Related tasks

[Uninstalling IQ Bot](#)

[Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS](#)

[Upgrading and downgrading IQ Bot](#)

Uninstalling IQ Bot

Uninstall IQ Bot and its dependencies.

Uninstalling IQ Bot Version 6.5.x and earlier requires a manual uninstall.

To manually uninstall, go to Windows > Control Panel > Programs > Uninstall a program, and choose IQ Bot.

For all other versions, use the following steps.

1. Double-click the Automation_Anywhere_IQ_BOT_<version-number>.exe installer file. The Automation Anywhere IQ Bot - Wizard appears.
2. Enter the administrative permissions in the User Access Control dialog box if a dialog box appears.
Note: Ensure you close all the existing browser instances running IQ Bot before you begin uninstallation.
3. Click Next. The Ready to Remove page appears.
4. Click Remove.

The uninstallation process begins.

Note: During the uninstallation process, if setup information appears, click OK to continue. Clicking Cancel aborts the process.

5. When complete, the Finished page appears. Click Finish to complete the process.

Note: Uninstalling IQ Bot does not delete the IQ Bot database or any of the following dependencies. Manually remove them using recommended third party procedures.

- Erlang/OTP
- RabbitMQ
- NodeJS
- SQL Server Native Client
- Python

Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS

Upgrade IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS by unregistering [IQ Bot](#) first.

Prerequisites

Uninstall the HTTP versions of IQ Bot, and Automation Anywhere Enterprise Control Room from your machine before upgrading both the applications to HTTPS.

Procedure

1. In HTTPS mode, install the Automation Anywhere Enterprise Control Room.
2. Update the Web Enterprise Control Room HTTPS URL by logging in to Control Room > Administration > General Setting.
3. Next, in HTTPS mode, install IQ Bot.
4. Unregister IQ Bot from the Enterprise Control Room.
5. Copy the CA certificate of the Automation Anywhere Enterprise Control Room to the IQBot_INSTALL_DIR/Portal/Keys location.
6. Import the IQ Bot public certificate to the Automation Anywhere Enterprise Control Room `certmgr`.
7. Import the Automation Anywhere Enterprise Control Room public certificate to the IQ Bot keystore.

8. Restart the Console service.
9. Register the IQ Bot with the HTTPS URL in the Automation Anywhere Enterprise Control Room.

Upgrading and downgrading IQ Bot

Uninstall and install a later version to upgrade IQ Bot. Uninstall and install an earlier version of IQ Bot to downgrade.

To upgrade or downgrade IQ Bot, perform the following procedure.

Procedure

- Upgrading IQ Bot

1. Create a new folder in any location and take a backup of the Settings.txt and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.json for your reference from the <Installation Path/Configuration> folder to this new folder.
2. Take a backup of the existing IQ Bot databases before starting the upgrade.
3. Follow the uninstall process.
4. Copy a later version of IQ Bot installable file from <path of the installable file> to your local system.
5. Follow the installation process.

Note:

- Refer to the settings from the Settings.txt and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.json to enter the configuration values when you are installing an earlier version of the product.
- Back up your database to restore it in case any issue occurs in future or in case you downgrade to an earlier version of IQ Bot.

Upgrading IQ Bot

- Downgrading IQ Bot

1. Create a new folder in any location and take a backup of the Settings.txt and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.json for your reference from the <Installation Path/Configuration> folder to this new folder.
2. Uninstall the later version of IQ Bot.
3. Take a backup of the current databases.
4. Remove the backup of the current databases.
5. Restore the database backup of the earlier IQ Bot version.
6. Install the earlier version of IQ Bot.

Note:

- Refer to the settings from the Settings.txt and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.json to enter the configuration values when you are installing an earlier version of the product.
- Back up your database to restore it in case any issue occurs in future or in case you upgrade to a different version of IQ Bot.

Related tasks

[Uninstalling IQ Bot](#)

[Installing IQ Bot in Express mode](#)

[Databases created during IQ Bot installation](#)

Related reference

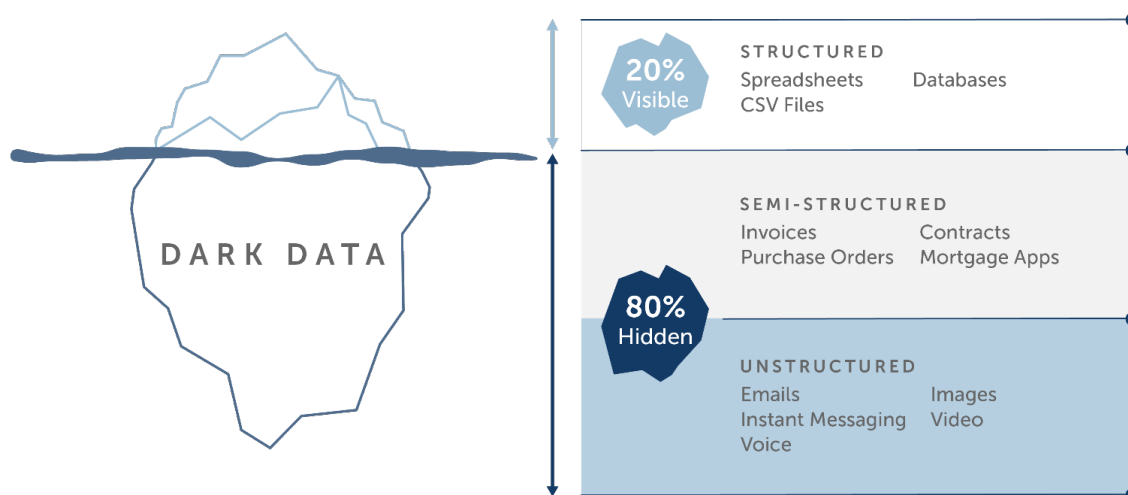
[IQ Bot installation prerequisites](#)

Using IQ Bot

IQ Bot provides cognitive (intelligent) automation that can learn further from humans to uncover and transform important, but less structured data to automate business processes quickly and efficiently, simultaneously reducing human error.

Overview

Cognitive automation processes semi-structured and unstructured data and converts it into structured data that is used by Robotic Process Automation (RPA) bots for end-to-end automation.



IQ Bot leverages machine learning for continuous enhancement learning from user actions. Start using IQ Bot by creating a learning instance, which defines the type of document you must process, the language of documents, and a list of data fields to capture and extract from each document. Next, train the documents and review the results of the training. You can also download the extracted data to a CSV file for review. After correcting any errors, save the bot and send it for production. In the production environment, run the trained bot against a set of documents to automate data extraction.

Phases in IQ Bot business process

1. Preprocess documents.
2. Receive text segmentation and optical character recognition (OCR).
3. Classify documents in groups.
4. Extract document data.
5. Validate and correct failed documents.
6. Complete validation and save.
7. Trigger approval.
8. Obtain final review and approval.

IQ Bot continues to learn from human corrections to become smarter and more accurate over time.

User prerequisites

Users who create and configure automation tasks and deploy TaskBots also create IQ Bot learning instances, deploy the learning instances from staging to production environments, and correct documents with exceptions.

The primary user roles are as follows:

- Services users: Automation experts who train bots on sample documents, so these bots can later automatically process a larger volume of documents.
- Validators: Use a visual interface to manually verify or fix data extraction from a document.

Users are required to have an understanding of the following:

- Common administrative tasks of Automation Anywhere Enterprise Control Room
- Differences between structured, semi-structured, and unstructured documents
- Standard fields in a semi-structured or unstructured document, for example, invoice number, invoice date, and so on.
- General automation commands in Automation Anywhere
- Internet information services
- How to start and stop web services
- How to block and unblock ports

General process

Use the general process for IQ Bot to create a learning instance, upload documents, build/train the bots, validate extracted data and make corrections, and set the bots to production.

The general process for using IQ Bot is described as follows:

1. [Create a learning instance](#) and upload sample documents.
2. After the documents are analyzed, review the report in the [Performance report page](#). The report shows you important insights about your sample documents, for example, similar documents that can be grouped together, document groups that return all required fields, and document groups used to create and train learning instances.
3. After the sample documents are analyzed, [Train a learning instance](#) by mapping required fields and setting validation rules for a document in a group that best reflects the documents in that group. When the learning instance is deployed in production, it processes all documents identified as part of this group.
4. After training, [Set learning instance to Production](#), and then use the botcommand to upload documents to the production environment for processing. See [Upload documents to a learning instance](#).
5. Any documents that do not complete straight-through processing because of field extraction or rule-related problems require human validation. Users are required to [Validate document with errors](#).
6. Throughout the process, use the IQ Bot [Dashboard](#) to monitor the progress of the production instances.

Throughout the process, use the IQ Bot [Dashboard](#) to monitor the progress of the production instances.

Features and benefits of using IQ Bot

Use IQ Bot for the following features:

- Use the wizard for learning instance training in order of importance on the web-based Designer.
- Download new domains from the Bot Store and reduce setup time for new use cases with the Domain Management utility.

- If you are logged in to the Enterprise Control Room with the Single Sign-on feature, you can open the IQ Bot Portal directly.
- Leverage the stronger security features in the Automation Anywhere platform as part of IQ Bot Version 6.0 integration.
- Exception handling is fast and seamless with the web-based Validator.
- Preview the data extraction results to verify the training provided to the learning instance.
- Use semantic analysis and automated classification to analyze and extract data types and formats from learning algorithms, invoices, purchase orders, and bills. It also does the following:
 - Autodetects file values after field mapping
 - Autocorrects exceptions from human expertise
 - Flags exceptions based on the built-in confidence levels mechanism
 - Uses the cross-field mapping rules and field-collision resolution
- Leverage current computer vision technology OCR, document classification, and data extraction of documents.
- Support for 190 languages, including English, French, German, Italian, Spanish, Japanese, Korean, Simplified Chinese, and Traditional Chinese.

Note: **6.5.2** The user interface language drop-down list appears by default. Select the respective language from the list.

- [Learning Instance](#)
Create a learning instance to upload and train sample documents. After training is complete, send the learning instance to production and use it to run on actual documents to extract data. View a summary of all learning instances and their details in a table on the My Learning Instances window.
- [Create a learning instance](#)
Creating a learning instance is the first task for creating and training an IQ Bot.
- [Select an OCR engine](#)
You can select different OCR engines from the UI to see what best suits your requirements for data extraction based on your document types. A stop and restart of IQ Bot services is not required for implementing an engine change.
- [Edit a learning instance](#)
Edit a learning instance to change the description, add additional training documents, or include additional fields for extraction.
- [Classification criteria in IQ Bot](#)
Learn about the minimum number of fields you have to select for a document to be classified in IQ Bot.
- [Delete a learning instance](#)
Use the Learning Instances page to delete a learning instance from the View Details page.
- [Search for a learning instance](#)
Use the Search area of the learning instance page to search for learning instances based on the specific criteria, for example, All Fields, Environment, and Instance Name.
- [Staging environment](#)
The learning instance workflow consists of the Staging and Production environments. Staging is a training, testing, and validation environment for hands-on experience with the IQ Bot workflow on documents that represent the larger volume of documents to process in production.
- [Production environment](#)
The learning instance workflow consists of the Staging and Production environments. This is a live environment where a learning instance is set into operation with actual business documents uploaded from a bot.
- [Use Migration Utility to export/import learning instances](#)
Use the IQ Bot Migration Utility to export and import learning instances between different IQ Bot installations to avoid re-creating similar learning instances. This makes the life cycle management of a learning instance and the associated bots easier.
- [Keep learning instance document classifier version during IQ Bot upgrade](#)
After upgrading to another version of IQ Bot, retain the previous document classifier version. This lets user

access the learning instances created in the other version of IQ Bot, and also saves the effort of re-creating and retraining the bots after an upgrade.

- [IQ Bot list of supported languages](#)

Access 190 languages from IQ Bot.

- [IQ Bot Extensions for custom extraction](#)

IQ Bot Extensions provides support for customized extraction of complex, fixed format documents used across various industry verticals. For example, Acord Forms are used as fixed format documents in the global insurance industry. Form CMS1450 (UB-04) is a fixed format document used in healthcare for billing and claims.

- [Create a custom domain](#)

When creating a learning instance, you have the option to create a custom domain.

- [IQ Bot database encryption](#)

The IQ Bot database is encrypted to prevent unauthorized access to sensitive information.

- [IQ Bot Microsoft Windows authentication](#)

The IQ Bot platform administrator can enable Microsoft Windows authentication for the database during IQ Bot platform installation. This enables the connection of SQL databases with Windows or dual authentication.

- [IQ Bot Cloud invoice processing solution](#)

IQ Bot Cloud Invoice Processing Solution enables end-to-end processing of invoices by leveraging both RPA and cognitive automation. The cloud infrastructure required to process invoices is provisioned and managed by Automation Anywhere.

Related concepts

[Learning Instance](#)

[Staging environment](#)

[Start training in Designer](#)

[Dashboard](#)

[Production environment](#)

[Use Migration Utility to export/import learning instances](#)

Learning Instance

Create a learning instance to upload and train sample documents. After training is complete, send the learning instance to production and use it to run on actual documents to extract data. View a summary of all learning instances and their details in a table on the My Learning Instances window.

Learning instances is an environment in which a user can upload documents and do specific tasks in two phases:

- Training:

In the training phase, create, edit, and test bots on sample documents that represent a larger volume of documents you can process in the production stage.

- Production:

In the production phase, a user can upload new documents to IQ Bot for automatic processing by the bots. A user can manually view and edit any documents the system flags with errors.

If a learning instance is in the staging environment, the details of the training are shown. If a learning instance is in the production environment, the details from the production environment are shown.

When you log in to IQ Bot for the first time, the No current learning instances message appears. Click the Create One Now button to create your first learning instance.

Note: If you have created bots in a previous version of IQ Bot, all the bots from your previous versions appear in your current installation of IQ Bot. For example, all bots created in versions 5.2, 5.3, or Version 6.0, would be available for use in the current installed version of IQ Bot.

Click any learning instance to view a summary of all learning instances and their details in the Summary tab. The Document Groups tab shows every group the documents are categorized into.

6.5.2

Document Groups tab

The Document Groups tab shows a list of the document classification groups for the learning instance in a table.

When a user creates a learning instance and uploads documents to train, documents are automatically categorized in the same document group based on their content and classified accordingly. These are termed as classification groups. A bot is more likely to succeed extracting text across documents in a group with similar content.

Type in the description for the document group in the Description column. You can use all the special characters, except #. You can enter a maximum of 30 characters to add the group description. Click on the description text to edit the group description. Refresh the Bots tab to update the document description. The description tab is disabled, when the bot is in production mode.

In some situations, a document in production could lead to a new document group that has no documents from staging. This happens if you set the Copy Production Files property to false, when creating a bot. If you create a new bot with the Copy Production Files property set to false, the following message appears:

There are no training documents available for this Bot. Upload some training documents for the associated learning instance and try again.

Set the Copy Production Files property to true, so that the documents are automatically copied to the staging environment.

Summary tab

To view the summary of a learning instance, click the name of a learning instance from the Instances table. The learning instance area shows the name of the learning instance with a label showing its current environment.

- [Refresh data in Learning Instance details page](#)
The system does not automatically refresh (auto-refresh) the IQ Bot UI unless the user loads a screen or clicks the Refresh button, thereby manually refreshing data on a page. This feature helps reduce the response time for loading new data or performing any action in IQ Bot.

Related concepts

[Staging environment](#)

[Production environment](#)

[Use Migration Utility to export/import learning instances](#)

Related tasks

[Create a learning instance](#)

Refresh data in Learning Instance details page

The system does not automatically refresh (auto-refresh) the IQ Bot UI unless the user loads a screen or clicks the Refresh button, thereby manually refreshing data on a page. This feature helps reduce the response time for loading new data or performing any action in IQ Bot.

Making complex database calls and auto-updating the displayed pages slow down the system. Disabling the UI auto-refresh helps the performance of IQ Bot considerably.

Note: When you use the Refresh option in the Learning Instance details page or Bots page, the refresh button is disabled for 60 seconds. The icon now spins for this duration indicating that a refresh is in progress.

The following scenarios have changed due to the feature update:

Disabled auto-refresh from the learning instance details page

In the Learning Instance details page, use the Refresh button to refresh the categories/groups table.

In the Learning Instance details page or Bots tab, click the Create or Edit buttons. The system directs the user to the Designer without refreshing the groups or categories information. Click Refresh to update the data on the screen.

Unable to train a group already in production

In the Learning Instance details page, without refreshing the page, click a group in staging. This same group could have been set to production by another user in the Bots tab. But because the data on the page does not auto-refresh, the page still displays older data. Clicking this group directs the first user to the IQ Bot Designer and displays a message stating that the group cannot be trained as it is already in production.

Save and go to next group button is always enabled

In the Designer, even when there are no further groups in queue, a user can click the Save and go to next group button. The system displays a message stating that there are no groups available in the queue and the group cannot be trained. Click Close to exit the Designer.

Note: Since auto-refresh is turned off, the Save and go to next group button is always enabled to provide users the option to manually refresh the page to see if another group was added to the queue.

Create a learning instance

Creating a learning instance is the first task for creating and training an IQ Bot.

To create a new learning instance, do the following:

Procedure

1. Click the New instance button. The Create new learning instance page appears.
2. Enter the following information:
 - a) Instance name: Enter a unique name. IQ Bot does not allow duplicate learning instance names. Even if you delete a learning instance, the name cannot be reused.
 - b) Description (optional): Enter a description.

c) Domain: Select the document type from the drop-down list. When you select a document type, a predefined set of form and table fields for the domain appears. For example, when you select Invoices, the standard forms and tables of an invoice appear.

d) Upload documents: Click the Browse button to upload the documents samples to classify and train for the learning instance. Use documents with a resolution value of at least 300 dots per inch (dpi). If multiple documents are in a single PDF, split the PDF into separate documents before the upload. Use the Automation Anywhere PDF command or Acrobat editor to split into separate documents.

You can upload a maximum of 12 MB file size, but add additional documents even after creating the learning instance.

Besides image formats, such as TIFF, JPG, and PNG files, you can also upload PDF, Vector, Raster, and Hybrid (Vector and Raster) documents for classification and analysis.

e) Primary language of documents: Select the language of the learning instance from the drop-down list. To create custom domains in other languages and access up to 190 languages that IQ Bot supports, contact the Services team.

3. Add the standard fields in the Standard form fields and Standard table fields sections. To add additional fields, enter the field name in the Other fields (Optional) section and click the Add as form/Add as table options. You cannot add duplicate fields using customization.

Follow the naming conventions when you enter a name in the Other fields (Optional) field:

- Field names can only begin with alphabets (A-Z and a-z).
- Field names can only include numbers, alphabets, and spaces.

4. Click the Create instance and analyze button to create the learning instance. The system analyzes and sorts the training documents into logical groups based on field identification and shows its details in the Learning Instance > Summary tab. Your next step is to begin training the learning instance you just created in the Designer.

As soon as you create a new learning instance, it enters the staging environment and the View Details page appears. You are now ready to train the IQ Bot.

Select an OCR engine

You can select different OCR engines from the UI to see what best suits your requirements for data extraction based on your document types. A stop and restart of IQ Bot services is not required for implementing an engine change.

During IQ Bot installation, the system sets the latest version of Tesseract Optical Character Reader as the default OCR engine. This is also the global setting for the product.

However, you can manually set the OCR engine in the Settings.txt file, which becomes the default engine. Similar to the prior releases of IQ Bot, you can continue to manually update the Settings.txt file with the OCR engine name you want to set as default.

If you select a deprecated version of the OCR engine or a non-supported engine through the Settings.txt file configuration, the system displays an error message.

From IQ Bot Version 11.3.5, when creating a learning instance, you can select an OCR engine from the drop-down list available directly in the UI.

Note: Selecting an OCR engine in the UI overrides the settings in the Settings.txt file.

[Create a learning instance](#)

Procedure

1. On the Create a new learning instance page, select the domain and language of the documents.
In the My learning instance list page, a new OCR Engine column is available that shows the OCR engine used for creating each learning instance. This information is useful to the user when deciding on document processing.
2. The Fields to extract and Advanced Settings sections are displayed when you select the domain.
Each domain is available with a predefined list of primary supported languages. Language selection is enabled and available from the Primary language of documents drop-down list based on supported languages for a specific domain.
Note: If you select a language from the Primary language of documents drop-down list and then select an engine that does not support that language, the system displays an error message in the Optical character recognition drop-down list.
3. Click Advanced Settings > Optical character recognition to display the OCR engine options drop-down list.

If the OCR engine selection is invalid, the Create instance and analyze option is not enabled.

Note: IQ Bot automatically installs all OCR engines during the installation process, except for ABBYY FineReader Engine.

You can select from the following:

Option	Description
Tesseract OCR4	This is the default engine, unless changed in the Settings.txt file. From IQ Bot Version 11.3.5 onward, you can only select Tesseract4 OCR or later versions.
ABBYY FineReader Engine	This plug-in is not automatically installed during installation. Follow the steps to download this OCR engine: Install ABBYY FineReader Engine OCR engine in IQ Bot To verify if ABBYY FineReader Engine is installed and available for use, check the Settings.txt file, the OCR Plug-ins folder for the SDK files, and the Optical character recognition drop-down list.
Microsoft Azure Computer Vision OCR engine	IQ Bot Version 11.3.5 supports all languages supported by this engine. Install Microsoft Azure Computer Vision OCR engine
Google Vision API	IQ Bot Version 11.3.5 supports Google Vision API as an OCR engine and supports all languages supported by the engine. Prior to this release, the engine primarily supported data extraction for Japanese and Korean text only. Install Google Vision API OCR engine
(Beta) Tegaki API	IQ Bot Version 11.3.5 supports a beta version of this OCR engine to extract data specific to Japanese and

Option	Description
	<p>Korean language documents. Users are required to download and use their private license to use Tegaki API.</p> <p>Install (beta) Tegaki API OCR engine</p>
My PDF documents do not have images check box	<p>The My PDF documents do not have images check box is enabled by default. The user has the option to disable it.</p> <p>Disable PDFBox option</p>

Edit a learning instance

Edit a learning instance to change the description, add additional training documents, or include additional fields for extraction.

You can edit learning instances that are in the staging environment. To edit instances in the production environment, first set the learning instance to the staging environment.

To edit a learning instance, do the following:

Procedure

1. On the Learning Instances page, click a learning instance and then the View instance details icon. The View Details page appears.
 2. Click the Edit icon to edit the learning instance.
 3. Update the description field (optional).
 4. Click the Browse button to select additional training documents (optional).
 5. Select additional fields and table columns to add to the learning instance for data extraction (optional).
 6. After you add the additional fields and table columns, click the Save icon to view a confirmation message.
 7. Click Yes, proceed with field addition to upload, analyze, and classify the selected training documents (if any) that were added to the learning instance.
- The classification of documents remain unaffected by the newly added fields.

Next steps

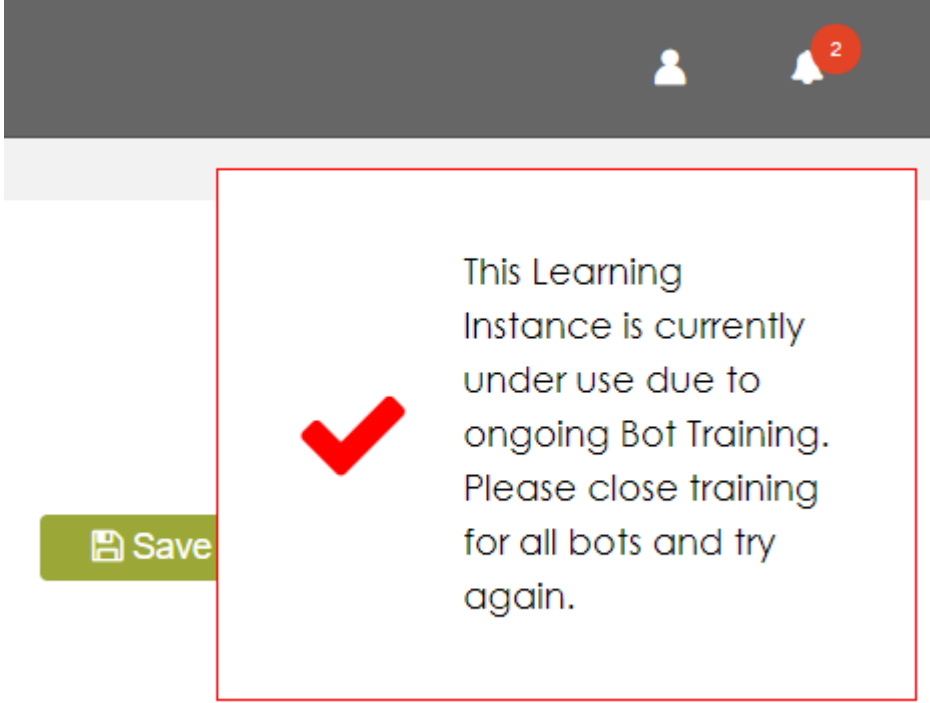
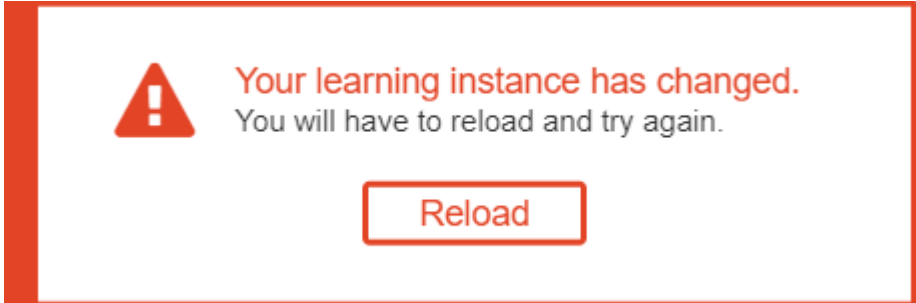
After you successfully edit a learning instance to add additional fields for extraction, these fields become available in all the bots as optional fields in that learning instance. The bots must be retrained for these fields to successfully extract these fields.

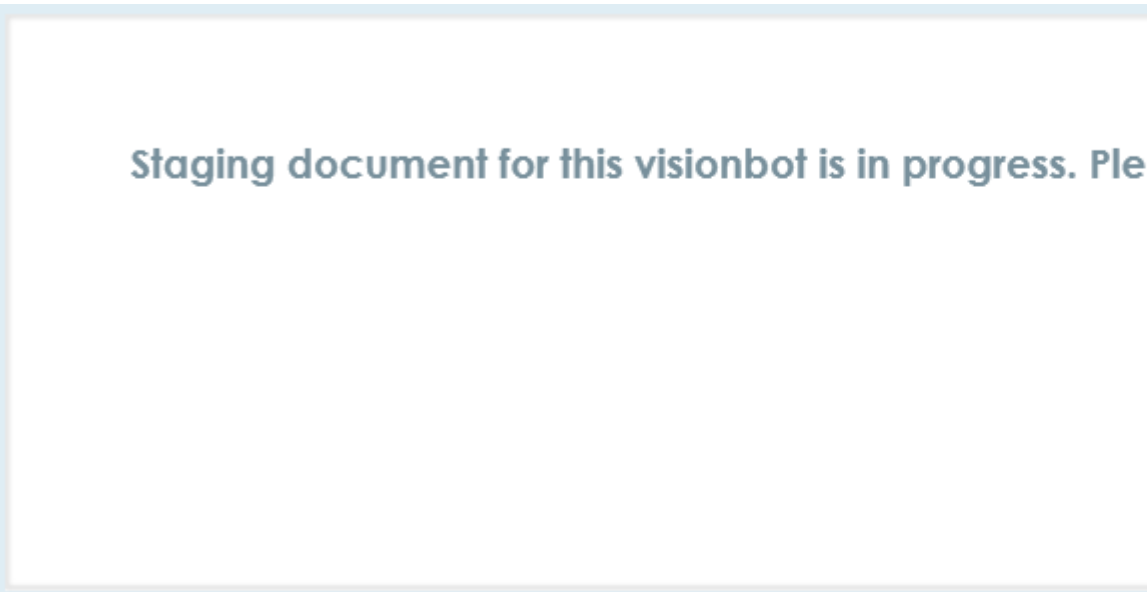
See [Errors generated while editing learning instances](#).

- [Errors generated while editing learning instances](#)
Use case scenarios and error messages generated while editing a learning instance are explained in this topic.

Errors generated while editing learning instances

Use case scenarios and error messages generated while editing a learning instance are explained in this topic.

Case	Details	Message
Bot in training	<p>Learning instance is in use because of ongoing bot training and you edit the same instance</p> <p>A) User 2 is editing the same learning instance</p>	
Case 1: Simultaneous editing of same learning instance	<p>Example for case 1:</p> <p>User 1 uploads a document to the same learning instance.</p> <p>User 2 adds a field when editing the same</p>	

Case	Details	Message
	learning instance.	
Run and edit the same bot	Run the bot and then edit the same bot using the same user login or two different user logins.	

Classification criteria in IQ Bot

Learn about the minimum number of fields you have to select for a document to be classified in IQ Bot.

Learning instances created with out-of-box or custom domains

IQ Bot checks for a minimum number of fields that you selected to successfully classify the document. In all other cases, the document will be marked as unclassified.

For example:

- If you create a new learning instance with 1 to 4 fields selected, IQ Bot checks for at least 4 fields from the total number of fields presented for that specific learning instance. Similarly, if you create a new learning instance with 5 fields selected, IQ Bot checks for at least 5 fields.
- If you create a learning instance with 6 or more fields selected in the learning instance, IQ Bot checks for at least 6 fields. For example, if you selected 8 fields in an invoice domain, IQ Bot checks for at least 6 fields out of the total fields available.

Learning instances created with other domains

If you create a new learning instance with one or more fields, IQ Bot checks for at least one field and classifies the document. If IQ Bot does not find any field, the document will be marked as unclassified.

Delete a learning Instance

Use the Learning Instances page to delete a learning instance from the View Details page.

You cannot delete a learning instance that is in the production environment. To edit a learning instance, do the following:

1. On the Learning Instances page, click the learning instance or View Instance Details icon to show the Summary tab.
2. On the details page, : click the Edit icon. The learning instance becomes available for editing.
3. To delete the learning instance, click the Delete Instance button. A confirmation message appears.
4. Enter the learning instance name in the field and click the I understand, please delete button to delete it.

Important:

Unless you have already exported the learning instance as a backup, the following occurs after you delete a learning instance:

- It is permanently deleted and cannot be restored.
- All the associated bots are deleted and cannot be reused.
- You cannot reuse a deleted name for a learning instance to create a new one.

Search for a learning instance

Use the Search area of the learning instance page to search for learning instances based on the specific criteria, for example, All Fields, Environment, and Instance Name.

To search for a learning instance, do the following:

1. In the Search area, select a field from the All Fields drop-down list, and select from the specific options.
2. In the Search field, enter the name of the learning instance to search.
3. Click Enter to show search results in the Instances area.

Staging environment

The learning instance workflow consists of the Staging and Production environments. Staging is a training, testing, and validation environment for hands-on experience with the IQ Bot workflow on documents that represent the larger volume of documents to process in production.

Use Staging to train, test, and improve the accuracy of a learning instance and its bots before deployment to the Production environment.

Note: Data from the Staging environment does not appear in the Production environment.

The primary purpose of the staging environment is as follows:

- Provide an overview and give you the opportunity to review and correct the extracted data before sending the bots to production
- Provide reporting data for the Staging environment so it does not interfere with reporting data in the Production environment.

Do the following tasks in the Staging environment:

- Upload sample documents.
- Classify or digitize the sample documents.
- Create or train bots to extract data.
- Preview to verify extraction or make manual corrections.
- Save and set the bots to production.
- [Create and edit a bot](#)
Use the Learning Instances page to create and edit bots using the View Details page.
- [Start training in Designer](#)
After creating a learning instance, click the Train button to launch the Designer window to create or edit a bot in that learning instance.
- [Set learning instance to Production](#)
Use the Set instance to production button to move a learning instance to Production.
- [Bots](#)
The Bots page of the IQ Bot Portal lists all available bots for a learning instance, and enables you to perform tasks such as run, change the status, or launch the IQ Bot Designer.
- [Dashboard](#)
View the IQ Bot performance report in real-time on the Dashboard.

Create and edit a bot

Use the Learning Instances page to create and edit bots using the View Details page.

This is an alternate way to create a learning instance and also edit it.

Do the following:

Procedure

1. On the My Learning Instances page, click an instance or the View Instance Details icon to show the instance details in the Summary and Document Groups tabs. You can also click the New Instance button to create a new learning instance.
2. On the details page, do the following:
 - a) Click the Training button to launch the Designer window to begin training the bot.
 - b) Click the Edit icon to edit a bot for a document group.

Start training in Designer

After creating a learning instance, click the Train button to launch the Designer window to create or edit a bot in that learning instance.

The Designer window opens and shows the first document in line for training, with automapped fields. Define and map the form and table fields, and also verify the automapped fields to verify or remap them, if required. The document name appears in the following format:

Group Name > Document Class Name [File name].

If the name of a document is too long, move your mouse over the partial name to show the full name of the document as a tool tip.

In the Designer, the left panel shows the training panel with fields and table headers of the newly added document class. The center panel shows the auto-mapped values, and lets you select/verify them. The right panel shows the document under training.

A bot can be accessed by a single user at a time. If it is in use by another user, the open bot option is disabled.

Use the Zoom in, Zoom out, or Fit to screen icons at the bottom of the document pane to adjust the display size of the document in training. Use the pagination arrows to move to a different page in the document.

Note: If you are inactive in IQ Bot for 20 minutes, the system logs you off and redirects you to the login page.

- [Train a learning instance](#)

To begin training bots to digitize and extract data from documents in a learning instance, click the Train button. The system analyzes and sorts the training documents into logical groups based on field identification.

- [Design panel](#)

The Designer, opens with auto-mapped fields and table columns, and lets you edit the existing mapping by adding new fields and tables. The left panel also displays the Field Listing Header showing the name, format, and requirement.

- [Improve output quality using OCR confidence](#)

Improve the output quality of the IQ Bot Platform using the system identified region (SIR) and optical character recognition (OCR) confidence by comparing it to a predefined threshold.

- [Designer validation patterns](#)

IQ Bot Designer allows you to validate a field and table column against a set of predefined parameters so that you can be warned if any mismatch is found during data digitization process.

- [Resize mapping area](#)

In the Designer, after mapping a box around a field value on a document, you can resize the box in any direction.

- [Map a field](#)

The Designer opens with the field panel displayed. Correct and re-map the fields, and map new ones as required.

- [Text segment](#)

A text segment is a blue-box display of a mapped field/column value in the document panel. This feature helps train the bots.

- [Map a table](#)

In the Designer, move one or more table fields from one table to another to train extraction, see multiple tables and their extracted values to validate extraction, and add new tables.

- [Stop extraction at End of table/section indicator](#)

This topic describes multiple ways to populate the value for the End of table/section indicator in the IQ Bot Designer.

- [Add multiple tables in Designer](#)

Add multiple tables in the Designer simultaneously.

- [Define one or more linked fields in a child table](#)

In the Designer, define one or more linked fields/sections in a child table, to link parent and child tables in a flexible way.

- [Map repeated tables and sections](#)

This topic explains how to map repeated section labels and values.

- [Rename tables and repeated sections](#)

Rename tables and repeated sections in the Designer, and identify their content.

- [Extract data for single/group check box](#)

When you create a learning instance and set it for training IQ Bot displays the Designer where document groups

get trained for data extraction. In this topic, we will specifically discuss data extraction for single/group check box(es) in the staging environment.

- [Extract repeated check boxes data](#)

This topic explains how to extract data from the repeated check boxes.

- [Delete mapping in the Designer](#)

Delete mapping of field labels and field values, selecting the X delete symbol next to the mapped label or value.

- [Extract data from table summary rows](#)

User can map table summary rows in the Designer to extract different structures. This topic explains a typical scenario for extracting data from table summary rows.

- [Common fields across multiple document groups](#)

Create a learning instance with a single document group.

- [Extract data using magnetic ink character recognition](#)

Use the magnetic ink character recognition (MICR) OCR feature with ABBYY FineReader Engine version 12.2 support to extract MICR data from financial checks.

- [Disable PDFBox option](#)

The PDFBox option is enabled by default. Disable the option when you are training hybrid PDF documents containing images and text.

- [Preview extracted data](#)

After completing field and table mapping, click the See Extraction Results button to view OCR and extracted results to verify the accuracy of the training.

- [Navigating through your training documents](#)

IQ Bot analyzes training documents and groups, and arranges them in an alpha-numeric sequence.

- [Export data to a csv file](#)

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

Related concepts

[Design panel](#)

[Map a table](#)

[Designer validation patterns](#)

[Preview extracted data](#)

[Common fields across multiple document groups](#)

Related tasks

[Map a field](#)

[Resize mapping area](#)

Train a learning instance

To begin training bots to digitize and extract data from documents in a learning instance, click the Train button. The system analyzes and sorts the training documents into logical groups based on field identification.

The IQ Bot Designer displays each document group for you to train in order of importance.

Note: Define all the fields and tables you want to extract from the document(s) in the Designer.

When you click a field in the left panel, the mapped field and its value displays in the center panel. You can validate the field and its value in the document, displayed in the right panel.

If the mapped field value is accurate, the Designer displays a green check mark next to the mapped field in the center panel.

Mark a field Optional in case the value in a field appears in some documents only. By default, fields are marked as Required unless a field is added after creating the learning instance. In this case, the field is Optional by default. See example below.

If Tax is calculated in one document but not in another, you could mark this field as optional and provide a default value of 2% .

- [Choose training document for a group](#)

During document training, look at unique document layouts available in a group, and choose a different document than the default one chosen by IQ Bot Designer, that is more representative of documents across that group. That helps maximize straight-through processing (STP).

Choose training document for a group

During document training, look at unique document layouts available in a group, and choose a different document than the default one chosen by IQ Bot Designer, that is more representative of documents across that group. That helps maximize straight-through processing (STP).

Follow the steps to choose a different document from a document group.

Procedure

1. User can see the View each Group 'x' document button in the Designer training page next to the document name.
The View each Group 'x' document button is disabled if there is a single document in the group.
2. Click the View each Group 'x' document button to display the previous and next arrows that will let you move to another document. You can also cancel out of the task.
Choosing a different document as the group's training document will clear all mapping from the previous document. IQ Bot displays a warning message stating the same.
3. Select a new document and click the Change the training document button to see a message confirmation stating: *If you change the training document for this group, any mapping from the previously trained document will be lost. Do you want to change the training document for <group name> to <document name>?*
4. Choosing No, cancel takes you back to the Designer, whereas confirming the message Yes, change loads and launches the new document with auto-mapped fields.
5. Click See extraction results to view extracted data from the new document.

Design panel

The Designer, opens with auto-mapped fields and table columns, and lets you edit the existing mapping by adding new fields and tables. The left panel also displays the Field Listing Header showing the name, format, and requirement.

1. Click a field in the left panel, to display the selected field and its value in the middle panel. In the middle panel, completed field mapping is identified with a green check icon at the top of the panel.
2. Using the draw icon, select/reselect the appropriate value with System Identified Regions (SIR) in the document, which is represented by a blue-box text segment in the right panel of the document itself.
Note: The blue-box text segment has boundary handles allowing resize of selected areas in the document.
3. Next, create a design for a bot by adding and defining columns and tables you want to extract the data from.

Note: The extent of auto mapping depends on text segmentation and optical character recognition (OCR) quality of the fields and also the depth of taxonomy related to the underlying domain for that learning instance. Additionally, it also depends on the algorithm's decision-making logic.

Improve output quality using OCR confidence

Improve the output quality of the IQ Bot Platform using the system identified region (SIR) and optical character recognition (OCR) confidence by comparing it to a predefined threshold.

Confidence-based validation is useful for a text type field. Confidence-based validation is useful for Date or Number fields as well, as it helps route a document, with contentious values, for a human to view in spite of the fields satisfying set validation criteria.

Enable OCR confidence-based validation

This feature is disabled by default. To enable this feature, open Settings.txt configuration file available in <IQ Bot Installation Folder>\Configurations\, and set the desired threshold value in the ConfidenceThreshold property. For this example, set the character-level confidence threshold value to

99

, hence `ConfidenceThreshold=99`. When this feature is disabled, the default value is set to 0, signifying that the feature is disabled.

Note: The confidence threshold value is uniformly applicable across all the learning instances.

How does OCR confidence-based validation work

In a document if a field's SIR character level confidence is lower than that of the set confidence threshold, the validation for that field fails, resulting in the failure of that document.

Note: If a field value fails due to a validation rule (For example, Invalid Number Format) other than the OCR confidence validation failure, you see that tool tip, and not the tooltip for Low confidence.

While training a document, the confidence-based validation failure against a field appears in an orange box during preview if no other validation errors exist for that field. Other validation errors take precedence over OCR character-level confidence validation.

Designer validation patterns

IQ Bot Designer allows you to validate a field and table column against a set of predefined parameters so that you can be warned if any mismatch is found during data digitization process.

Validate a field or table

Validate a field or table column against the following predefined parameters of validation options:

- Start With / End With
- Pattern
- Lists
- Formulas

IQ Bot classifies documents into groups based on similar content, structure, and layout, which is easily identifiable. The sample documents for training are chosen based on these criteria as well. When you launch the Designer to train your learning instance, IQ Bot loads and displays a sample document from each classified group in the document pane.

Tip: In the Designer set the validation parameters by defining any field and or table column during document training.

- [Starts With and Ends With](#)
While all validations can be set at the time of Design definition, you can set Starts with/Ends with and Pattern validations during training.
- [Pattern](#)
A pattern helps define an acceptable format for data.
- [Lists](#)
While defining a field or table column in the Design view, you can specify a list as part of validation option for a selected field or table column. The extracted value of the field is validated against this predefined list during Preview and Test Run.
- [Formulas](#)
For calculative or comparative validation, in the design view, specify a formula as part of validation options for a selected field or table column.

Related concepts

[Starts With and Ends With](#)

[Pattern](#)

[Text](#)

[Date](#)

[Number](#)

Related tasks

[Lists](#)

Starts With and Ends With

While all validations can be set at the time of Design definition, you can set Starts with/Ends with and Pattern validations during training.

To validate whether data in a field starts or ends with a certain value, use the Starts With and Ends With validation option fields. While defining the design of a field or table column, you can specify whether the data is part of the selected field.

- Start with a certain value using a Starts With field
- End with a certain value using an Ends with field

If the Start With value is "IN" and extracted value is "1N7646464", then validation fails. While if End With value is 2017 and the extracted date value is 10-Aug-2017, the validation passes.

Pattern

A pattern helps define an acceptable format for data.

Validate data in the field or table column against a specific pattern. While defining the field or column in the Design view, specify a pattern of the data in the selected field.

Select pattern for date and number fields based on the different available patterns.

You can have different patterns for Text, Date, and Number.

- [Text](#)
Select from a list of different available text data types.
- [Date](#)
Specify any regular expression and special patterns in the Date data type.
- [Number](#)
Choose from available number patterns. For example, regular expression and special patterns.

Related concepts

[Text](#)

[Date](#)

[Number](#)

Text

Select from a list of different available text data types.

Specify any regular expression in the Text data type. The following table lists some of the common examples:

Field	Pattern	Notes	Description
Email	<code>^([a-z0-9_\.-]+)@([\da-z_\.-]+)\.([a-z\.-]{2,6})\$</code>	This regular expression validates emails like john@ado.com.	The Email field supports regular expressions.
Phone Number	<code>^(\(?[0-9]*\)?[0-9_-\]*\)\$</code>	This regular expression validates phone numbers like (+64) 38 3235393.	The Phone Number field supports regular expressions.
Website	<code>^([a-zA-Z0-9]+(\.[a-zA-Z0-9]+)+.*)\$</code>	This regular expression validates websites like www.domain.com.	The Website field supports regular expressions.
Number string	<code>^[0-9]{1,45}\$</code>	This regular expression validates a string with numbers 0 - 9 and limit length to 45.	The Number string field supports regular expressions.
Alpha-numeric	<code>^[A-Za-z0-9_@./#&+~]*\$</code>	This regular expression validates a string containing alphanumeric values like INV-001.	The Alpha-numeric field supports regular expressions.

Date

Specify any regular expression and special patterns in the Date data type.

The following table lists some common examples:

Field	Pattern	Notes
Date	<ul style="list-style-type: none"> d-m-yy dd-mm-yy mm-dd-yy dd-mm-yyyy mm-dd-yyyy dd-mmm-yyyy mmmm dd, yyyy 	<p>Supported date separators include /(forward slash), -(dash), space, . (dot), and ,(comma).</p> <p>Here,</p> <ul style="list-style-type: none"> d - Numeric day of the month, from 1 through 31 (eg. 5, 15 etc.) dd - Numeric day of the month, from 01 through 31 (eg. 05, 15 etc.) m - Numeric month (eg. 1 for January) mm - Numeric month (eg. 01 for January) mmm - First 3 letters of the month (eg. NOV for November) mmmm - Full name of the month (eg. June)

The following table lists some date examples and it's corresponding valid patterns:

Date	Pattern
01-31-18	mm-dd-yy
Jan-31-2018	mmm-dd-yyyy
January 31, 2018	mmmm dd, yyyy
January 9, 2018	Mmmm d, yyyy
9 5 15	D M YY
9 11 15	D MM YY
7 MAR 15	D MMM YY
7 MARCH 15	D MMMM YY
5 05 2018	M DD YYYY
5/05/18	D/MM/YY
9/5/15	M/D/YY
05 / 9 / 2018	DD / M / YYYY
MAR / 05 / 18	MMM / DD / YY
09-APRIL-18	D-MMMM-YY
5-5-18	M-D-YY
11-5-18	MM-D-YY

Date	Pattern
NOV-13-2018	MMM-DD-YYYY
13 - 5 - 2019	DD - M - YYYY
OCTOBER - 05 - 18	MMMM - DD - YY
05.APRIL.2018	D.MMMM.YYYY
APRIL.05.2018	MMMM.DD.YYYY
5 . 5 . 18	D . M . YY
5 . 05 . 18	D . MM . YY
05 . JUL . 18	DD . MMM . YY
5 . 11 . 2018	M . DD . YYYY
MAY . 13 . 13	MMMM . DD . YY
2018-01-27	YYYY-MM-DD
2017/07/27	YYYY/MM/DD

Number

Choose from available number patterns. For example, regular expression and special patterns.

Regular expression

The following table provides an example of the numeric regular expression.

Field	Pattern	Notes	Description
Number string	<code>^[0-9]{1,45}\$</code>	This regular expression validates a string with numbers 0 - 9 and limit length to 45.	The Number string field supports regular expressions.

Special patterns

A Pattern consists of a Prefix, a Number Pattern, and a Suffix. Use for each is explained as follows:

- Prefix: Any symbol or a text string that is appended before the Number Pattern.
- Suffix: Any symbol or a text string that is appended after the Number Pattern.
- Number Pattern: Number pattern has two parts:
 - Integer-part:
They are represented by nines (9s).

The 9s in the integer part represents integer pattern and separators such as commas, spaces, and so on.

- Fractional part

They are represented by zeros.

If you need two fractional number, then it will be represented by two zeros.

Specifying fractional part is optional.

Format of numbers defined for validating numeric data.

Field	Pattern	Notes	Description
Numeric	Supported patterns	Supported format for numeric patterns: <ul style="list-style-type: none"> Decimal (India) Decimal (US, UK, Australia and others) Number (India) Number (US, UK, Australia and others) Normal Decimal Normal Number 	The Numeric field supports special patterns (system recognized patterns) and regular expressions.
	9,999,999.00	2,597.23	
	9.999.999,00	7.562.597,23	
	9 999 999.00	2 597.23	
	9 999 999,00	7 562 597,23	
	9999999,00	2597,23	
	9999999.00	7562597.23	
	99,99,999.00	75,26,569.56	
	\$ 9.999.999,00	\$ 7.562.597,23	
	\$9 999 999.00	\$7 562 597.23	
	9 999 999,00 \$	2 597,23 \$	
	€ 9999999,00	€ 7562597,23	
	€9999999.00	€7562597.23	
	99,99,999.00 €	75,62,597.23€	
	EUR 9,999,999.00	EUR 7,562,597.23	
	EUR9 999 999.00	EUR7 562 597.23	
	9999999,00 EUR	62597,23 EUR	
	9.999.999.00	62.986.51	
	9, 999, 999. 00	232, 510. 68	

IQ Bot supports prefixes and suffixes to make processing and validation of data easier. Specifying a suffix and prefix in the pattern and in the numeric fields is optional. Even if you do not specify the suffix or prefix, IQ Bot auto corrects and includes the required currency symbols and units of measure for the numeric fields as prefix or suffix. If you specify the currency symbols and units of measurements in the pattern and in the numeric data, IQ Bot deletes the currency symbol and unit of measure from the data.

Note: IQ Bot automatically recognizes these currency symbols: \$, ¥, £, ₹, €, Rs, USD, EUR, CAD, AUD, GBP, and INR. We recommend specifying valid currency symbols in the data.

Auto Correction

This is one of the built-in features of IQ Bot for date and number format types. It performs automatic validation and correction based on the defined pattern, even when the date/number in the scanned document is incorrect.

Note: Auto correction is only supported for special patterns.

The following table illustrates the auto-correction of an incorrect date and numbers by IQ Bot.

	Incorrect OCR value	Pattern	Auto-Correction	Description
DATE	12 F3B 2 0 1 5	dd mmm yyyy	12 FEB 2015	In the first example, IQ Bot auto corrects incorrect OCR "F3B" to "FEB".
	15 10-2015	dd-mm-yyyy	15-10-2015	In the second example, IQ Bot auto corrects "15 10-2015" to "15-10-2015".
NUMBER	123 4567	9999999	1234567	In the first example, the extra space between "3" and "4" is deleted after validation against the pattern.
	12.34,S67.12	99,99,999.00	1234567.12	In the second example, the alphabet "S" is corrected as "5".

Note: English language numeric value with at least one digit to the left and two consecutive digits to the right (for example, 1.23) gets auto corrected if there is a space found between the decimal and the digits. For example, values 1 . 23 or 1. 23 or 1 .23 get auto corrected to 1.23.

To use this feature, add Pattern (in validation options) to the selected date and number format fields.

Lists

While defining a field or table column in the Design view, you can specify a list as part of validation option for a selected field or table column. The extracted value of the field is validated against this predefined list during Preview and Test Run.

You can only specify list validation when format of field or table column is "Text". If the lookup returns multiple values for a word, the value is not auto corrected and the validation fails.

To specify list validation, do the following:

Procedure

1. Select the validation type as List from the Validate drop-down menu.
2. Type a predefined list and click Define to save.
Each value in the list should be in a separate line.

If the extracted value does not match any value in the predefined list, the field is considered to have failed validation.

Formulas

For calculative or comparative validation, in the design view, specify a formula as part of validation options for a selected field or table column.

Prerequisites

You can specify formula validation only when format of field or table column is a number.

The formulas you specify in the Designer are saved and carried over to the Validator as well. Opening a bot in the Validator will let you see and use the formulas associated with the bot.

- In the Designer, in Preview (See extraction results) view, the formula validation flags errors as expected, to process the training documents.
- Upload the same documents to production from the Enterprise client. The documents get processed and failed due to the same formula validation.
- In the Validator, the same formula validation continues to flag errors to process the documents.

Note: Formula validation migrates when upgrading from IQ Bot Version 5.3.x to version 6.5.x, saving the task of re-adding the formula validation manually.

To specify a formula for validation, perform the following steps.

Procedure

1. Select the validation type as Formula from the Validate drop-down menu.
2. Type the formula of your choice and click Define to save the formula.
3. To write a formula, you can use basic arithmetic, comparative, logical, and functional operations. Validation rules can be built by combining these operations with different fields and table columns.
4. Fill in the fields in the form, as appropriate.

Table 1. Mathematical Operators

Operations	Description	Syntax
+	Addition	Field/Column_Name1 + Field/Column_Name2

Operations	Description	Syntax
-	Subtraction	Field/Column_Name1 - Field/Column_Name2
*	Multiplication	Field/Column_Name1 * Field/Column_Name2
/	Division	Field/Column_Name1 / Field/Column_Name2

Table 2. Comparative Operators

Operations	Description	Syntax
==	Equal To	<p>[Current Field/Column Name] == [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, AMOUNT == MUL(QUANTITY, UNIT_PRICE)</p>
>=	Greater than or Equal To	<p>[Current Field/Column Name] >= [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, TOTAL_BILL_AMOUNT >= AMOUNT_PAID</p>
<=	Less than or Equal To	<p>[Current Field/Column Name] <= [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, AMOUNT_PAID <= TOTAL_BILL_AMOUNT</p>
>	Greater Than	<p>[Current Field/Column Name] > [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, BILL_AMOUNT > 0</p>
<	Less Than	<p>[Current Field/Column Name] < [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, DISCOUNT_PERCENTAGE < 100</p>
!=	Not Equal To	<p>[Current Field/Column Name] != [expression comprised of one or more field/column name or fixed numeric values]</p> <p>For example, DEBIT_AMOUNT != 0</p>

Table 3. Logical Operators

Operations	Description	Syntax
&&	And: Field/Column is valid if all conditions are true	<p><Current Field/Column Name> <operator 1> <expression 1> && <Current Field/Column Name> <operator 2> <expression 2></p> <p>For example, DISCOUNT_PERCENTAGE >= 0 && DISCOUNT_PERCENTAGE <=100</p>
	Or: Field/Column is valid if any one of the given conditions is true	<p><Current Field/Column Name> <operator 1> <expression 1> <Current Field/Column Name> <operator 2> <expression 2></p> <p>For example, DISCOUNT_PERCENTAGE >= 0 DISCOUNT_PERCENTAGE == 'Net'</p>
!	Not: Converts a true expression to false and also the other way round	<p>!<expression></p> <p>For example, !(AGE < 18) ==> valid when AGE is not less than 18</p>

Table 4. Functional Operators

Operations	Description	Syntax
SUM	Summation: gives result of addition of one or more field/column/fixed-number values	<p>SUM(n1,n2,,,,,nN)</p> <p>For example, SUM(SUB_TOTAL, SERVICE_TAX, EDUCATION_CESS) ==> equivalent to SUB_TOTAL plus SERVICE_TAX plus EDUCATION_CESS</p>
SUB	Subtraction: gives result of subtraction of one or more field/column/fixed-number values from the first specified value	<p>SUB(n1,n2,,,,,nN)</p> <p>For example, SUB(SUB_TOTAL, TOTAL_DISCOUNT, ADJUSTMENTS) ==> equivalent to SUB_TOTAL minus TOTAL_DISCOUNT minus ADJUSTMENTS</p>
MUL	Multiplication: gives result of multiplication of one or more field/column/fixed-number values	<p>MUL(n1,n2,,,,,nN)</p> <p>For example, MUL(QTY_IN_BOX, UNIT_PRICE, SHIPPED_BOXES) ==> equivalent to QTY_IN_BOX multiply-with UNIT_PRICE multiply-with SHIPPED_BOXES</p>

Operations	Description	Syntax
DIV	Division: gives result of division of one or more field/column/fixed-number values from the first specified value	<p>DIV(n1,n2,...,nN)</p> <p>For example, DIV(AMOUNT, SHIPPED_BOXES, UNIT_PRICE) ==> equivalent to AMOUNT divide-by SHIPPED_BOXES divide-by UNIT_PRICE</p>
COLSUM	Sum of a given Column in a table: gives result after evaluating given expression for each row of specified table and adding them all together	<p>COLSUM("<table-name>", "<expression to evaluate for each row of specified table-name>")</p> <p>For example, FINAL_TOTAL == COLSUM("LINE_ITEMS", "MUL(QTY, UNIT_PRICE)")</p> <p>Say there are 3 rows for table LINE_ITEMS, then FINAL_TOTAL should be equal to MUL(QTY1, UNIT_PRICE1) + MUL(QTY2, UNIT_PRICE2) + MUL(QTY3, UNIT_PRICE3)</p> <p>where, QTY1 is QTY value in row 1, similarly UNIT_PRICE1 is UNIT_PRICE value in row 2, and so on for other rows as well.</p>

Tip: We recommended using functional operators instead of mathematical operators when validating fields and tables for better accuracy.

When formulating an expression remember the following:

- All function names must be in capital letters.
- All formulas must result in either a true or false validation.
- Field and column names are case sensitive when used within formulas. If field is defined as Qty in design, using qty or QTY in formula results in an invalid formula.
- For variable declaration or manipulation, ensure not to use certain keywords that are reserved for formulating an expression.

SUM, SUB, DIV, MUL, COLSUM, IF.

Next steps

If the expression evaluated is false, a validation error is raised.

Tip: Ensure you do not write "=" (single equal) where you intend to use "==" (double equal). For example, AMOUNT == MUL(QUANTITY, UNIT_PRICE) is valid. But AMOUNT = MUL(QUANTITY, UNIT_PRICE) is not a valid resultant formula.

Resize mapping area

In the Designer, after mapping a box around a field value on a document, you can resize the box in any direction.

Procedure

1. In IQ Bot Designer, select a field name in the left panel to see a box with boundary handles around the field value on the document in the right panel.
2. If a field value is not mapped, select a blue-bounded box around the field label on the document to auto-populate the field value. A highlighted box has boundary handles that lets you adjust the size.
3. Alternatively, in the Designer, after drawing a box around a field value, and then releasing the cursor a highlighted box appears with boundary handles that lets you adjust the size.
4. Additionally, make the selected area larger than the segment of text (for example, to enclose multiple segments of text) to extract text in that larger selected area.

Map a field

The Designer opens with the field panel displayed. Correct and re-map the fields, and map new ones as required.

For mapping a system identified region (SIR) as a field, do the following:

Procedure

1. For a selected SIR, select type from the Type drop down list.
2. Map the field label and field values separately by clicking the Draw icon next to the Label and Value fields. Draw a rectangle around the label and value. The value is detected and shows up in the validation pane.
If a mapped field has multiple SIRs, then select any one of the SIR and add the whole key words in the Label field. For example, if you have two SIRs such as: Invoice and Number, then add the whole key words Invoice Number in the Label field.
3. Click Save and close.
When you accept the system-detected value mapping for a field, the value stays relative to the field. In some cases, in a different document type, even if the value of the field appears in another location, the system is able to detect it.
4. Click Validation Options to validate the field against a set of predefined parameters.
For validation, type the End with, and pattern fields when mapping document groups. Additionally, you can also use list validation if the field data type is text.
5. Click Save to confirm your changes.
It is mandatory to map all the required fields and table columns defined at the time of creating the learning instance. If any of the required fields is not mapped, a greyed out check icon displays next to the document class. It continues to display until you complete mapping all the required fields and table columns.
 - [Use list validation to improve accuracy of a text field](#)
Setting validations while defining any field or table column while mapping the document class helps validate a field or table column against predefined parameters so that you can be warned if any mismatch is found during the data digitization process.
 - [Use validation patterns/lists to flag discrepancy in extracted data](#)
Use validation patterns/lists to flag discrepancies in extracted data and prevent incorrect data from going through.

Related concepts

[Designer validation patterns](#)

Use list validation to improve accuracy of a text field

Setting validations while defining any field or table column while mapping the document class helps validate a field or table column against predefined parameters so that you can be warned if any mismatch is found during the data digitization process.

Enter each text value in a separate line.

- The bot validates extracted value of field/table column against this predefined list and checks for any mismatch found during the See Extraction Results phase.
- Besides validating, the process also helps auto correct the extracted values.
- Errors in validation are marked with a red border and can be seen in the See Extraction Results phase. Move your cursor over the error to know the error type.

If list validation value is Adam, and the extracted value is Adem; the extracted value will be auto corrected to Adam. In this example, there is a 75% match of characters; and threshold for match is at least 66%.

Related tasks

[Use Machine Learning to fix extraction errors](#)

Use validation patterns/lists to flag discrepancy in extracted data

Use validation patterns/lists to flag discrepancies in extracted data and prevent incorrect data from going through.

When a date/number format pattern is explicitly specified, the date/number is auto corrected.

See the following examples:

Table 1. Example of date format pattern

Incorrect OCR Data	Pattern	Auto-Correction
15 10-2015	dd-mm-yyyy	15-10-2015

Table 2. Example of number format pattern

Incorrect OCR Data	Pattern	Auto-Correction
123 4567	9999999	1234567

Text segment

A text segment is a blue-box display of a mapped field/column value in the document panel. This feature helps train the bots.

Text segments provide better results for OCR, document classification, and ultimately data extraction. For example, words that should be grouped in the text segment are more likely grouped together, and documents with different layouts are less likely to be grouped together.

In Designer, Validator, and Preview (See extraction results) views, place your cursor over a text segment on a document to see segment's OCR display in a pop-up box.

In Designer, the pop-up displays a text segment's OCR on the document (in the right panel) with matching corresponding extracted value in the middle panel.

In the Preview (See extraction results), and Validator views, see the pop-up display a text segment's OCR on the document (in the right panel) with matching corresponding extracted value in the left panel.

If a text segment encloses other smaller text segments, place your cursor over any single text segment to see a pop-up display of its corresponding optical character recognition (OCR) extracted value.

- [Multi line segmentation for data extraction](#)

In the Designer, re-size/draw a region consisting of a group of system identified regions (SIRs). The re-sized/draw boxes extract data only from the enclosed SIRs. Additionally, you can also extract text from an entire region by selecting it.

Related concepts

[IQ Bot Validation queue](#)

Multi line segmentation for data extraction

In the Designer, re-size/draw a region consisting of a group of system identified regions (SIRs). The re-sized/draw boxes extract data only from the enclosed SIRs. Additionally, you can also extract text from an entire region by selecting it.

IQ Bot offers multi line segmentation for data extraction. For example, there can be segmentation for patient name, member ID, date of birth, provider name, and gender. All of this information can be contained within a bigger segment box. The Designer can extract data from text segments enclosed within bigger text segments. The blue text segments display in the Designer, Validator, and in Preview (See extraction results views). The blue text segment boxes that enclose or are enclosed by other text segment boxes help extract data from any of these segments.

For text segments Y and Z enclosed within the main text segment X, when you select/draw around the text segment X, the Designer extracts data enclosed in the text segment X, which would comprise of data in Y and Z.

Select/draw around a text segment Y (that is enclosed by text segment Z) to extract text from text segment Y.

Resizing the X text segment to exclude the Y text segment will extract data from text segment Z only.

When mapping a text segment box X that encloses other segment boxes Y and Z, IQ Bot provides the best guess and auto maps the corresponding value of text segment box X.

Map a table

In the Designer, move one or more table fields from one table to another to train extraction, see multiple tables and their extracted values to validate extraction, and add new tables.

To map a table fields and columns, do the following:

1. Click Add table/section in the left panel and assign a name for the table in the middle panel.

2. Expand Move fields in the middle panel, and select the field labels you want to move to other tables.
3. Click the down arrow, and begin mapping the table fields.
4. Select the table field in the left panel and to begin mapping them using any of the following options:
 - Option 1: Click the column name field in the middle panel and select from available drop-down options.
 - Option 2: Click the column name field in the middle panel and select the column value from the document view in the right panel.
5. Place your cursor in the Column value field in the middle panel and then click the value in the document view to populate the field.
6. Alternatively, use the draw icon to select the value from the document in the right panel.
7. In the Data type section, select the data type value of the column from the drop-down list.
8. Next, select Column options in the middle panel and choose

Required

 or

Optional

 . Use the optional value if the column value is not consistently available in the training documents.
9. Use the Validate pattern section to specify the following parameters:
 - Starts With
 - Ends With
 - Pattern
 - List
 Note: [Designer validation patterns](#)
10. Map values for the other table fields using the same steps.

Once you complete mapping the table columns, the selected SIR region in the document gets highlighted in yellow for easy identification. After mapping the table columns, assign the Best field for table/repeated section and Best field for table/repeated section for the table.

Best field for table/repeated section (Reference Column)

The Best field for table/repeated section is auto detected and can be viewed in the inspection panel (right panel) of the Designer window. Ensure the Best field for table/repeated section does not contain multiple lines, or is empty.

Other columns are extracted in reference to this column. If the Best field for table/repeated section has five rows, then the user can expect a maximum of five rows to be extracted from the other columns.

End of table/section indicator

The End of table indicator is the end-point of a table. Enter name of the first field that appears where a table ends. For example, Total, Grand Total etc.

The End of table/section indicator helps create a bot in an accurate and efficient way, and is optional. This functionality lets you create and train more bots without worrying about assigning an end of table indicator.

Complete Table/section name and Best field for table/repeated section in the left and middle panels to set the green check mark for the Table Settings section.

Best field for table/repeated section and End of table/section indicator

Do the following to assign a Best field for table/repeated section and End of table/section indicator :

1. In the left panel, select the table for which you want to assign the Best field for table/repeated section and End of table/section indicator .

2. The middle panel gets updated with the details related to the table.
3. Select the Best field for table/repeated section from the drop-down list of defined table columns.
Note: It is mandatory to define a Best field for table/repeated section for a table. If you do not define one, a warning icon displays next to the document group.
4. To enter the End of table/section indicator value, add the first field that appears after a table, as the footer value. Use the pipe symbol to add multiple values to the End of table/section indicator .
5. Go to Advance table options and select the Stop extraction at end of table indicator option to stop data extraction when an end of table indicator value is found.
6. Click Save to confirm the values.

Stop extraction at End of table/section indicator

This topic describes multiple ways to populate the value for the End of table/section indicator in the IQ Bot Designer.

Prerequisites

Create a learning instance and begin training documents in the Designer. Have a table with mapped fields before populating the End of table/section indicator field.

Enter/map value for the End of table/section indicator field in any of the following ways:

- In the right panel, select a blue-bounded box around a text value to populate that text value as the End of table/section indicator.
- Alternatively, type a value directly in to the End of table indicator/section field, in the middle panel.
- To add multiple values for the End of table indicator/section field, type a pipe symbol and a subsequent text value where | refers to OR (for example, Subtotal | Subtotal Amounts refers to Subtotal OR Subtotal Amounts).

Stop extraction at End of table indicator

If text is extracted undesirably beyond the End of table indicator/section,

Procedure

1. In the table/section setting, you have Best field. . field. For that field, map a table/section header as field label, but shift to advanced table/section, mapping the first row value as the field value.
2. For other table/section fields, you only need to map their first row values as the field values.
3. In the middle panel, for Advanced table options, select Stop extraction at End of table/section.

Next steps

Add multiple tables in Designer

Add multiple tables in the Designer simultaneously.

Add multiple tables in the Designer to extract their value and validate them. Move one or more table fields from one table to another to train extraction. To add tables do the following:

Procedure

1. Navigate to Learning Instance > Start Training > Designer window.
2. Click the Add Table link.
3. Select the columns to add from the Available columns list and click the arrow to add to the new table column list.
4. Map the field label or value, for example, column header, and specify the footer. This action provides the bot with a header and footer parameter and informs it to extract the value from the rows in. Use the Draw icon or select a blue box text segment on the document for a field label/field value.
5. Click Save and close.
6. To delete a table, click the Delete Table option.
When a field that is used as a reference column is removed from a table, the system reassigns the first field of that table as a reference column.

Next steps

After you finish adding/removing tables and mapping field labels for the columns, choose from the following options:

- Click Next group, to move to the next document group in the queue.
- Click Save and close to return to the learning instance.

Define one or more linked fields in a child table

In the Designer, define one or more linked fields/sections in a child table, to link parent and child tables in a flexible way.

Use the linked fields in a child table feature in Designer to create table links, and a hierarchy of table links among parent and child tables. This helps efficient data extraction of the linked fields besides easy linking among tables. Foreign key data extraction allows the following relationships only:

- Link single parent row to a single child row (one-to-one linking).
- Link single parent row to multiple child rows (one-to-many linking).

Note: IQ Bot does not support linking of check boxes.

Use the feature for documents with a list of names or IDs with specific information on each. For example, documents from an electric company with a list of customers and their billing/usage information. Or a document with a list of student names displaying their test scores. Create multiple tables and link the common fields thus allowing efficient and accurate data extraction. IQ Bot supports linking of up to 50 columns and unlimited rows. However, data extraction from rows spanning across multiple pages is not supported.

- Single parent-child table field/section linking:
In the Table/Repeated Section of the Designer, choose one or more fields/sections from a parent table to link to a child table.
 1. Click Table Settings in the child table and click on Link Table Fields and select the parent table from the drop-down list of table names. This displays the available column options in the parent table you can choose to link to.
 2. Select the columns you want linked and click the downward arrow to link the columns to the child table.
 3. The linked columns display under child table > Table Settings > Linked to (table name).
 4. When previewing the extracted data (click See extraction results), the linked fields from the parent table show up in the extreme left columns of the child table.

- Multiple hierarchical table field/section linking:

When linking table 1, 2, and 3 in a hierarchy, link in a way so that table 1 is the parent of table 2, and table 2 is parent of table 3. All three tables would be linked. Child table 3 would display linked fields from table 2 and 1. IQ Bot supports hierarchy linking up to six tables at a time.

Note: For table 3, you can only choose fields from table 2 that are not from table 1.

When previewing the extracted data for child table 3 (click See extraction results), the extreme left columns show linked fields from table 1. The next columns show linked fields from table 2.

Attention: For successful linking, the child table must be at the same or lower level than the parent.

Map repeated tables and sections

This topic explains how to map repeated section labels and values.

Follow the steps to map repeated section labels and values:

1. Create a learning instance with an attached document in the domain of your choice and add additional fields that you need. For example, create an instance in the Invoice domain and add Patient name, Date of service, Net amount, and Billed amount.
2. Open the Designer/Training page.
3. Select a repeated section.
4. For a selected system identified region (SIR), select the type from the Type drop-down menu.
5. Map the repeated section value separately by clicking the Draw icon next to the Value field and draw a rectangle around the value. The value is auto detected in the validation pane. Map the repeated section Label field by manual entry or selecting the label in the document view. Verify the extracted value in the middle validation panel.

Note: If a mapped field has multiple SIRs, select any one of the SIR and add the whole key words in the label field. For example, if you have two SIRs, "Invoice" and "Number", then add the whole key words "Invoice Number" in the label field.

6. Click Save and close.

Note: When you accept and map the automatically detected value region for a field, the value stays floating relative of the field. Sometimes, in a different document type, even if the value of the field appears in another location, it will be detected.

- [UI help to extract tables and repeated sections](#)

When extracting data from tables and repeated sections, IQ Bot offers real-time inline help. View the Information icon in the following locations.

UI help to extract tables and repeated sections

When extracting data from tables and repeated sections, IQ Bot offers real-time inline help. View the Information icon in the following locations.

- On the create/edit learning instance page, hover over the Information icon next to the Standard table/repeated section fields header, to see a pop-up screen with an example.
- On the create/edit learning instance page, under Other fields (optional) section, to the right of Add as form/Add as table buttons, hover over the Information icon to display an example.

- In the middle panel of the Designer, for Table/section Settings, hover over the Information icon to the right of the Best field for table/section extraction section, and the Advanced table/section options to see image examples of table/repeated section fields, and table summary row.

Rename tables and repeated sections

Rename tables and repeated sections in the Designer, and identify their content.

Prerequisites

In the Learning Instance tab, click Create Bot to bring up the Designer. In the middle panel, edit the default name of the first table/repeated section (Table-repeated-section-1), to describe the content.

Procedure

1. In the left panel, select Add Table to add a new table. The new default table name appears in the left and middle panels with a placeholder name. Provide a suitable name.
2. In the setting option of the middle panel, enter up to 30 characters to provide a new/revised table name.
3. After saving the table name, the updated name displays in the left panel, describing the content.
4. On trying to save a name that is a duplicate table/field/repeated section name, a text box with a red border and a tooltip displays showing an error message.
5. In the left panel, clicking out of current settings without entering a table/repeated section name shows an error icon in the left panel, and a corresponding error message in the middle panel.
6. Failing to enter valid names for all table/repeated sections disables the See Extraction Results (Preview) and Save buttons to prevent user from proceeding any further.

Extract data for single/group check box

When you create a learning instance and set it for training IQ Bot displays the Designer where document groups get trained for data extraction. In this topic, we will specifically discuss data extraction for single/group check box(es) in the staging environment.

Single check box

- Add a single check box, appearing only one time in a document, as a standard form field during creating or editing a learning instance.
- Add repeated check boxes, appearing multiple times in a document, as table fields during create/edit of a learning instance.

Follow these steps to map single check box field values in Designer:

1. When you first log in to the Designer, the check box fields appear as data type text fields.
2. Click the field in the left panel.
3. In the center panel, in the Data type drop down field, select value as check box.
4. Next, click the Field label field and click the corresponding value in the document in the right panel.
5. For value extraction, click the Field label field, and use the Draw tool to draw the check box.

Note: Supported values for Field value fields are: No, Yes, or No Check box found.

Group check box

- Add a check box group, that appears just one time in a document, as a single form field during create/edit of a learning instance.
- Add a check box group, that appears multiple times in a document, as table fields during create/edit of a learning instance.

Follow these steps to map group check box field values in Designer:

1. In the Designer, check box group fields display in the Table Settings section, in the left panel.
2. Follow the same steps (as mentioned for single check box), except that the Data type field value is check box group.
3. For Column value field, use the Draw tool to select all check boxes in the group.
4. Click See Extraction Results to see check boxes, unrelated to a group, appear as single check box fields, with Yes, No, or No value, depending on whether they are selected.
5. Additionally, view the group name under table fields with yes/no mapping. For undetected check box values, the field name is No.

For group check box, data extraction is not visible.

Note: If the check box field is marked as Optional, and if the field value is not defined, then during See Extraction Results, the field value displays as No check box found; but does not display an error message. However, the same displays an error message if the field in the designer is marked as Required.

Extract repeated check boxes data

This topic explains how to extract data from the repeated check boxes.

To extract values of these repeated check boxes, first add the repeating check boxes as table fields to your document in the learning instance. In this example, Master Card and Visa Card are the two repeated check boxes.

To extract repeated check box data:

Procedure

1. Add fields to the learning instance as a table field for the check boxes. For example, add Master Card, and Visa Card.
2. On the Design tab, change Format of Master Card and Visa Card check box fields to `Checkbox_Single`.
3. On the Design tab, change Format of Card Type field to `Checkbox_Group`.
4. On the Train tab, map Master Card check box. Similarly, map Visa Card check box.
5. Select `Card Type` from the Group drop-down list for both the check boxes.
6. Click Save.
7. On the Train tab, click Preview or CSV. Based on your selection, the check box and its values are extracted in the preview or in a CSV file.

The data from the two check boxes that are repeated across multiple pages is extracted.

If the Master Card check box field is selected,

Yes

value is extracted and if a check box is not selected,

No

value is extracted. If the check box is drawn away from the actual position of the check box, then

No checkbox

found

value is extracted.

Note: To prevent validation errors, update check box value as

Yes

or

No

in Validator.

Related tasks

[Use Machine Learning to fix extraction errors](#)

Delete mapping in the Designer

Delete mapping of field labels and field values, selecting the X delete symbol next to the mapped label or value.

The following use cases explain the delete field labels and value mapping options in the Designer.

Delete a field label and its mapped value:

Select a field label in the middle panel and click the X delete symbol of the bound box in the document view to delete both, label and value mapping. The label and the value from the middle panel gets deleted as well. The mapping check mark in the left and middle panels turns from green to gray indicating incomplete mapping.

Delete field value:

Select the field value and click the X delete symbol of the mapped box in the document view, to delete the mapped value. The value from the middle panel gets deleted as well. The check mark in the left and middle panels turns from green to gray indicating incomplete mapping.

Delete auto mapped value fields:

The X delete symbol of the mapped box in document view is not visible till user resizes or manually maps it. For a form field, when a user deletes a resized or manually mapped box around a the field value, IQ Bot repopulates the original auto mapped value.

For a table/section field, that same behavior does not apply, as a user has the option to map a table/section field name but not a field value, and vice versa.

Delete a field label/value with or without auto mapped value:

Select a field label/value with or without auto mapped value. The field label bound box displays in the document with an X delete symbol allowing users to delete the label.

Delete field label mapping with validation pattern:

In spite of deleting a field label, the validation pattern that was assigned to the field remains in place.

Delete option ('X') when bounded box reaches space limit:

If the label/field value bounded box in the document view covers a bigger area, extending to the edge of or beyond the document view, the 'X' delete symbol appears in the nearest corner of the box.

Note: The field value box in the middle panel is disabled and users cannot enter text manually.

Extract data from table summary rows

User can map table summary rows in the Designer to extract different structures. This topic explains a typical scenario for extracting data from table summary rows.

The following criteria enables this functionality.

In the Designer, navigate to Table/section settings > Advance table option > Extract table summary row, and select Extract Table Summary Rows to activate extraction of a table summary row.

Select a field label for Best column for row extraction, and map the field label and value to turn the field check mark green in the left panel.

For other columns, just map either the field label or field value, to turn the check mark green in the left panel.

In the Designer map one table summary row only to automatically extract subsequent table summary rows (with similar labels and structure in the document).

In staging, in the preview view, CSV file view, and Validator, view the listed field names and extracted field values to validate.

- [Scenario](#)
Extract Table Summary Rows functionality works to extract values between label of reference column and End of table indicator labels and avoids duplicate extraction of values from similar areas in other tables.

Scenario

Extract Table Summary Rows functionality works to extract values between label of reference column and End of table indicator labels and avoids duplicate extraction of values from similar areas in other tables.

User is in the Designer training a bot, with at least one table having duplicate or similar regions matching those of another table. Extract Table Summary Rows functionality does not impact data extraction irrespective of whether user specifies the End of table indicator value.

Procedure

1. Create two tables with similar or duplicate areas. For example, one table with claims total and other with record details related to line number.
2. Map all table columns related to line number.
3. Map all value columns without table label, but related to claims total.
Claim totals table has duplicate or similar areas like another table related to line number. So the billed amount column is a duplicate area for both tables.
4. Map one column of claims total table with the claims total label, as at least one column label is required for data extraction for a table.
5. Click on See extraction results to see duplicate rows that have duplicate or similar areas on claims total table.
For example, When single page has multiple claim totals records.
6. Click Back to training to return to the training page.
7. Navigate to Claim totals table > table settings, and check the box for Extract Table Summary Rows label under Advance Table Options.
8. Enter value for End of table indicator and click on See extraction results.

9. User can see rows in claims total table related to claims total only.
10. Click on Export to CSV to open the file.
11. User can see table related to claims total extraction, as seen in preview.
12. Next, set the learning instance, and bot to production and upload some files related to the bot.
 - If the bot does not have any validation errors, the user can see claims total table as per mapping in production CSV file.
 - If the bot has some validation errors, the user can see claims total table as per mapping in the Validator.

Common fields across multiple document groups

Create a learning instance with a single document group.

1. Pick any good document from your list of documents.
2. Create, design, and map all the fields as dynamic floating fields.
3. Add aliases to the mapped field labels using "|", if the values are different across various documents. For example: Invoice header mapped in the document could have values such as, Invoice#, Invoice No., Document No and so on in other documents.
Note: "|" stands for the term, "or". For example: Invoice Total | Invoice Amount tells the bot to find the label - if equal to Invoice Total or Invoice Amount.

Tip: Test and refine the aliases as required.

Extract data using magnetic ink character recognition

Use the magnetic ink character recognition (MICR) OCR feature with ABBYY FineReader Engine version 12.2 support to extract MICR data from financial checks.

Prerequisites

- Ensure that ABBYY FineReader Engine is installed in the plug-ins folder: \OCR Plugins\ABBYY SDK\12\... .
- From the C:\Program Files (x86)\Automation Anywhere IQ Bot (version)\Configurations folder, open the Settings.txt file, change OCREngine=Tesseract4 to OCREngine=Abbyy, and save the file.

Note: A system restart is not required.

The MICR feature is supported with ABBYY FineReader Engine versions 12.2 .

Procedure

1. Set ABBYY FineReader Engine in your settings.txt file as the primary OCR engine.
2. Navigate to the IQ Bot\Configurations\AbbyyImagePreProcessingSettings.json file.
3. Update these parameters:
 - `TextTypes = 129`
 - `DetectTextTypesIndependently =true`
 The MICR feature is activated in the system.

Next steps

- Create a learning instance and add form fields to extract MICR data from financial checks such as MICR and Pay to fields.
- Scan and upload a check to IQ Bot for training. In production, upload the financial checks for accurate MICR data extraction.
- In the Designer, map the MICR data in the financial check for extraction.
- In production, upload the financial checks for accurate MICR data extraction.

Related tasks

[Install ABBYY FineReader Engine OCR engine in IQ Bot](#)

Disable PDFBox option

The PDFBox option is enabled by default. Disable the option when you are training hybrid PDF documents containing images and text.

The PDFBox option works best with completely digital documents only. When using hybrid documents containing images and text, our recommendation is to disable the PDFBox option for better document classification.

There are two ways in which you can disable/enable the PDFBox option in IQ Bot:

- Directly in the UI during the creation of a learning instance. In the Create new learning instance page go to Advanced Settings > Optical character recognition and disable/enable the My PDF documents do not have images check-box.
Note: This feature is available from IQ Bot Version 11.3.5.
- In the Setting.txt file described as follows.

Note: The PDFBox option is enabled in the system by default.

Procedure

1. Navigate to C:\Program Files (x86)\Automation Anywhere IQ Bot\Configurations.
2. Open the Setting.txt file, and change `PDFBoxOCREnabled=true` to `PDFBoxOCREnabled=false`
This turns off the processing of uploaded documents by PDFBox for new learning instances (after applying this change), and does not apply to the existing learning instances. IQ Bot will use your selected OCR engine for PDF documents as well.
Note: When PDFBox is disabled, ensure that your PDF document is less than 60 pages.
3. After updating the Setting.txt file, execution of `stoppedanduninstalled` and `installedandstartedstart` of IQ Bot services is not required.

Preview extracted data

After completing field and table mapping, click the See Extraction Results button to view OCR and extracted results to verify the accuracy of the training.

The extraction result displays information that the Validator view would display and lets you do the following:

- See the listed fields and values. Display an indication if value was successfully extracted, if there was a validation error, or lack of OCR confidence.

- See all table headers and the values for each row, also indicating if there was an error on validation or lack of confidence.

At this point, you can export the preview data to a CSV file for further analysis by clicking on the Export to CSV link at the top right header area. Alternatively, click Back to Training button to continue with the training. Once all fields and tables complete the training and pass validation, a green check mark displays next to the group title in the middle panel.

Important: A training document can pass in spite of an error flagged by the validation pattern. Sometimes we want a validation pattern to flag an error, so it would not pass specific documents at a later stage in production; instead enter them in the manual validation queue.

After training the documents groups, choose Save and close. At this point choose any of the following:

- Choose Cancel to stay on the current training.
- Choose Save to save the training.
- Choose Save and send to production to send the learning instance to the Production environment.

Preview any time during or after the document training, or after completing the mapping of fields and tables for each document group. The See Extraction Results button is available for a current document that lets you see the extracted results with the mapped fields and table columns. Errors, if any, are visible and highlighted within a red box. Hover on the error to know more about the error, and correct it.

Click the Back to Training button to return to the training.

Attention: If you upload 30 documents and all documents are classified into one group, you can see only one document for each unique layout.

Navigating through your training documents

IQ Bot analyzes training documents and groups, and arranges them in an alpha-numeric sequence.

IQ Bot performs an initial field mapping based on existing knowledge from any pre-trained document types. The training documents are listed in an alpha-numeric sequence.

The See Extraction Results menu lists the uploaded training documents in an alpha-numeric sequence. The files are listed in an old to new sequence. You can navigate through the documents one by one, or use the forward and the back arrows to jump to the first, or the last training document.

For IQ Bot Version 11.3.3.1 onward, when you click Change Training Document , you are able to view all training documents available in that group, and can select a specific document from that group.

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.

After you upload the training documents, in the Review menu, click View Each Group. The training documents appear in alpha numeric sequence. Perform the following steps to preview the training documents:

Procedure

1. Click the forward button to navigate to the next file.
2. Click the fast forward button to navigate to the last file.
3. Click the backward button to navigate to the previous file.
4. Click the fast-backward button to navigate to the first file.
5. Click Change Training Document .

The confirmation window appears.

6. Click Yes, Change.

Edit the training document as per the requirement.

Note: The sequence in which the training documents appear remains the same, even if you edit the documents.

Each training document that you copy from the staging environment to the production environment, has its own time-stamp. However, in the staging environment, the documents are listed based on original uploading sequence.

When you upload the training files from production environment to staging environment, the documents are listed based on the original time-stamp.

Export data to a csv file

In the See Extraction Results view, you can 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.

Set learning instance to Production

Use the Set instance to production button to move a learning instance to Production.

When you move a learning instance to the Production environment, a confirmation message appears. To confirm, click Yes, send to production. Learning instances in the Production environment are identified by the Production label next to their name.

Tip: You can also use the My Learning Instances page to move a learning instance to Production.

Bots

The Bots page of the IQ Bot Portal lists all available bots for a learning instance, and enables you to perform tasks such as run, change the status, or launch the IQ Bot Designer.

Create a bot to extract text from a document. Define the field labels and values in a document so that the system can learn from it and automatically process other documents in the document group..

Monitor the progress and status of all bots created for a learning instance and set the status from Staging to the Production environment.

Testing a bot verifies that the bot can reach the required accuracy based on the training. It also runs it against all the sample documents associated with that category or group and benchmarks document and field accuracy. Test a bot only in the Staging environment.

Note:

- To view the updated document and field accuracy, refresh the Bots page and click the bot name. The updated document and field accuracy appear in the details area.
- You cannot edit a bot that another user is already editing.

Dashboard

View the IQ Bot performance report in real-time on the Dashboard.

The report appears when you log in to the IQ Bot Portal. The dashboard summarizes the performance report and provides document processing information in a graphic format. The information shown consists of: document classification, straight-through processing (STP), accuracy, and human validation for information on actions for a specific learning instance so you can focus on areas that require attention.

The IQ Bot dashboard is divided into two primary areas:

- My Totals
- My Learning Instances

My Totals area

My totals is a display area of the Dashboard that provides a quick overall view of the status of all learning instances in the Production environment.

View the following information in the My Totals area:

- Files Processed: The total number of files uploaded against a learning instance, which are in the production environment.
- Straight-through processing (STP): The percentage of total number of uploaded files that were successfully processed without manual intervention.

- **Accuracy:** The field accuracy, which is a percentage value of fields that have been accurately identified. This includes fields whose Optical Character Recognition (OCR) confidence levels exceed the confidence threshold that were set.

My Learning Instances area

View details of learning instances you have created that are in the Staging and Production environments.

View information for learning instances in the staging environment:

- Name of the learning instance
- The domain or type of documents. For example, invoices and receipts.
- Number of documents in the learning instance
- A graphical representation of trained documents showing the details in percentages

View information for learning instances in the production environment:

- Number of files processed
- Straight-Through Processing (STP) percentage of files that were successfully processed without manual intervention
- Field accuracy in percentages

Important: Sometimes, the number of documents in the Dashboard and in the Learning Instance summary page do not match the number of documents submitted for processing. This can occur when documents are classified into groups that are not in production. Documents in this category are not processed (by design), leading to a mismatch between the number of processed documents and the number of total documents. In such a case, if these groups are moved to production, the total numbers of documents will match.

- [Performance report page](#)
The performance report page displays the details of a learning instance in the production environment.

Performance report page

The performance report page displays the details of a learning instance in the production environment.

Navigate to My learning instances > Production button to view the Performance report page showing details of all learning instances in the production environment.

Note: The Performance report page is not available for learning instances that are in the staging environment.

The top right corner of the performance report page displays the percentage of bots trained for the learning instance. The following is an example of how to interpret the percentage information.

Cathy has uploaded 10 documents and has created three bots for the learning instance:

- Bot1
- Bot2
- Bot3

Of these, three documents are a part of Bot1, four documents of Bot2, and three documents of Bot 3. When Cathy sets Bot1 into the production environment, the label displays 33% as the percentage of bots trained for the learning instance, which means that 3 out the 10 (33%) uploaded documents (for Bot1) have been trained.

- [Performance report details](#)

In the My learning instances area, click any displayed information to bring up the Performance report page. The following sections describe the information for each displayed section of the performance report.

- [Track page count on IQ Bot Dashboard](#)

IQ Bot keeps track of all uploaded pages and displays the information on the dashboard. Users can view the number of pages uploaded in production to manually compare against their purchased license limit.

Performance report details

In the My learning instances area, click any displayed information to bring up the Performance report page. The following sections describe the information for each displayed section of the performance report.

Instance totals and Processing results

The instance totals and processing results area shows the following information for a learning instance:

- Number of files uploaded for the learning instance – total number of files uploaded that need to be processed.
- Number of files processed for the learning instance - number of files that was processed by a bot.
- Number of files successfully processed for the learning instance – includes files that were successfully processed by a bot without human intervention.
- Number of files sent to validation for the learning instance – files flagged with one or more errors that need human intervention for review.
- Number of files validated for the learning instance – number of files that were reviewed by an individual and the results were saved.
- Number of files marked as invalid for the learning instance – number of files that were reviewed by an individual and marked as invalid.

Classification results

The Classification area provides a statistical display of the field representation graphically.

Accuracy results

The Accuracy area provides a graphical representation of the field types.

Validation

The Validation area provides the following information:

- A statistical representation of the corrections made to individual fields during the process of validating a document.
- A statistical representation of the average time spent to validate a group.

Track page count on IQ Bot Dashboard

IQ Bot keeps track of all uploaded pages and displays the information on the dashboard. Users can view the number of pages uploaded in production to manually compare against their purchased license limit.

Note: This feature is available in IQ Bot Version 6.5.x. During upgrade from any previous version of IQ Bot, documents uploaded will not be counted to track page count.

All documents uploaded to IQ Bot using RPA, are tracked and counted based on the following parameters:

- See the number of pages uploaded in the IQ Bot Dashboard, learning instance dashboard, learning instance summary, and also at the group level.
- When IQ Bot processes a document and the document satisfies the criteria (mentioned above), the dashboard shows an incremented page count.
- On deleting a learning instance, the page count on the IQ Bot Dashboard remains unchanged.

Note: IQ Bot counts the pages of classified and unclassified files. Only corrupt files that cannot be opened will not have any effect on page count.

Production environment

The learning instance workflow consists of the Staging and Production environments. This is a live environment where a learning instance is set into operation with actual business documents uploaded from a bot.

The learning instance uses the bots created in the Staging environment and executes on actual business documents uploaded against it from a TaskBot.

The primary purpose of the Production environment is as follows:

- Run the bot on uploaded business documents to extract relevant data, thereby automating the business process.
- Do the following tasks in the Production environment:
 - Upload the Production-ready documents from Automation Anywhere Enterprise to IQ Bot.
 - Collect the processed documents that IQ Bot processes, which can result in end-to-end, or unclassified processing.
 - Validate the documents marked for review and export the output to a CSV file for manual review.
 - Do manual review and correction of the extracted data and submit back to IQ Bot.
 - Mark incorrect documents as invalid.
 - Collect and download the invalid documents.
- [Upload documents to a learning instance](#)
Upload the Production-ready documents from Automation Anywhere Enterprise to IQ Bot for processing.
- [Upload multiple folder files to a learning instance](#)
Use this task to upload multiple documents to the IQ Bot server. Uploading multiple documents at one time will save you time.
- [Download a document from a learning instance](#)
Once documents are uploaded to a learning instance, some files process successfully, while and others fail.
- [Read a successfully digitized document using TaskBot](#)
Use a TaskBot to read a processed document from a CSV file.

- [IQ Bot Validation queue](#)
Validation eliminates the complexity of validating and fixing issues with the bot, requires less time to fix the issues, and requires minimal human intervention.
- [Validator window](#)
The Validator window helps validate the uploaded and processed documents for a learning instance. Uploading documents occurs quickly using Automation Anywhere Enterprise in IQ Bot.
- [Add custom logic in IQ Bot Designer to improve automatic extraction in production](#)
Enter logic in the IQ Bot Designer to improve text extraction and validation, and reduce the number of documents entering the Validator requiring RPA post processing.
- [Prevent automatic copying of documents to Staging](#)
Prevent automatic copying of production documents to the Staging environment to keep training and production data separate and also meet information security compliance requirements.

Upload documents to a learning instance

Upload the Production-ready documents from Automation Anywhere Enterprise to IQ Bot for processing.

Upload documents to IQ Bot as follows:

- When you create a new learning instance. See [Create a learning instance](#).
- When you edit a learning instance in the Staging environment. See [Edit a learning instance](#).
- In the Production environment in Automation Anywhere Enterprise Client using the IQ Bot lite command.

The following steps describe the document upload process using Automation Anywhere Enterprise Client.

Procedure

1. Click File > New in the Automation Anywhere Enterprise Client window to show the Automate dialog box.
2. Click Workbench to show the window.
3. From the Commands panel, select the IQ Bot command and move it to the Task Actions List panel using drag-and-drop. The IQ Bot upload dialog box appears.
4. In the IQ Bot upload dialog box, do one of the following Y:
 - a) Name: Select the learning instance to upload your document.
 - b) File Path: Click the browse button to select the learning instance file to upload.
The Output Path area is populated with the name of the learning instance files and path.
 - c) Success: This is the physical location on the IQ Bot server where the successfully extracted CSV files are stored. Click the Copy button to copy the path to your clipboard.
 - d) Invalid: This is the physical location on the IQ Bot server where the invalid source files are stored. Click the Copy button to copy the path to your clipboard.
5. Click Save. The command is added to the Task Action List panel.
To upload multiple files from a folder, use the Each File In A Folder loop command with the IQ Bot command and add it to the Task Actions List panel. An example of this task is described in the next topic.

Related tasks

[Upload multiple folder files to a learning instance](#)

Upload multiple folder files to a learning instance

Use this task to upload multiple documents to the IQ Bot server. Uploading multiple documents at one time will save you time.

The following example uses the IQ Bot command with the Each File In a Folder loop command to upload multiple documents from a local folder to the IQ Bot server.

Procedure

1. Move the IQ Bot command from the Commands list to the Task Actions List panel using drag-and-drop. The IQ Bot dialog box appears.
2. Select the learning instance to upload your document and click the browse button to select the file to upload.
3. Click the Save button. The IQ Bot command is added to the Task Actions List panel.
4. For the source file, the file path can be browsed, or it can contain variables for example, `$CurrentDirectory$\$FileName$. $Extension$`.
Use the Variable Manager to define extended parameters.
5. Move the Each File in A Folder loop command to the Task Actions List using drag-and-drop. The Loop dialog box appears.
6. Click the Browse button, select the folder of your choice, and click Save. The loop command is added to the Task Actions List panel.
7. Delete the existing file path item in the File Path field and choose the F2 and Fn buttons on a Microsoft Windows machine. The Insert Variable dialog box appears.

Download a document from a learning instance

Once documents are uploaded to a learning instance, some files process successfully, while and others fail.

For documents that get processed, but enter the Validator queue for human review, use the option to mark the document digitization and extraction as Invalid. Depending on the scenario, download and remove these files from the learning instance. Copy the paths shown in the Success and Invalid labels of the IQ Bot dialog box to your clipboard.

Use the copied output paths as a variable in the Task Editor. The paths are formatted as follows:

Success:

`<OutputPath>\Learning Instance Name>\Success`

Invalid:

`<OutputPath>\Learning Instance Name>\Invalid`

Default path:

`C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Output`

The following additional folders are created in the Output Path and depend on the documents processing:

Not Processed:

Files that fall into groups but do not have an associated bot become available in Not Processed folder.

Unclassified:

Files that could not get classified (for numerous reasons) become available in the Unclassified folder.

Related tasks

[Read a successfully digitized document using TaskBot](#)

Read a successfully digitized document using TaskBot

Use a TaskBot to read a processed document from a CSV file.

Important:

Typically, the .csv output directly reflects the sequence in which fields are selected while creating a learning instance. Fields added later by editing a learning instance are displayed at the end. However, all .csv files generated for the same learning instance is not guaranteed to have the same sequence of header fields. This occurs because some features such as Nested Table and Multi Table, which have their own specialized configuration at the bot level, alter the field sequence based on how that bot is configured during training.

Therefore, you should access the output .csv file using field names instead of index in header.

Procedure

1. On the Automation Anywhere Enterprise Client Editor UI, drag the Read From CSV/Text command from the Commands list to the Task Actions List panel.
2. Do the following
 - a) Choose Select File to read the file.
 - b) Choose fromDelimiter, Header and Trim modes, as appropriate.
3. Select Encoding > UTF-8 to ensure all the special characters from different languages appear accurately.
4. Click Save to add the command to the Task Action List panel.
5. Use `$Filedata Column$` variable to specify the CSV column for extraction.

The following example uses the Read From CSV/Text command with the loop command to read digitized documents in the CSV format, from the IQ Bot Success path.

`$Filedata Column(1)$` returns the value from the first column. `$Filedata Column(2)$` returns the value from the second column. The Loop iterates through each record in the CSV file and returns values for the first and second columns. Use these values for further automation, as required.

Tip: In the `$Filedata Column(name)$`, the name could be `$Filedata Column(Invoice_Date)$`.

Next steps

After upgrading from a previous version of IQ Bot to the latest installed version, if you are using a TaskBot to read the output CSV, change the encoding in the Read from CSV command in the TaskBot to UTF-8.

IQ Bot Validation queue

Validation eliminates the complexity of validating and fixing issues with the bot, requires less time to fix the issues, and requires minimal human intervention.

IQ Bot processes a document before it can be viewed in the Validator, and flags field errors in that document. The user corrects the flagged fields and/or verifies the unflagged fields in the Validator.

After the updated document is fixed and saved, it does not count as straight-through processing (STP) but still moves to the successful queue where it can be picked up by an upstream automation task. This is the IQ Bot Validation queue.

Documents that fail automated processing rules or have field values failing because of low optical character recognition (OCR) confidence are pushed into a folder to be reviewed and fixed manually. Manual review is time-consuming and complex because it requires navigating to the correct folder and scripting knowledge (done in a CSV file) to fix the document.

Note: To learn more about how field-level OCR confidence can be used to improve the quality of STP output, see [Improve output quality using OCR confidence](#).

- [Use Machine Learning to fix extraction errors](#)

In the Validation queue (in Validator), IQ Bot can learn from manually corrected (by humans) field values, over a specific time period.

Related tasks

[Use Machine Learning to fix extraction errors](#)

Use Machine Learning to fix extraction errors

In the Validation queue (in Validator), IQ Bot can learn from manually corrected (by humans) field values, over a specific time period.

Prerequisites

IQ Bot can learn from the document field data pairs, for example, incorrect field values and manually corrected field values, and become more confident about an erroneous field value and what that value correction is. If IQ Bot reaches a 90%+ confidence level, it auto-corrects the erroneous field value.

If additional documents are uploaded in Production, IQ Bot auto-corrects errors, skips the Validation queue, and counts the documents as straight-through processing (STP).

Sometimes, IQ Bot does not reach the 90%+ confidence level. For example, if incorrect data and manually corrected data differ in length by more than four characters, the manually-corrected data is not provided to the Machine Learning (ML) model.

Note: The Validation queue auto-correction does not apply to check box extraction.

Procedure

1. In the Validation queue, when correcting a field value error, select from the available options.
2. Choose to not select a suggestion, but instead enter a value, or click to another field.
3. Choose to enter a value in a field to fix the error, and save your corrections, IQ Bot saves your manually-corrected field value.
4. If you make multiple corrections for the same fields with the same value, the confidence of IQ Bot might increase. If the confidence level reaches 90%; the system auto-corrects the field value in real-time with your suggested value (when you click into the cell).

Note: For uploaded documents, if all failed fields are auto-corrected, the document skips the Validator, and instead, exports directly to CSV, counting as Dashboard STP.

Validator window

The Validator window helps validate the uploaded and processed documents for a learning instance. Uploading documents occurs quickly using Automation Anywhere Enterprise in IQ Bot.

To open the Validator user interface, navigate to `http://<IQ Bot installation path>/> Learning Instances` and click the Launch validator icon on your Web browser.

Note: Only users with an assigned Validator role using Automation Anywhere Enterprise Control Room can view the Validation page. For more information, see [User roles and permissions](#) in the Automation Anywhere Enterprise Control Room.

Launch the validator window

Launch the Validator window from the Learning Instances page in any of the following ways:

- Click the Launch validator icon for a learning instance.
- Click the Validate button from the Summary or Document Groups tab.

The Validator launches displaying the first file from the validation list.

Note: The user sees an empty page and a message saying: There are no documents available for validation, you will be redirected to the learning instance page, in the following scenarios:

- If no files are available in the validation queue.
- If a file does not exist in the validation queue.
- If another user is working on the remaining file in the validation queue.

Note: From Version 11.3.5, the Validator function is enhanced with text and multi line segmentation ability similar to the Designer. See [Text segment](#) and [Multi line segmentation for data extraction](#).

- [Validate document with errors](#)
The Validator window appears with data requiring validation marked in red color fonts and boxes.
- [Multiple table relationship in Validator](#)
To complete successful validation, in the Validation queue (in the Validator), edit shared columns between two or more tables, or add corresponding rows to two or more tables.
- [Multiple table relationship in CSV file](#)
Preview the linked columns of a learning instance in a CSV file to see the mapped values of those multiple linked tables. Review and confirm the accuracy of the mapping. Then save the validation.
- [Mark document as invalid](#)
The Validator might want to flag a certain document as invalid if the validation conditions are not met, and if the document requires retraining.
- [Edit file name and contents of IQ Bot archive file](#)
Renaming the IQ Bot Archive File (IQBA) or updating the contents of the file results in an error message at the end of the sentence. The user is unable to classify documents from one learning instance, and therefore must import another learning instance.
- [Validator audit logs](#)
All events related to validation are stored in a log file in the Microsoft Windows Public folder.
- [Useful tips for validation](#)
Use the following tips to save time and simplify work on IQ Bot tasks.

Related concepts

[Validate document with errors](#)
[Multiple table relationship in Validator](#)
[Multiple table relationship in CSV file](#)
[Mark document as invalid](#)
[Edit file name and contents of IQ Bot archive file](#)
[Validator audit logs](#)
[Useful tips for validation](#)
[Related tasks](#)
[User roles and permissions](#)

Validate document with errors

The Validator window appears with data requiring validation marked in red color fonts and boxes.

To validate a document with errors do the following:

1. Click the Tab button or click the mouse on the field that requires validation (marked in red). The associated field value of the document is highlighted so that it is visible and focused.
2. Validate the fields by entering the correct information.

When you try to save a document without validating all the errors in the document, an error message appears.

Do the following during validation:

- Add or delete a table row: To insert or delete rows while validating a document, hover over the ellipses to show the icons for adding or deleting table rows.
- Skip to next file: If you want to skip a file without correcting its errors, click the Skip to next file option at the bottom of the validator window.
- Validation queue: See all information about the validation queue in the validator screen as a subtitle.

Multiple table relationship in Validator

To complete successful validation, in the Validation queue (in the Validator), edit shared columns between two or more tables, or add corresponding rows to two or more tables.

In the Validator, you can edit values in the extracted primary field of the parent table or repeated section.

If shared fields between the linked tables do not match values, the Validator does not let you complete validation and save.

This functionality helps avoid manual validation errors that can occur when there is a mismatch of field values between the parent and child tables. The Validator shows an error message and prevents the save.

Multiple table relationship in CSV file

Preview the linked columns of a learning instance in a CSV file to see the mapped values of those multiple linked tables. Review and confirm the accuracy of the mapping. Then save the validation.

Option 1:

If you edit a learning instance to add a field, and then link that field to a child table, that field appears in the leftmost columns of that child table of the CSV file. For files in the IQ Bot production (success) folder, you can leverage RPA to access the CSV files, and use the extracted linked fields from the leftmost columns of a child table to merge that child table with a parent table.

Option 2:

If you edit a learning instance to add a field, and that field is not a primary or linked field in a child table, the field appears in the rightmost column of the CSV file.

Mark document as invalid

The Validator might want to flag a certain document as invalid if the validation conditions are not met, and if the document requires retraining.

Mark documents that cannot be processed as invalid because of some of the listed reasons. To mark documents as invalid, click the Mark as Invalid button in the Validator window. Select the appropriate reason in the confirmation window from the following options:

- Fields missing
- Tables missing
- Wrong values

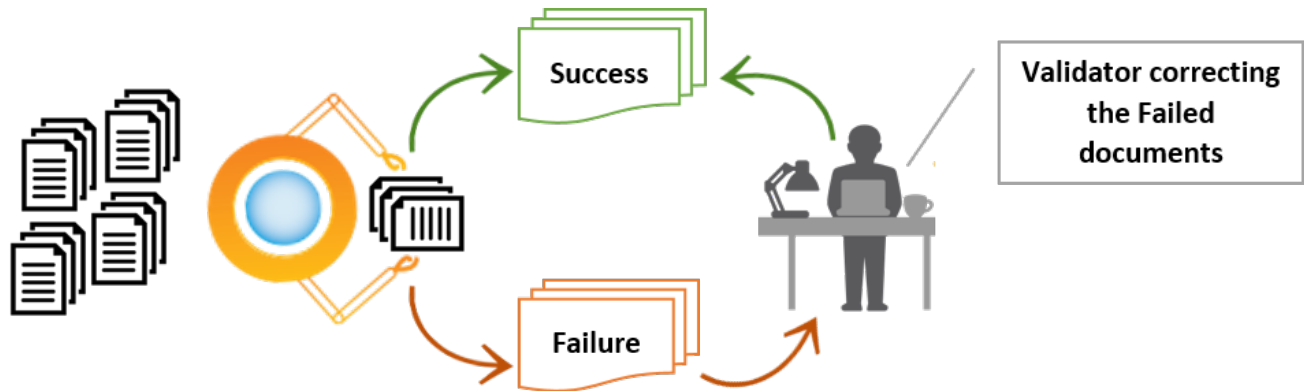
Note: To view and access the documents marked as invalid, go to the Invalid > Output folder located in your server.

1. After successfully validating the fields and tables, click the Save Current Document button.
2. Click the Skip to next file button to scroll to the next document in the queue.

Edit file name and contents of IQ Bot archive file

Renaming the IQ Bot Archive File (IQBA) or updating the contents of the file results in an error message at the end of the sentence. The user is unable to classify documents from one learning instance, and therefore must import another learning instance.

The human validator does a manual check and updates text extracted from the digital document. After the error is fixed and saved, the updated document returns to the successful queue where it can be picked up by an upstream automation task. This process is as shown in the following figure:



Validator audit logs

All events related to validation are stored in a log file in the Microsoft Windows Public folder.

The logs are stored in a validator.events file and the location of the folder is %Public%\Documents\Automation Anywhere IQ Bot Platform\Logs\Audit. The following events are stored in the log file:

- Name of the platform
- Computer name
- Time stamp
- Whether a document was validated successfully

Note: The logs stored in the validator.events file are updated asynchronously.

Useful tips for validation

Use the following tips to save time and simplify work on IQ Bot tasks.

- Use the special character Pipe "|" Symbol to add multiple aliases to extract similar fields and table columns across multiple document classes. Using and alias helps you create generic IQ Bots.
- When you resize any value region or create your own value region using select, its position gets fixed relative to the field label. The value for that field is always searched in that relative region.
- Reset a fixed field region defined by the user in the autodetected mode by clicking the close button at the top right corner of the field.
- Map all the required fields or table columns. If missed fields or table columns exist, the system shows a warning icon against the missed fields or columns.
- Define a reference column and footer (footer is optional, and does not always yield a message) for a table. Otherwise, the system shows a warning icon against the missed column/footer.

Add custom logic in IQ Bot Designer to improve automatic extraction in production

Enter logic in the IQ Bot Designer to improve text extraction and validation, and reduce the number of documents entering the Validator requiring RPA post processing.

6.5.2

Note: IQ Bot Version 6.5.2 is a restricted release, and is not listed on the customer or partner portals. For access, contact your Automation Anywhere representative.

Note: The List validation via external file feature is not supported beyond the IQ Bot Version 5.3.1 release. However, user has the option to implement this feature as a part of the field custom logic using python scripts directly in the Designer.

This feature helps clean-up extracted values ahead of the validation step, but does not replace all the post-processing currently done on the RPA side using tasks bots. In addition to adding inline scripts, users can use the python scripts in a central location, import those as modules, and call functions to reduce the amount of python code at the field/table level.

Restriction: If the number of characters in the python code along with other information exceeds 32K, and when it is sent to the backend as a Windows runtime argument for the process, the execution it fails, and does not display any error message.

IQ Bot Version 6.5.2 auto installs Python v3.5.4 and 30+ popular libraries (see list) that lets you add scripts in Designer to do the following:

- Improve extraction and validation in production.
- Skip Validator and increase STP in some cases.
- Flag errors that could not be flagged before.
- Reduce post-processing of IQ Bot output.

Note: The custom logic feature is a part of the standard IQ Bot package from release Version 11.3.3.

Next steps

Using scripts, in the IQ Bot Designer add the Form fields and Table fields.

- [Form fields](#)
Add scripts in Designer for form fields.
- [Table fields](#)
Add scripts in Designer for table fields.
- [Use cases and examples](#)
These are some use cases the Designer script feature supports.
- [Pre-installed Python packages](#)
To facilitate ease of use and consistent behavior across servers, IQ Bot auto installs Python v3.5.4 and some popular Python packages mentioned as follows. For example: at C:\Python354-x86-IQBot.
- [Additional Python packages](#)
To allow further empowerment, you can add more Python libraries for use in IQ Bot.

Related concepts

[Use cases and examples](#)

[Pre-installed Python packages](#)

[Additional Python packages](#)

Related tasks

[Form fields](#)

Table fields

Form fields

Add scripts in Designer for form fields.

The List validation via external file feature is not supported beyond the IQ Bot Version 5.3.1 release. However, user has the option to implement this feature as a part of the field custom logic using python scripts directly in the Designer.

Procedure

1. In the IQ Bot Designer, left-hand panel, highlight a form field whose extraction/validation you aim to improve further.
2. In the middle panel, scroll down to Field options > Logic.
3. In that Logic section, toggle between fullscreen and smallscreen for ease of use.
4. Add code to modify IQ Bot's extracted text value. See example below:

```
# variable that stores the value: field_value

# import the Python regular expression library, re
import re

# call the regular expression library's method, findall, to extract the date value only
field_value = re.findall(r'\d{2}-\d{2}-\d{4}', field_value)[0]
```

5. Select Test Run to test your script and see the results before vs. after.

```
value_before: 2018/11/09 B210
value_after:  2018/11/09
```

Table fields

Add scripts in Designer for table fields.

Procedure

1. In IQ Bot Designer, left-hand panel, highlight Table/section settings for the table whose extraction/validation you aim to improve further.
2. In the middle panel, scroll down to Logic.
3. In the Logic section, toggle between fullscreen and smallscreen for ease of use.

4. Add code to modify the extracted table values, which are stored as a Python dictionary in a user variable called `table_values`. See example below.
Each row has a Guid (Global unique identifier), which allows IQ Bot to auto track rows that are added and deleted. If you add a row, you need not enter a Guid. IQ Bot will handle this automatically.

```
# variable that stores the value: table_values

# convert from dictionary to dataframe
df = pd.DataFrame.from_dict(table_values)

# print dataframe before update
print(df)

# Item_Description: drop rows with a missing value
df = df[(df["Item_Description"] != "")]

# Quantity: extract first part of the string, the numeric part only
df['Quantity'] = df['Quantity'].str.split(' ', 1).str[0].str.strip()

# print dataframe after update
print(df)

# convert back from dataframe to dict to override what IQ Bot stores
table_values = df.to_dict()
```

5. Select Test Run to test your script and see the results before vs. after.

ct_id	Item_Description	Quantity	Item_Total	Guid	produ
0	wafer, NO172	4.00	5,840.00	43ea78f4-7b9b-413a-83ce-89d671478d6c	2 COMS5A-180
1	Visual Iaspection +	1.00	65.00	cc774f5f-2507-4a15-8e45-7b2abf84fab	
2				6bddfed1-2359-4305-a0ac-a1769c113bfb	5% VAT : To
3	tal - 4.00PCS GR:		5,905.00	2dc642a7-8e6e-4bc6-9672-85afff8c21db	To

```

tal -          KGD:          0.00

          Item_Description          Guid          produ
ct_id      Quantity Item_Total
0          wafer, NO172  43ea78f4-7b9b-413a-83ce-89d671478d6c  2 COMS5A-180
90220      4.00          5,840.00
1 Visual Inspection +  cc774f5f-2507-4a15-8e45-7b2abf84fab
e          1.00          65.00

```

6. If you select See extraction results or save the bot, your script is saved.

Use cases and examples

These are some use cases the Designer script feature supports.

For examples of user scripts and use cases, see: [IQ Bot custom logic uses cases and examples](#)

Following are some use cases:

- Query an extracted value vs. a database in an ERP system to validate values.
- Extract "0123456" from "PO 0123456".
- Remove table rows that contain "Page x of y".
- Extract the currency from one table field (for example: Item Total) and save in an empty table field.
- Extract the product number from a table field (for example: Item Description).
- Extract the zip code from an address.
- Query a REST service (for example: add NLP, retrieve data from an outside system, and so on).
- Return a Boolean yes/no value on whether handwriting exists for a field.

Pre-installed Python packages

To facilitate ease of use and consistent behavior across servers, IQ Bot auto installs Python v3.5.4 and some popular Python packages mentioned as follows. For example: at C:\Python354-x86-IQBot.

Table 1. Pre-installed Python packages

Main package	Version	URL
difflib	In-built Python with installer	https://docs.python.org/3/library/text.html
io	In-built Python with installer	https://docs.python.org/3/library/io.html
re	In-built Python with installer	https://docs.python.org/3/library/text.html
sqlite3	In-built Python with installer	https://docs.python.org/2/library/sqlite3.html

Main package	Version	URL
string	In-built Python with installer	https://docs.python.org/3/library/text.html
stringprep	In-built Python with installer	https://docs.python.org/3/library/text.html
sys	In-built Python with installer	https://docs.python.org/3/library/sys.html
textwrap	In-built Python with installer	https://docs.python.org/3/library/text.html
unicodedata	In-built Python with installer	https://docs.python.org/3/library/text.html
DateTime	4.3	https://pypi.org/project/DateTime/
pandas	0.24.2	https://pypi.org/project/pandas/
inflection	0.3.1	https://github.com/jpvanhal/inflection
dateutils	0.6.6	https://pypi.org/project/dateutils/
tabulate	0.8.3	https://pypi.org/project/tabulate/
numby	1.16.4	https://pypi.org/project/numpy/
json	2.0.9	https://docs.python.org/3/library/json.html
requests	2.22.0	https://github.com/kennethreitz/requests
psycopg2	2.8.3	https://pypi.org/project/psycopg2/
pymongo	3.8.0	https://pypi.org/project/pymongo/
pyodbc	4.0.26	https://github.com/mkleehammer/pyodbc
opencv-python	4.1.0.25	https://pypi.org/project/opencv-python/
Pillow	6.0.0	https://github.com/python-pillow/Pillow
cx_Oracle	7.1.3	https://github.com/oracle/python-cx_Oracle
Python Arabic Reshaper	2.0.15	https://github.com/mpcabd/python-arabic-reshaper

Additional Python packages

To allow further empowerment, you can add more Python libraries for use in IQ Bot.

1. Open the
Command Prompt
2. In the
Command Prompt
, change directory to IQ Bot's Python dictionary. For example: C:\Python354-x86-IQBot.
3. Install your Python package there. For example: pip install PyArabic.
4. In IQ Bot Designer > Logic, you can import and use that Python package.
5. If step 4 does not work, then stop/uninstall and then install/start services.

Prevent automatic copying of documents to Staging

Prevent automatic copying of production documents to the Staging environment to keep training and production data separate and also meet information security compliance requirements.

Prevent automatic copying of production documents to Staging as follows:

Procedure

1. Open the Settings.txt file from the %PROGRAMFILES(X86)%/Automation Anywhere IQ Bot 6.0/Configurations folder.
2. Assign the False property to the CopyProductionFiles .
3. From the service console, restart the Automation Anywhere Cognitive File Manager service.
4. Click any Create Bot link to open the IQ Bot Designer to view the following message: There are no training documents available for this Bot. Upload some training documents for the associated learning instance and try again.

After making this change, to train bots for the groups created in Production for this learning instance, manually upload sample documents to Staging (resembling the Production documents).

Use Migration Utility to export/import learning instances

Use the IQ Bot Migration Utility to export and import learning instances between different IQ Bot installations to avoid re-creating similar learning instances. This makes the life cycle management of a learning instance and the associated bots easier.

Export groups, bots, learning associated with a learning instance, and training documents used during staging using the Migration Utility.

Note: Production documents are not exported.

The following are some of the Migration Utility tasks:

- Export the learning instances to create a backup for them.
- Back up your database before importing learning instances.
- Select the appropriate import option to avoid losing information.
- If migration is related to a custom and bot store domain, talk to the Automation Anywhere Support first or refer to the specific topics.

To launch the Migration Utility, go to the Administration tab > Migration.

Note: Only administrators can log in to the IQ Bot Portal to access the Migration Utility from the Administration tab.

The Migration Utility shows a list of all learning instances available in the IQ Bot Portal.

- [Export a learning Instance](#)
Export a learning instance using the Migration Utility.
- [Import a learning instance](#)
Import a learning instance using the Migration Utility.
- [Import options](#)
Review the import options and their impact on the learning instances, groups, documents, and bots.

Export a learning Instance

Export a learning instance using the Migration Utility.

Follow these steps to export a learning instance using the Migration Utility:

Procedure

1. Navigate to the Administration tab > Migration from the left panel to open that page.
2. Select one or more learning instances as per your requirement and click Export.
3. Enter an appropriate name for the IQ Bot archive (IQBA) data file, and click to begin the export process.
The name of the backup file is appended with a time stamp to make it unique.
4. Wait for the export process to complete. Once completed, the exported data file with the .iqba extension becomes available in the BackupData folder in the IQ Bot output directory.
C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Output\BackupData
When an export process is in progress, limited user interaction is allowed with the IQ Bot Portal because export is a CPU-intensive activity.
Note: Exporting learning instances does not export production data; therefore, the Dashboard might not be displayed.

Import a learning instance

Import a learning instance using the Migration Utility.

Select from the various available options. Before initiating an import, backup your IQ Bot database.

Although Role-Based Access Control (RBAC) applies to the creation of new learning instances in IQ Bot Version 6.5, it does not apply to the following:

- Keep existing learning instances from previous IQ Bot versions.
- Import/export learning instances from one IQ Bot Version 6.5 environment to another.

As a workaround, an administrator can do the following:

- Ensure users and roles are updated in the Automation Anywhere Enterprise Control Room.
- Manually insert a row in the projected and role columns in the database table [FileManager].[dbo].[LearningInstanceRoles].

That database table is automatically created empty during IQ Bot Version 6.5 installation.

Do the following to import learning instances using the Migration Utility feature:

Procedure

1. Copy the exported data file in the BackupData folder in the IQ Bot installation output directory to import.
2. Click Import, and select the IQ Bot Archive (IQBA) backup data file to import.
3. Select the required learning instance and click Import. You are asked to select from the following import options :
Note: The Migration Utility feature in IQ Bot Version 6.5 does not work well in scenarios where learning instances exist in both the source and target systems, and new groups were added to the source system for migration. In

these scenarios, the new groups are not migrated to the target system for options 1, 2, and 3 of the Migration Utility feature. Customers are required to upgrade to IQ Bot Version 11.3.3.1 and above to avail these scenarios.

Import option	When to use
Option 1: Append imported groups and trained bots to duplicate existing learning instances:	<p>Use when you must merge new groups and trainings (bots) in existing learning instances.</p> <p>Note:</p> <ul style="list-style-type: none"> When you import archive (.iqba) files using append mode, a trained group in a source environment can overwrite an untrained group in the destination environment. If a learning instance is edited (for example, adding new fields), it cannot be imported using the Append option.
Option 2: Import learning instances, and ignore duplicate learning instances:	<p>Use when you must append only new learning instances, where the learning instance ID in the .iqba file (for example, from the Development environment) differs from the ID in the target environment (for example, Production environment). If a learning instance ID in the .iqba file is the same as an ID in the target environment, the .iqba learning instance is not appended.</p>
Option 3: Overwrite duplicate existing learning instances with imported learning instances:	<p>All groups, trainings (bots), and machine learning of existing learning instances on the destination system get replaced with the ones from source system. This does not impact the processing (dashboard data) done by those learning instances.</p> <p>This is also the only option to update an existing learning instance that was edited to include additional fields or table columns.</p>
Option 4: Remove all existing learning instances and replace with imported learning instances:	<p>When starting fresh and it is okay to lose all work done so far on an IQ Bot installation.</p>

Note: If you merge the iqba files, it does not merge the machine learning (ML) part from one learning instance to another. Instead, it keeps the ML from the existing learning instance, but not the imported learning instance.

- Select an import option that best meets your requirement. Click Import. You are asked to confirm the import.
- Click Yes Import to begin the import process. When the import finishes, you are returned to the Migration Utility home page with the list of learning instances. A successful import shows a `Last Migration status COMPLETE` message with the time stamp.

The imported learning instance retains its environment and that of all associated bots.

Import options

Review the import options and their impact on the learning instances, groups, documents, and bots.

The following table provides a summary of import options with explanations of the impact on the learning instances when using the options.

L1 = Learning Instance 1, L2 = Learning Instance 2, . .

System before file import (Production)	Import file (Staging)	System after file import (Production)			
		Option 1: Append imported groups and trained bots to duplicate existing learning instances.	Option 2: Import learning instances and ignore duplicate existing learning instances.	Option 3: Overwrite duplicate existing learning instances with imported learning instances.	Option 4: Remove all existing learning instances and replace with imported learning instances.
L1	L1	L1 + L1	L1	L1 + L1	L1
L2	L2	L2 + L2	L2	L2 + L2	L2
L3		L3	L3	L3	
	L4	L4	L4	L4	L4
	L5	L5	L5	L5	L5

The following table contains the details on the IQ Bot Archive (IQBA) import options related to the impact on the learning instances, groups, documents, and bots when using the import options.

Learning Instance = LI, Group = G, Files = F, Bots = B

System before importing IQBA file (Production)			Import IQBA file (Staging)			System after importing IQBA file (Production)											
Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)		
						Option 1: Append imported groups and trained bots to duplicate existing learning instances, LI1			Option 2: Import learning instances, ignoring duplicate existing learning instances, LI1			Option 3: Overwrite duplicate existing learning instances with imported learning instances, LI1			Option 4: Remove all existing learning instances and replace with imported learning instances, LI1		
Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot
G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1

System before importing IQBA file (Production)			Import IQBA file (Staging)			System after importing IQBA file (Production)											
Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)		
G2	F4	B2	G2	F4, F10		G2	F4, F10	B2	G2	F4	B2	G2	F4, F10		G2	F4, F10	
			G3	F11, F12	B3	G3	F11, F12	B3				G3	F11, F12	B3	G3	F11, F12	B3
G4	F5, F6		G4	F5		G4	F5, F6	G4	G4	F5, F6		G4	F5, F6		G4	F5	
G5	F7, F8, F9	B5				G5	F7, F8, F9	B5	G5	F7, F8, F9	B5	G5	F7, F8, F9				
			G6	F13, F14	B6	G6	F13, F14	B6				G6	F13, F14	B6	G6	F13, F14	B6

Learning Instance=L1 Group=G Files=F Bots=B

Incompatible learning instance detected

When you try to import an incompatible learning instance IQBA file, the system shows an error message. For example, try to import a learning instance from the 5.2.x IQ Bot version.

Tip: Export an IQBA file from an IQ Bot platform that is compatible with the IQ Bot platform where this IQBA file will be imported.

Editing IQBA filename and contents

When you rename the IQBA file name or update the contents of the file, an error message appears. Classifying documents across groups in learning instance A in the system results in an error message when importing learning instance B from the IQBA. Eventually, the import fails.

Ongoing training at the time of import or export

When initiating import or export, if a learning instance is in training, with the IQ Bot Designer running, an error message appears, suggesting that you close training for all bots before retrying.

The IQBA file cannot be exported if document classification is in progress for the selected learning instance(s). The user gets the error message: Unable to export as learning instances are under process. Retry this action after some time. When document classification is in progress, the classification spinner displays in the learning instance detail page.

If document classification hangs, click the URL to trigger classification of failed documents: `http(s)://localhost:9996/organizations/1/projects/<<id>>/reclassify`. This URL is accessible only on servers where IQ Bot is installed. Replace the <<id>> by the actual learning instance id for which reclassification needs to be triggered.

Keep learning instance document classifier version during IQ Bot upgrade

After upgrading to another version of IQ Bot, retain the previous document classifier version. This lets user access the learning instances created in the other version of IQ Bot, and also saves the effort of re-creating and retraining the bots after an upgrade.

1. During the IQ Bot installation process, after configuring the IQ Bot installation and output folder path, verify the classifier version page appears. The document classifier is specific to the learning instance, and not to the IQ Bot system
2. Select the previous classifier version from the drop-down list to preserve the existing learning instances' classifier version. This allows access to the learning instances created in the previous version of IQ Bot, and avoids retraining the bots.
3. After installation, open the existing learning instances in the IQ Bot Version 6.5 UI. The bots show the same classification and text segmentation in the upgraded version of IQ Bot as in the previous version because the user chose to preserve the previous classifier version during installation. If the user exports or imports IQ Bot Archive (IQBA) files from one Version 6.5 machine to the same or another Version 6.5 machine, the existing learning instances and functions are preserved.

IQ Bot list of supported languages

Access 190 languages from IQ Bot.

Access the list of languages in IQ Bot, where you will observe the following:

- Some languages are listed multiple times as variants, for example, Norwegian, Norwegian (Bokmal), Norwegian (Nynorsk).
- Languages that are written right to left, rather than left to right, are not supported within IQ Bot. For example, Arabic, Aramaic, Azeri, Divehi, Fula, Hebrew, Kurdish, N'ko, Persian, Rohingya, Syriac, and Urdu.
- For languages not in the IQ Bot UI by default:
 - These rely on ABBYY FineReader Engine 12.2 for text segmentation and OCR, then IQ Bot for classification, extraction, and autocorrection.
 - Contact your Cognitive Services or Sales Engineering representative to create IQ Bot custom domains to access these languages.
 - In the SQL database and .json file, IQ Bot requires language codes for 160 of the additional languages to appear in the UI, and culture codes to allow numeric and date validation.

Note:

- For ABBYY FineReader Engine and Microsoft Azure Computer Vision OCR engine, IQ Bot uses its text segmentation + OCR.
- For Microsoft Azure Computer Vision OCR engine, user can select any language from IQ Bot's drop-down, but the API aims to auto-detect the language during processing, and override user selection.

The following table provides you with links to supported languages for all IQ Bot supported OCR engines except Tesseract4 OCR:

IQ Bot supported OCR engines	List of supported languages
Tesseract4 OCR	See table below for list of supported languages.

IQ Bot supported OCR engines	List of supported languages
ABBYY FineReader Engine	https://abbyy.technology/en:products:fre:win:v12:languages
Microsoft Azure Computer Vision OCR engine	https://docs.microsoft.com/en-us/azure/cognitive-services/computer-vision/language-support
Google Vision API	https://cloud.google.com/vision/docs/languages
Tegaki API	<ul style="list-style-type: none"> • Japanese • Korean • Japanese - English • Korean - English

OCR language	Tesseract4	In IQ Bot UI other domain by default
English	X	X
Abkhaz		
Adyghe		
Afrikaans	X	X
Agul		
Albanian		
Altaic		
Armenian (Eastern)		
Armenian (Grabar)		
Armenian (Western)		
Avar		
Aymara		
Bashkir		
Basque		
Belarussian		
Bemba		
Blackfoot		
Breton		
Bugotu		
Bulgarian	X	X
Burmese (technical preview)		
Buryat		

OCR language	Tesseract4	In IQ Bot UI other domain by default
Catalan	X	X
Chamorro		
Chechen		
Chinese (Simplified)	X	X
Chinese (Traditional)	X	X
Chukcha		
Chuvash		
Corsican		
Crimean Tatar		
Croatian		
Crow		
Czech	X	X
Danish	X	X
Dargwa		
Dungan		
Dutch		
Dutch (Netherlands)		
Dutch (Belgium) or Flemish	X	X
Eskimo (Cyrillic)		
Eskimo (Latin)		
Esperanto		
Estonian		
Even		
Evenki		
Faeroese		
Fijian		
Finnish		
French	X	X
Frisian		
Friulian		
Scottish Gaelic		
Gagauz		

OCR language	Tesseract4	In IQ Bot UI other domain by default
Galician		
Ganda		
German	X	X
German (new spelling)		
German (Luxembourg)		
Greek	X	X
Guarani		
Hani		
Hausa		
Hawaiian		
Hungarian	X	X
Icelandic		
Ido		
Indonesian	X	X
Interlingua		
Irish		
Italian	X	X
Japanese	X	X
Kabardian		
Kalmyk		
Karachay-Balkar		
Karakalpak		
Kasub		
Kawa		
Kazakh		
Khakas		
Khanty		
Kikuyu		
Kirghiz		
Kongo		
Korean	X	X
Korean (Hangul)		

OCR language	Tesseract4	In IQ Bot UI other domain by default
Koryak		
Kpelle		
Kumyk		
Lak		
Sami (Lappish)		
Latin	X	X
Latvian		
Latvian language written in Gothic script		
Lezgin		
Lithuanian		
Luba		
Macedonian		
Malagasy		
Malay	X	X
Malinke		
Maltese		
Mansi		
Maori		
Mari		
Maya		
Miao		
Minangkabau		
Russian and English		
Mohawk		
Mongol		
Mordvin		
Nahuatl		
Nenets		
Nivkh		
Nogay		
NorwegianNynorsk and NorwegianBokmal		
Norwegian	X	X

OCR language	Tesseract4	In IQ Bot UI other domain by default
Norwegian (Bokmal)		
Norwegian (Nynorsk)		
Nyanja		
Occidental		
Ojibway		
Old English		
Old French		
Old German		
Old Italian		
Old Slavonic		
Old Spanish		
Ossetian		
Papiamento		
Tok Pisin		
Polish	X	X
Portuguese	X	X
Portuguese (Brazil)		
Portuguese (Portugal)		
Provençal		
Quechua		
Rhaeto-Romanic		
Romanian	X	X
Romanian (Moldavia)		
Romany		
Ruanda		
Rundi		
Russian (old spelling)		
Russian	X	X
Russian (with accents marking stress position)		
Samoan		
Selkup		
Serbian	X	X

OCR language	Tesseract4	In IQ Bot UI other domain by default
Serbian (Cyrillic)		
Serbian (Latin)		
Shona		
Sioux (Dakota)		
Slovak	X	X
Slovenian		
Somali		
Sorbian		
Sotho		
Spanish	X	X
Sunda		
Swahili		
Swazi		
Swedish	X	X
Tabassaran		
Tagalog		
Tahitian		
Tajik		
Tatar		
Thai		
Jingpo		
Tongan		
Tswana		
Tun		
Turkish	X	X
Turkmen		
Turkmen (Latin)		
Tuvan		
Udmurt		
Uighur (Cyrillic)		
Uighur (Latin)		
Ukrainian		

OCR language	Tesseract4	In IQ Bot UI other domain by default
Uzbek (Cyrillic)		
Uzbek (Latin)		
Vietnamese		
Cebuano		
Welsh		
Wolof		
Xhosa		
Yakut		
Yiddish		
Zapotec		
Zulu		

IQ Bot Extensions for custom extraction

IQ Bot Extensions provides support for customized extraction of complex, fixed format documents used across various industry verticals. For example, Acord Forms are used as fixed format documents in the global insurance industry. Form CMS1450 (UB-04) is a fixed format document used in healthcare for billing and claims.

IQ Bot allows users to process fixed format documents without any required training. During instance creation, selecting a fixed format document domain lets the user skip the document training in the Designer, and the user only needs to select the appropriate fields. The created learning instance will have a single bot that is always in production.

IQ Bot provides the flexibility to use a custom extraction service with extraction models that are better suited for specific fixed format documents. The custom extraction services have pre-processing, extraction, and post-processing components that are optimized for extracting information from specific fixed format documents.

The custom extraction service also lets the user pre-process some forms in a different way.

Phases of processing fixed format documents

Follow the stages to process fixed format documents as a business user:

[Import domains for fixed format documents:](#)

Obtain domain files from Services, and import them to IQ Bot.

[Create learning instance using fixed format documents:](#)

Create a learning instance using a fixed format document and set the bot to production.

[Process fixed format documents in production:](#)

Upload documents to Enterprise client and run the bot in the production environment. Then download the processed CSV file with the extracted data from the success folder on your machine.

[Using Validator for fixed format documents processing](#)

Finally, validate the extractions in the IQ Bot Validator.

- [Import domains for fixed format documents](#)
Import the domain file (with .dom file extension) for fixed format documents to IQ Bot.
- [Create learning instance using fixed format documents](#)
Import the relevant domain file for the fixed format document.
- [Process fixed format documents in production](#)
For fixed format document domains, IQ Bot uses the custom extraction service to process the documents and output the extracted result to a success folder.
- [Using Validator for fixed format documents processing](#)
Validate the extracted data in IQ Bot Validator.

Related concepts

[Using Validator for fixed format documents processing](#)

Related tasks

[Import domains for fixed format documents](#)

[Create learning instance using fixed format documents](#)

[Process fixed format documents in production](#)

Related reference

[Hardware and software requirements for IQ Bot with Extensions](#)

Import domains for fixed format documents

Import the domain file (with .dom file extension) for fixed format documents to IQ Bot.

Prerequisites

- Install IQ Bot on your machine and obtain necessary access rights for an administrator.
- Reach out to your service representative/sales engineer for the relevant domain file for the fixed format documents and get the custom extraction service installed on your environment.

The domain files contain relevant metadata about the specific fixed format documents, and details of the custom extraction service for IQ Bot extensions. For example, a UB-04 domain file contains all relevant fields for that form along with the information for the UB-04 custom extraction service.

Follow this process to import a domain file specifically designed for processing a fixed format document. User can then create a learning instance using the imported domain.

Procedure

1. Log in to IQ Bot as an administrator and navigate to the Domains tab.
2. Click the Import new domain button at the top right corner of the Domains page.
3. Select the domain from the location where you have it stored on your machine and choose Open.
4. A message with the domain name displays confirming the successful import.
5. Next, navigate to the LEARNING INSTANCES tab, and click on the Create one now button.
6. User can see the imported domain in the Upload documents field drop-down list.

Next steps

Create a learning instance using the imported domain.

Related tasks

[Import domains for fixed format documents](#)

Create learning instance using fixed format documents

Import the relevant domain file for the fixed format document.

Procedure

1. Navigate to the LEARNING INSTANCE tab.
2. On the Create new learning instance page, click the Document type drop-down list to see all imported domains available for selection. The fixed format documents domains that were imported are also visible.
3. Select a fixed format documents domain from the list. Selecting a fixed format documents domain modifies the actions/fields/buttons in the Create new learning instance page as follows:
 - a) The Classify and Train icons get removed from the page.
 - b) The Upload documents field gets replaced with a note mentioning that fixed format documents domains are pre trained and uploading training documents is not required.
 - c) The custom field selection is not available.
 - d) By default, all fields are selected. User has an option to Clear All Fields/Select All Fields. The Create fixed format documents instance button is enabled when at least one field is checked.
 - e) The user sees the assigned language for the domain (under the primary language).
4. After selecting a fixed format documents domain and the relevant fields, click the Create fixed format documents instance button. The system takes the user back to the Learning instance list page showing a list of learning instances. User gets a confirmation that the learning instance was created successfully.
5. In the Bot tab, user can see the created bot in production status.
6. User cannot edit the Description or move the bot status to staging. The system always displays the bot with Group 0, which is specific to fixed format documents only.
7. Next, navigate to the Learning instances tab and click the View details icon to see the Document Groups and Summary tab details.
8. User can edit the learning instance, but is limited to updating/adding the description, or selecting more fields only, if there were any unselected ones during the learning instance creation.
You cannot add custom fields to the learning instance.
Note: Added/updated description is visible on the Learning instance details page.
9. Next, set the learning instance to production.
User has successfully created a learning instance using a fixed format documents domain and has set it to production.

Next steps

Log in to Enterprise client to upload documents and run the bot the user created.

Related tasks

[Process fixed format documents in production](#)

Process fixed format documents in production

For fixed format document domains, IQ Bot uses the custom extraction service to process the documents and output the extracted result to a success folder.

Prerequisites

Create a learning instance using a fixed format document domain set the instance to production. Launch Enterprise client.

Using the IQ Bot lite command in Enterprise client, upload documents to IQ Bot so it can process the documents.

Procedure

1. In Enterprise client, open the IQ Bot Upload command. User can see the learning instances in IQ Bot in the drop-down list.
2. Provide a File Path to upload documents and choose Save.
3. Once the upload is complete, IQ Bot queues the documents to the custom extraction service for execution.
4. User can see the document upload status in the log file that includes details such as, number of documents uploaded, number of documents in the processing queue, errors, and so on.
5. Save the Upload command, and choose Run.
The custom extraction service extracts the data from the documents and sends it to a CSV file.
6. Open and run the Download command.
7. Navigate to Output > learning instance name > Success folder to see the processed document in the CSV format.

Related concepts

[Using Validator for fixed format documents processing](#)

[Download a document from a learning instance](#)

Related tasks

[Upload documents to a learning instance](#)

[Upload multiple folder files to a learning instance](#)

Using Validator for fixed format documents processing

Validate the extracted data in IQ Bot Validator.

Follow the same validation steps for validating fixed format documents as you would for forms belonging to other domains. The following are few exceptions based on the capability of the custom extraction service used for fixed format documents:

- The number of bounding boxes displayed on the document and the accuracy of the boxes varies and is based on the capability of the custom extraction service.
- Mandatory fields are marked in the domain files or could be built into the engine. Documents that have empty extracted values for the mandatory fields are sent to the Validator.
- Some field validations, such as: dates, phone numbers, and dollar amounts are unique to fixed format documents, and are built into the custom extraction services.
- Auto-suggestion and auto-correction is not currently available for fixed format documents.
- Re-validation of user corrected values is not currently available for fixed format documents.

Note: See IQ Bot Validation queue for details.

Related concepts

[IQ Bot Validation queue](#)

Create a custom domain

When creating a learning instance, you have the option to create a custom domain.

Procedure

1. Create the Domain JSON structure that you need to pass to the Domain Import REST API.
Contact the Automation Anywhere Service team to get JSON structure specific to the domain you intend to use.
2. Group the details form with one of the following options.
3. Upload the JSON structure by using the Domain Import REST API endpoint to create the domain:Domain Import REST API:

```

HTTP POST URL: http://localhost:8100/domains/import
Request Headers: Content-Type=application/json; charset=utf-8 ; x-authorization=authentication token
POST Payload: Domain Metadata JSON Structure
Response Payload (on success): none.
Response Payload (on error): Default Error Response.

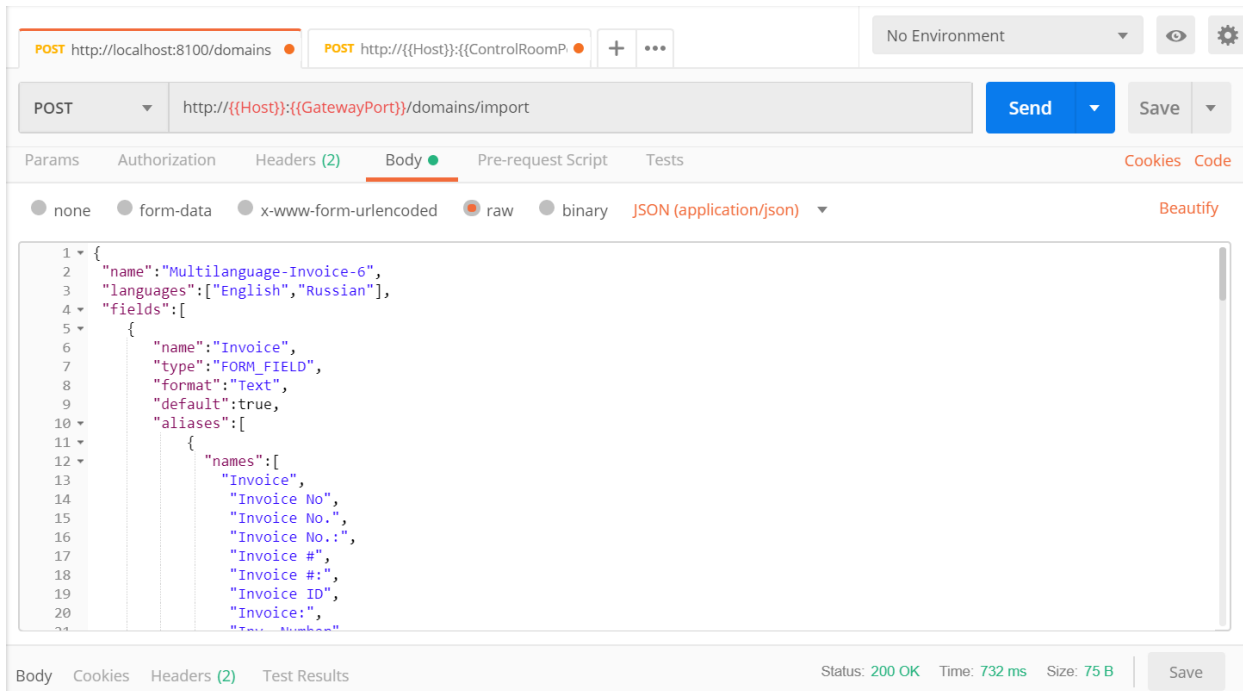
```

Response HTTP Status Codes

Code	Reason	Description
200	OK	Successful response.
400	Bad Input	The provided JSON Domain Metadata could not be parsed because the JSON was malformed or did not satisfy one of the Consistency Assertions.
403	Forbidden	The user is not allowed to access this API. Only users with the AAE_IQ Bot Admin role can access this API.
409	Conflict	The Domain name already exists in the system or there was some other constraint violation when attempting to insert the data into the database.
500	Internal Server Error	An unexpected exception occurred when processing the domain import.

- Call the Domain Import REST API on the same machine on which the IQ Bot platform is installed.
- Create a unique domain name that does not conflict with any of the existing domain names on the IQ Bot platform (based on a case-insensitive comparison).
- Backup your IQ Bot database before creating custom domains so you have the option to return to the default domain state whenever necessary.

Use tools, for example, Postman, to call the Domain Import REST API to upload the Domain JSON structure. An example of a request and response using Postman is provided in the following screenshot:



For the success response Status: 200 OK Time: 228 ms, the status 200 OK indicates the successful creation of the domain.

- After creating the domain, log out and log back in to the IQ Bot platform. You now have a domain with targeted languages available on the IQ Bot platform when you create a learning instance.
For a selected Domain, only those languages that have one or more aliases available appear in the primary language of files drop-down list.

IQ Bot database encryption

The IQ Bot database is encrypted to prevent unauthorized access to sensitive information.

The following database tables and columns are encrypted because they store potentially sensitive data from documents:

- FileManager.FieldLevelAccuracy.oldvalue
- FileManager.FieldLevelAccuracy.newvalue
- FileManager.FileDetails.filename
- FileManager.SegmentedDocumentDetails.SegmentedDocument (data stays until the document is in Validation queue)
- FileManager.VisionBot.datablob
- FileManager.VisionBotDocuments.VBotDocument
- FileManager.TestSet.DocItems
- FileManager.FileBlobs.fileblob
- FileManager.VisionBotDocuments.CorrectedData
- DocumentPageCache.fileblob

Note: Although the data is encrypted, the APIs that use this data work as before.
Database encryption occurs during the following instances:

Database is encrypted during a fresh install of IQ Bot

By default, the database is encrypted, regardless of the installation type (fresh installation or an upgrade).

All files uploaded to IQ bot (for training or production) are encrypted. The database administrator requires the encryption key to access any information in the database.

Database is encrypted during migration of learning instance

When a learning instance is exported, the archived (.iqba) data file is not encrypted. Instead, the data is exported in plain text format. However, when importing a learning instance through an archived (.iqba) file, regardless of the import options, the updated IQ Bot database is encrypted.

Note: Impacted areas constitute the import/export functionalities.

Database is encrypted during upgrade of IQ Bot from a previous version

When upgrading IQ Bot from an older version, the installer encrypts data related to the files in the database.

After completing the RabbitMQ configuration step in the installer, database encryption begins, and the system shows an explanatory message. After the upgrade is complete, the system works as before.

If the encryption process fails, the installer shows an error message and the upgrade gets rolled back to the previous version.

Note: Before the upgrade, copy and keep a backup of the database so you can revert back to it if errors occur during the upgrade process.

As an administrator, you must be aware of the location and security of the encryption key. The encryption key file is not stored in a credential vault, but is located in the IQ Bot installation directory/Configurations/private.key. Secure the encryption key with appropriate access restrictions to significantly reduce the possibility that other users can decrypt the encrypted data.

The encryption key is shared across all servers of the IQ Bot cluster, to ensure seamless database encryption across all servers. If the encryption key is lost, uninstall and reinstall IQ Bot to restore functionality.

IQ Bot Microsoft Windows authentication

The IQ Bot platform administrator can enable Microsoft Windows authentication for the database during IQ Bot platform installation. This enables the connection of SQL databases with Windows or dual authentication.

When installing IQ Bot, select the Windows authentication check box to enable it. In this case, the username and password fields are disabled. An error message appears for connection or credential issues.

Note: By default, the Windows authentication box is unselected.

The IQ Bot Installer has an advanced mode to allow the IQ Bot platform administrator to enable Windows authentication for the database.

Error messages appear for the following information:

- Invalid port number
- Empty hostname/port
- Database connection failure

IQ Bot audit log in Enterprise Control Room

IQ Bot uses audit logs to enforce accountability, reconstruct events, and detect intrusion and issues. The administrator is able to see logs for all users in the Audit Logs tab of the Enterprise Control Room.

Actions done in IQ Bot by a user are logged in the Audit Logs tab in the Enterprise Control Room. All successful and unsuccessful entries are logged with the reasons for failures.

The Audit Log tab of the Enterprise Control Room is updated every 60 seconds after user actions are taken in IQ Bot.

1. Navigate to Automation Anywhere Enterprise Control Room > Audit Log , and click the column drop-down list to select the Source from the list of available options.
2. From the Choose source drop-down list, select IQ Bot.
3. The Audit Logs tab shows all logs for IQ Bot.
4. Click the Audit details icon to view the following:
 - Action details for successful logs
 - Results for failure logs
5. Use the All columns field to select the column to filter by. The logs appear by the following columns:
 - Status
 - Time
 - Action Type
 - Item Name
 - Action Taken By
 - Source Device
 - Source

The following actions are logged in the Audit Log tab :

- Learning instance
 - Create, edit, or delete learning instance
 - Send learning instance to Production (and vice versa)
 - Send learning instance to Staging (and vice versa)
- Validation of learning instance
 - file marked as invalid
 - file validated successfully
- Train bot
 - Bot training
 - Send bot to Production (and vice versa)
 - Send bot to Staging (and vice versa)
- Administration

Migrate learning instances (export or import)

- Configure domain

Create domain

IQ Bot Cloud invoice processing solution

IQ Bot Cloud Invoice Processing Solution enables end-to-end processing of invoices by leveraging both RPA and cognitive automation. The cloud infrastructure required to process invoices is provisioned and managed by Automation Anywhere.

For more information on this solution, see the Quick Start Guide: [IQ Bot Cloud Invoice Processing Solution](#).

Related reference

[Using IQ Bot](#)

Upgrading IQ Bot

Find out how to upgrade to the latest version of IQ Bot. Learn how to migrate learning instances from an earlier version of IQ Bot to the most recent one.

- [IQ Bot upgrade options](#)
This topic gives you options and use cases in a customer environment to try a version of IQ Bot before upgrading the existing IQ Bot servers to development and production environments.
- [Upgrading system to IQ Bot Version 11.3.5](#)
Find out how to upgrade your system from IQ Bot Version 5.3.x, 6.x and Version 6.5.x and Version 11.3.x to Version 11.3.5.
- [Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch](#)
Install an IQ Bot Version 11.3.4.x patch on your IQ Bot Version 11.3.4 system.
- [Upgrading system from IQ Bot Version 6.5 and before, to IQ Bot Version 11.3.4](#)
Find out how to upgrade your system from IQ Bot Version 6.5.x and before, to Version 11.3.4.
- [Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x](#)
Find out how to upgrade your system from IQ Bot Version 6.5.x and before, to Version 11.3.3.x.
- [Upgrading system from IQ Bot Version 5.3.x or IQ Bot 6.0.x to Version 6.5](#)
Find out how to upgrade your system from IQ Bot Version 6.0.x to Version 6.5.
- [Upgrading system from IQ Bot 5.3.x to 6.0.x](#)
Find out how to upgrade your system from IQ Bot 5.3.x to 6.0.x
- [Upgrading system from IQ Bot 5.1.x to 5.2.x](#)
Find out how to upgrade your system from IQ Bot 5.1.x to 5.2.x.
- [Upgrading system from IQ Bot 5.0.x to 5.1.x](#)
Find out how to upgrade your system from IQ Bot 5.0.x to 5.1.x
- [Migration Utility](#)
Use the IQ Bot Migration Utility feature to export and import a learning instance between different IQ Bot installations to avoid recreating the learning instances.
- [Export or Import learning instances within IQ Bot 5.2 installation](#)
Find out how to migrate learning instances within different installations of the same version of IQ Bot.
- [Export/Import learning instances within IQ Bot 5.3.x, and later versions](#)
Find out how to migrate learning instances within different installations of IQ Bot 5.3, Version 6.0, and Version 6.5.x and above.

Related concepts

[Migration Utility](#)

Related tasks

[IQ Bot upgrade options](#)

[Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch](#)

[Upgrading system from IQ Bot Version 6.5 and before, to IQ Bot Version 11.3.4](#)

[Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x](#)

[Upgrading system from IQ Bot Version 5.3.x or IQ Bot 6.0.x to Version 6.5](#)

[Upgrading system from IQ Bot 5.3.x to 6.0.x](#)

[Upgrading system from IQ Bot 5.1.x to 5.2.x](#)

[Upgrading system from IQ Bot 5.0.x to 5.1.x](#)

[Export or Import learning instances within IQ Bot 5.2 installation](#)

[Export/Import learning instances within IQ Bot 5.3.x, and later versions](#)

IQ Bot upgrade options

This topic gives you options and use cases in a customer environment to try a version of IQ Bot before upgrading the existing IQ Bot servers to development and production environments.

Prerequisites

The following are primary tools/processes involved:

1. Import/Export
 - This is an IQ Bot feature.
 - We recommend transferring staging data from one IQ Bot installation to the other, provided both belong to the same IQ Bot version.
2. Database backup/Restore
 - This is an SQL server feature.
 - Creates backup of existing database that could be restored on same or different SQL server instances.
 - Prepare a database replica of the development environment.
 - Backup all IQ Bot databases.
 - Restore the backups on a new database server.
 - Install the latest IQ Bot setup on or against the restored database server.
 - This ensures you have the latest IQ Bot server for trial purposes that uses existing development server data.

Note: The task creates two development environments:

1. Development-old: with an older version of IQ Bot (which we will address as Dev-old)
2. Development-new: with a newer version of IQ Bot (which we will address as Dev-new)

Use the scenarios primarily where active development (such as, training of groups/bots) continues along with the trial of new IQ Bot versions.

Procedure

1. Scenario 1: Active development happens on Dev-old environment only.
 - Continue trial/use of Dev-new, though we are not concerned about the data on this machine.
 - At the end of trial, if satisfied with new IQ Bot version then:
 - a) Discard Dev-new, as it has trial data only.
 - b) Upgrade Dev-old by first uninstalling older version of IQ Bot and then installing the new version on it.
2. Scenario 2: Active development happens on Dev-new only.
 - Stop using Dev-old. All new development happens in Dev-new environment only.
 - At the end of trial, if satisfied with new IQ Bot version then:
 - a) Backup databases of Dev-new, and restore on Dev-old environment.
 - b) Upgrade Dev-old first by uninstalling older version of IQ Bot, and then installing the new version on it.
3. Scenario 3: Active development happens on neither Dev-old nor on Dev-new environments.
 - Stop using Dev-old. Since Dev-new environment is being used for trial only, no active development happens on it.
 - At end of trial, if we are satisfied with the new IQ Bot version then:
 - a) Discard Dev-new environment, as it has just trial data.

- b) Upgrade Dev-old environment by first uninstalling the older IQ Bot version, and then installing the new one.
- 4. Scenario 4: Active development happens on both Dev-old and Dev-new environments.
 - We intend to do active development on both the (Dev-old and Dev-new) environments.
Note: We cannot merge training from two different IQ Bot servers.
 - We do not recommend doing active development on both the environments. Instead pick either scenario 1 or scenario 2.

Next steps

When transferring data from development to the production environment, do the following:

First upgrade the production server by uninstalling the current installed version of IQ Bot, and then installing the new version of IQ Bot. This ensures that both development and production servers have the same IQ Bot version.

Migrate the data from development server to production server using import/export (standard IQ Bot process) operation.

Related tasks

[Upgrading system from IQ Bot 5.0.x to 5.1.x](#)

[Upgrading system from IQ Bot 5.1.x to 5.2.x](#)

[Upgrading system from IQ Bot 5.3.x to 6.0.x](#)

[Upgrading system from IQ Bot Version 5.3.x or IQ Bot 6.0.x to Version 6.5](#)

[Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x](#)

Upgrading system to IQ Bot Version 11.3.5

Find out how to upgrade your system from IQ Bot Version 5.3.x, 6.x and Version 6.5.x and Version 11.3.x to Version 11.3.5.

Prerequisites

IQ Bot Version 11.3.5 is compatible with Enterprise Control Room Version 11.3.4.3 and above only.

Note: The following prerequisites do not apply if you are upgrading from IQ Bot Version 11.3.4 onward.

- If the SQL version on your machine is older than SQL Server Native Client 2012, a dialog box appears, providing you the option to upgrade. Open services.msc and stop SQL Server (MSSQLSERVER). Then continue with the installation process.
- During the upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. To keep the classifier version for the existing learning instances, select that prior version of IQ Bot from the drop-down list.
 - Version 1 (IQ Bot 5.3 / 6.0.1), if upgrading from IQ Bot versions 5.3.0 or Version 6.0.1.
 - Version 2 (IQ Bot 5.3.1 / 6.5 Beta), if upgrading from IQ Bot versions 5.3.1, 6.5 Beta, or 6.5.
- For any new learning instances created after installation, the classifier version of IQ Bot Version 5.3.1/Version 6.5.x is used.
- If upgrading from IQ Bot Version 5.3.1.x and you have learning instance that rely on 5.3.1.x check box or linked table functionality, clear the validation queue before upgrading to IQ Bot Version 11.3.5.
- When upgrading to IQ Bot Version 11.3.5, all group information gets stored in a new table, ContentClassification, and all data gets automatically upgraded or transferred to this table during the installation process.

Procedure

1. Refer to [IQ Bot hardware and software requirements](#) before you begin with the upgrade process.
2. Open all required ports. See [IQ Bot prerequisite steps](#).
Note: Additionally, open ports 4369 and 25672, and add inbound firewall rules to allow traffic to these ports.
3. Backup the IQ Bot database on the target server where installation is to be done. (This does not apply to fresh installs).
4. Download Automation_Anywhere_IQ_Bot_11.3.5.zip from Customer portal into target machine.
5. Unzip Automation_Anywhere_IQ_Bot_11.3.5.zip into Automation_Anywhere_IQ_Bot_11.3.5 folder.
6. Uninstall your current IQ Bot version. Refer to the note below on how to uninstall IQ Bot. (This does not apply to fresh installs).
Note: See [Uninstalling IQ Bot](#).
7. Check that the correct versions of Enterprise Control Room and Enterprise client, that are being installed are compatible per the compatibility matrix. See [IQ Bot version compatibility matrix](#).
Important: If you are upgrading from IQ Bot 5.x, run the Cleanup_Components.bat before installing the latest Enterprise Control Room and IQ Bot versions.
8. Open Automation_Anywhere_IQ_Bot_11.3.5 folder and execute Cleanup_Components.bat file. The .bat file will uninstall RabbitMQ, Erlang relevant IQ Bot Python files, and remove necessary registry entries. No other Python versions will be affected.
9. Restart your machine.
10. Open Automation_Anywhere_IQ_Bot_11.3.5 folder and execute Cleanup_Components.BAT file again. This removes any empty folders from RabbitMQ, Erlang, and Python from the system.
11. Open Automation_Anywhere_IQ_Bot_11.3.5 folder and launch Automation_Anywhere_IQ_Bot_11.3.5.exe.
12. Next, install IQ Bot Version 11.3.5 as per your requirement:
 - [Installing IQ Bot in Express mode](#)
 - [Installing IQ Bot in Custom mode](#)
 - [Installing IQ Bot in Cluster mode](#)
 Attention: If the installation fails due to a migration issue (despite the installation checklist), contact support.
13. Change the load balancer port from 8100 to 3000. The default port number is selected from the previous screen. If you have installed an external load balancer, change the port number.
14. Complete the installation by retaining the rest of the settings, as they get auto populated during installation. Your upgrade is now complete.

Next steps

After installing IQ Bot, ensure that you:

1. Register IQ Bot with Enterprise Control Room. See [Registering IQ Bot with the Enterprise Control Room](#).
2. Complete the configuration settings to ensure registration with Enterprise Control Room. See [IQ Bot post installation configuration](#) for more information.
3. Validate the installation. See [IQ Bot post installation validation](#).

Upgrade from IQ Bot Version 11.3.4 to Version 11.3.4.x patch

Install an IQ Bot Version 11.3.4.x patch on your IQ Bot Version 11.3.4 system.

Prerequisites

- Ensure you have IQ Bot Version 11.3.4 installed.

This patch requires Version 11.3.4 as the base release.

- To preserve the desktop shortcut, perform the following steps:
 1. Navigate to the IQ Bot installation directory.
 2. Right-click the Cognitive Platform internet shortcut, go to Properties > Web Document, and copy the URL.

You can use this later to launch IQ Bot after installing Version 11.3.4.2 patch.

3. Uninstall IQ Bot Version 11.3.4.1 patch.
4. Install Version 11.3.4.2 patch.
5. Use the copied URL to launch IQ Bot Version 11.3.4.2.

The IQ Bot desktop shortcut cannot be edited. Use the copied URL to open IQ Bot Version 11.3.4.2 every time.

Alternatively, you can access the IQ Bot application by using `http://controlroom-URL/IQBot` or `https://controlroom-URL/IQBot` after registering IQ Bot with the Enterprise Control Room.

- If you have Version 11.3.4.1 patch installed, then you have to uninstall it before installing the Version 11.3.4.2 patch.
- Ensure that you have downloaded AA_IQBOT_Update_11.3.4.x.exe patch installer.

During installation, the installer stops all IQ Bot services and restarts them after the installation is complete.

Procedure

1. Double click the AA_IQBOT_Update_11.3.4.x.exe file to launch the installation wizard.
Important: Run the installer as an Administrator.
2. On the Setup Wizard welcome screen, click Update to begin the installation process.
The Finished screen on the installer window indicates that the IQ Bot patch is successfully installed.
3. Click Finish to exit the installer.
4. Click Yes to immediately restart your system, or click No to restart later.
Recommendation: Restart the system after the installation is complete.

Next steps

If you have configured IQ Bot services to run with a service account user, installing the Version 11.3.4.x patch removes that setting. So the services run as a local user. After the patch is installed, and the services are reinstalled, follow these steps to reconfigure each service to the appropriate account user credentials:

1. Navigate to Start > Services.
 2. Right-click each service and select Properties > Log On > This account to change to the appropriate service account user.
- [Uninstall IQ Bot Version 11.3.4.x patch](#)
Follow these steps to uninstall Version 11.3.4.x patch.

Related tasks

[Uninstall IQ Bot Version 11.3.4.x patch](#)

Uninstall IQ Bot Version 11.3.4.x patch

Follow these steps to uninstall Version 11.3.4.x patch.

Procedure

1. Launch the operating system Control Panel from the Start menu. Open Programs > Programs > Uninstall a program.
2. In the left pane, click View Installed Updates.
3. Locate and double-click the Automation Anywhere IQ Bot Version 11.3.4.x entry.
4. Click Yes in the confirmation dialog box.
The installer uninstalls the application.
5. In the restart confirmation box, click Yes to immediately restart your system, or click No to restart later.
Recommendation: Restart your system after the uninstall is complete.

Next steps

If you have configured IQ Bot services to run with a service account user, uninstalling Version 11.3.4.x patch removes that setting. So the services run as a local user. After the patch uninstall is complete, and the services are reinstalled, follow the steps to re-configure each service to the appropriate account user credentials:

1. Navigate to Start > Services.
2. Right-click each service and select Properties > Log On > This account to change to the appropriate service account user.

Upgrading system from IQ Bot Version 6.5 and before, to IQ Bot Version 11.3.4

Find out how to upgrade your system from IQ Bot Version 6.5.x and before, to Version 11.3.4.

Prerequisites

For IQ Bot Version 11.3.4.x

- If your SQL machine version is older than SQL Server Native Client 2012, a dialog box appears, giving you the option to upgrade. Open services.msc and stop SQL Server (MSSQLSERVER). Then complete the installation process.
- During the upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. Select that prior version of IQ Bot from a drop-down list to keep the classifier version for the existing learning instances. From the drop-down list the option Version 2 (IQ Bot 5.3.1 / 6.5 Beta) refers to IQ Bot 5.3.1 / 6.5 Beta / 6.5.
- For any new learning instances created after installation, the classifier version of IQ Bot Version 5.3.1/Version 6.5.x is used.
- If upgrading from IQ Bot Version 5.3.1.x and you have learning instance that rely on 5.3.1.x check box or linked table functionality, clear the validation queue before upgrading to IQ Bot Version 6.5.x.
- When upgrading to IQ Bot Version 11.3.4.x, all group information gets stored in a new table ContentClassification, and all data gets automatically upgraded/transferred to this table during the installation process.

If you configure IQ Bot with a load balancer, ensure you are logged onto the Automation Anywhere cognitive projects service as an administrator to enable access to all nodes for migration utility.

Procedure

1. Refer to [IQ Bot hardware and software requirements](#) before you begin with the upgrade process.
2. Open all required ports. See [IQ Bot prerequisite steps](#).
Note: Additionally, open ports 4369 and 25672, and add inbound firewall rules to allow traffic to these ports.
3. Backup the IQ Bot database on the target server where installation is to be done. (This does not apply to fresh installs).
4. Download Automation_Anywhere_IQ_Bot_11.3.4.zip from Customer portal into target machine.
5. Unzip Automation_Anywhere_IQ_Bot_11.3.4.zip into Automation_Anywhere_IQ_Bot_11.3.4 folder.
6. Uninstall your current IQ Bot version. Refer to the note below on how to uninstall IQ Bot. (This does not apply to fresh installs).
Note: See [Uninstalling IQ Bot](#).
7. Check that the correct versions of Enterprise Control Room and Enterprise client, that are being installed are compatible per the compatibility matrix. See [IQ Bot version compatibility matrix](#).
Important: If you are upgrading from IQ Bot 5.x, run the Cleanup_Components.bat before installing the latest Enterprise Control Room and IQ Bot versions.
8. Open Automation_Anywhere_IQ_Bot_11.3.4 folder and execute Cleanup_Components.bat file. The .bat file will uninstall [RabbitMQ](#), Erlang relevant IQ Bot Python files, and remove necessary registry entries. No other Python versions will be affected.
9. Restart your machine.
10. Open Automation_Anywhere_IQ_Bot_11.3.4 folder and execute Cleanup_Components.BAT file again. This removes any empty folders from RabbitMQ, Erlang, and Python from the system.
11. Open Automation_Anywhere_IQ_Bot_11.3.4 folder and launch Automation_Anywhere_IQ_Bot_11.3.4.exe.
12. Next, install IQ Bot Version 11.3.3 as per your requirement:
 - [Installing IQ Bot in Express mode](#)
 - [Installing IQ Bot in Custom mode](#)
 - [Installing IQ Bot in Cluster mode](#)
 Attention: If the installation fails due to a migration issue (despite the installation checklist), contact support.
13. Change the load balancer port from 8100 to 3000. The default port number is selected from the previous screen.
If you have installed an external load balancer, change the port number.
14. Complete the installation by retaining the rest of the settings, as they get auto populated during installation.
Your upgrade is now complete.

Next steps

After installing IQ Bot, ensure that you:

1. Register IQ Bot with Enterprise Control Room. See [Registering IQ Bot with the Enterprise Control Room](#).
2. Complete the configuration settings to ensure registration with Enterprise Control Room. See [IQ Bot post installation configuration](#) for more information.
3. Validate the installation. See [IQ Bot post installation validation](#).

Related concepts

[IQ Bot post installation configuration](#)

[IQ Bot post installation validation](#)

Related tasks

[Configuring IQ Bot with HTTP and HTTPS](#)

Related reference

[Configuring IQ Bot with HTTPS using multiple domains](#)

[Configuring IQ Bot with HTTPS using single domain](#)

[Configuring IQ Bot with HTTP when Enterprise Control Room is configured with HTTPS](#)

Upgrading system from IQ Bot Version 6.5.x and before, to IQ Bot Version 11.3.3.x

Find out how to upgrade your system from IQ Bot Version 6.5.x and before, to Version 11.3.3.x.

Prerequisites

For IQ Bot Version 11.3.3.x

- If your SQL machine version is older than SQL Server Native Client 2012, a dialog box appears, giving you the option to upgrade. Open services.msc and stop SQL Server (MSSQLSERVER). Then complete the installation process.
- During the upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. Select that prior version of IQ Bot from a drop-down list to keep the classifier version for the existing learning instances. From the drop-down list the option Version 2 (IQ Bot 5.3.1 / 6.5 Beta) refers to IQ Bot 5.3.1 / 6.5 Beta / 6.5 .
- For any new learning instances created after installation, the classifier version of IQ Bot Version 5.3.1/Version 6.5.x is used.
- If upgrading from IQ Bot Version 5.3.1.x and you have learning instance that rely on 5.3.1.x check box or linked table functionality, clear the validation queue before upgrading to IQ Bot Version 6.5.x.
- When upgrading to IQ Bot Version 11.3.3.x, all group information gets stored in a new table ContentClassification, and all data gets automatically upgraded/transferred to this table during the installation process.

If you configure IQ Bot with a load balancer, ensure you are logged onto the Automation Anywhere cognitive projects service as an administrator to enable access to all nodes for migration utility.

Procedure

1. Refer to [IQ Bot hardware and software requirements](#) before you begin with the upgrade process.
2. Open all required ports. See [IQ Bot prerequisite steps](#).
Note: Additionally, open ports 4369 and 25672, and add inbound firewall rules to allow traffic to these ports.
3. Backup the IQ Bot database on the target server where installation is to be done. (This does not apply to fresh installs).
4. Download Automation_Anywhere_IQ_Bot_11.3.3.x.zip from Customer portal into target machine.
5. Unzip Automation_Anywhere_IQ_Bot_11.3.3.x.zip into Automation_Anywhere_IQ_Bot_11.3.3.x folder.
6. Uninstall your current IQ Bot version. Refer to the note below on how to uninstall IQ Bot. (This does not apply to fresh installs).
Note: See [Uninstalling IQ Bot](#).
7. Ensure the correct versions of Enterprise Control Room and Enterprise client are installed as per the IQ Bot compatibility matrix. See [IQ Bot version compatibility matrix](#).
8. Open Automation_Anywhere_IQ_Bot_11.3.3.x folder and execute Cleanup_Components.BAT file. The .bat file will uninstall [RabbitMQ](#), Erlang relevant IQ Bot Python files, and remove necessary registry entries. No other Python versions will be affected.
9. Restart your machine.
10. Open Automation_Anywhere_IQ_Bot_11.3.3.x folder and execute Cleanup_Components.BAT file again. This removes any empty folders from RabbitMQ, Erlang, and Python from the system.

11. Open Automation_Anywhere_IQ_Bot_11.3.3.x folder and launch Automation_Anywhere_IQ_Bot_11.3.3.x.exe.
12. Next, install IQ Bot Version 11.3.3.x as per your requirement:

Option 1:

[Installing IQ Bot in Custom mode.](#)

Option 2:

[Installing IQ Bot in Cluster mode.](#)

Option 3:

[Installing IQ Bot in Express mode.](#)

13. Change the load balancer port from 8100 to 3000. The default port number is selected from the previous screen. If you have installed an external load balancer, change the port number.
14. Complete the installation by retaining the rest of the settings, as they get auto populated during installation. Your upgrade is now complete.

Next steps

After installing IQ Bot, ensure that you:

1. Register IQ Bot with Enterprise Control Room. See [Registering IQ Bot with the Enterprise Control Room](#).
2. Complete the configuration settings to ensure registration with Enterprise Control Room. See [IQ Bot post installation configuration](#) for more information.
3. Validate the installation. See [IQ Bot post installation validation](#).

Related concepts

[RabbitMQ and Erlang/OTP upgrade](#)

Related tasks

[Uninstall previous version of RabbitMQ / Erlang/OTP](#)

Upgrading system from IQ Bot Version 5.3.x or IQ Bot 6.0.x to Version 6.5

Find out how to upgrade your system from IQ Bot Version 6.0.x to Version 6.5.

Prerequisites

For IQ Bot Version 6.5

- If your machine version is older than SQL Server Native Client 2012, a dialog box appears, giving you the option to upgrade. Open services.msc and stop SQL Server (MSSQLSERVER). Then complete the installation process.
- During the upgrade, the installer detects if you have existing learning instances from a prior version of IQ Bot. Select that prior version of IQ Bot from a drop-down list to keep the classifier version for the existing learning instances.
- For any new learning instances created after installation, the classifier version of IQ Bot Version 5.3.1/Version 6.5 is used.
- When upgrading from IQ Bot Version 5.3.1.x, if you have learning instance that relies on 5.3.1.x check box or linked table functionality, clear the validation queue before upgrading to IQ Bot Version 6.5.

For IQ Bot Version 6.5 Beta

- If you have a prior version of IQ Bot in a current environment, install and use IQ Bot Version 6.5 in a fresh development environment, rather than uninstalling your prior version in your current environment.
- If you have multiple tables in a bot in IQ Bot Version 5.3.1, after upgrade, multiple tables migrate, but as one consolidated table in that bot of IQ Bot Version 6.5.

If you still prefer to upgrade, follow these steps:

- Keep a valid PFX format certificate handy for HTTPS.
- Before upgrading from IQ Bot Version 6.0.x to Version 6.5, take a backup of the database. If any encryption issues occur after upgrading IQ Bot, you can restore your system using this backup.

Perform these steps on a machine with IQ Bot 6.0.x installed.

After upgrading from previous IQ Bot version, for example, from 5.3.0 to the current version, if you are using an existing TaskBot to read the output CSVs, change the encoding in the Read from CSV command to UTF-8. The output format has been updated to enable RPA task to read UTF-8 characters starting from IQ Bot 5.3.0 and later.

If you configure IQ Bot with load balancer, ensure you are logged onto the Automation Anywhere cognitive projects service as an administrator to enable access to all nodes for migration utility.

Procedure

1. Uninstall your current IQ Bot version from Add remove programs in the Enterprise Control Room.
2. Ensure the correct versions of Enterprise Control Room (Version 11.3.1 base + either Version 11.3.1.1 patch or Version 11.3.1.2 patch) and Enterprise client are installed, and not the 10.x versions.
3. Uninstall [RabbitMQ](#) and Erlang.
4. Next, install IQ Bot Version 6.5 in custom mode.
5. Change the load balancer port from 8100 to 3000. The default port number is selected from the previous screen. If you have installed an external load balancer, change the port number.
6. Complete the installation by retaining the rest of the settings, as they get auto populated during installation. Your migration is now complete.

Next steps

You can launch IQ Bot.

Upgrading system from IQ Bot 5.3.x to 6.0.x

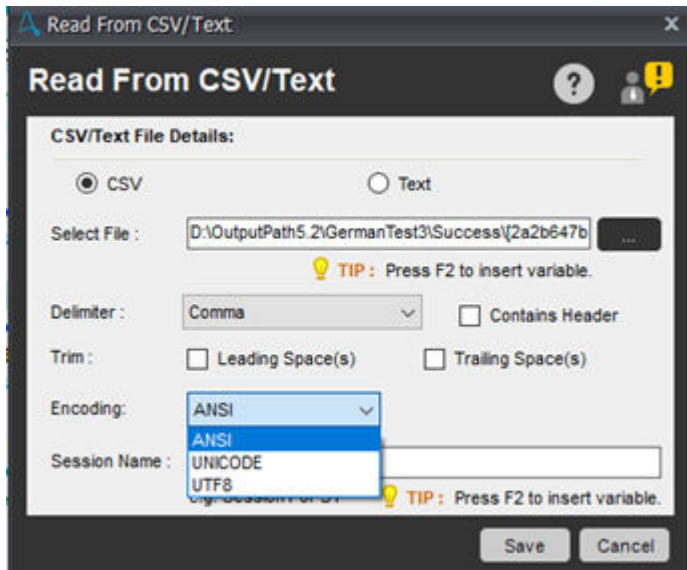
Find out how to upgrade your system from IQ Bot 5.3.x to 6.0.x

Prerequisites

Perform these steps on a machine with IQ Bot 5.3.x installed.

Note: keep the PFX format certificate handy for HTTPS.

After upgrading from previous IQ Bot version to the current version, if you are using an existing TaskBot to read the output CSVs, change the encoding in the Read from CSV command to UTF-8. In IQ Bot 5.3.x, the output format has been updated to enable RPA task to read UTF-8 characters.



If you configure IQ Bot with Load Balancer, ensure you are logged onto the Automation Anywhere cognitive projects service as an administrator to enable access to all nodes for migration utility.

Procedure

1. Uninstall IQ Bot 5.3.x from Add remove programs in the Enterprise Control Room.
2. Uninstall [RabbitMQ](#) and Erlang.
3. Next, install IQ Bot 5.3.x in custom mode.
For an HTTPS based installation, add the PFX format certificate.
4. Change the load balancer port from 8100 to 3000. The default port number is selected from the previous screen.
If you have installed an external load balancer, change the port number.
5. Complete the installation by retaining the rest of the settings, as they get auto populated during installation.
6. Your migration is now complete.

Next steps

Launch IQ Bot.

Upgrading system from IQ Bot 5.1.x to 5.2.x

Find out how to upgrade your system from IQ Bot 5.1.x to 5.2.x.

Prerequisites

- Perform the followig tasks on a machine with IQ Bot 5.1.x installed.
- Keep the PFX format certificate handy for HTTPS.

This task walks you through the steps to upgrade your IQ Bot system from 5.1.x to 5.2.x.

Procedure

1. Uninstall IQ Bot 5.1.1 from Add remove programs in the Control Room.
2. Next, install IQ Bot 5.2.1 in custom mode.
For an HTTPS based installation, add the PFX format certificate.
3. Change the auto-populated load balancer port from 8100 to 3000.
4. Complete the installation by keeping the rest of the settings as is, that get auto populated during installation.
5. Your migration is now complete.

Next steps

Launch IQ Bot.

Upgrading system from IQ Bot 5.0.x to 5.1.x

Find out how to upgrade your system from IQ Bot 5.0.x to 5.1.x

Prerequisites

- Perform the following tasks on a machine that has MS SQL database installed.
- The MS SQL server database must belong to the same version on the source and destination database servers.
- Before restoring the database, stop all IQ Bot services and ensure none of the services are running.
- Have the migration utility available for use, consisting of the following batch files required for upgrade:
 - Backup_DB.BAT
 - Restor_DB.BAT

Note: The migration utility script supports migration of learning instances and bots from one IQ Bot v5.1.x installation instance to another IQ Bot v5.1.x installation instance. It does not work for migration from IQ Bot 5.0.x to IQ Bot 5.1.x. This task walks you through the steps to upgrade your IQ Bot system from version 5.0.x to 5.1.x.

Procedure

1. Back up the database using the Backup_DB.BAT file. The file contains the following:


```
@ECHO
OFFSETLOCALREM Build a list of databases to backupFOR %%G IN
(ClassifierData,FileManager,MLData) DO ( ECHO %%G.BAK SqlCmd -S
ec5-55-555-555-555.ap-south-1.compute.amazonaws.com -U username -P password -
Q "BACKUP DATABASE [%%G] TO Disk='C:\kj\%%G.bak'" )ENDLOCAL.
```

File objects	Reference
(ClassifierData,FileManager,MLData)	Picks one or more databases to back up. Here all three databases are selected.
ec5-55-555-555-555.ap-south-1.compute.amazonaws.com	This is a placeholder for the MS SQL database server name. Replace it with your database server name.

File objects	Reference
'C:\kj\'	This is a placeholder for the output path of the backup files. Change this based on your requirements.

2. To restore one or more back up files, copy all the database backup files (.bak) into the database server and run the following from the command-line: `sqlcmd -S ec5-55-555-555-555.ap-south-1.compute.amazonaws.com -U username -P password -Q "RESTORE DATABASE AliasData FROM Disk='C:\IQBot_DB_Backup\AliasData.bak'`

File objects	Reference
ec5-55-555-555-555.ap-south-1.compute.amazonaws.com	This is a placeholder for the MS SQL database server name. Replace it with the name of your database server.

Change the backup file path depending on your requirements. Additionally, change the database user name and password depending on the settings of your database.

Migration Utility

Use the IQ Bot Migration Utility feature to export and import a learning instance between different IQ Bot installations to avoid recreating the learning instances.

Document groups, bots, and all learning associated with a learning instance are exported. Training documents used to train the bots during staging also get exported. However, the production documents do not get exported.

Note:

- Export learning instances to create a backup.
- Back up your database before importing learning instances.
- Select the right import option to avoid losing information.
- If migration is related to a learning instance created using custom domains, contact Automation Anywhere Enterprise support.
- Ensure that the source and destination systems are running the same IQ Bot version. Learning instances from different IQ Bot versions cannot be imported because their database schemas will not match.

If you have IQ Bot administrator rights, go to IQ Bot > Administrator > Migration. The Migration Utility page displays a list of all available learning instances.

- [Export a learning Instance](#)
Export a learning instance using the Migration Utility.
- [Import a learning instance](#)
Import a learning instance using the Migration Utility.
- [Examples for IQ Bot learning instances import options](#)
Find out about the impact of each import option.

Related tasks

[Export a learning Instance](#)

[Import a learning instance](#)

[Export or Import learning instances within IQ Bot 5.2 installation](#)
[Export/Import learning instances within IQ Bot 5.3.x, and later versions](#)

Export a learning Instance

Export a learning instance using the Migration Utility.

Follow these steps to export a learning instance using the Migration Utility:

Procedure

1. Navigate to the Administration tab > Migration from the left panel to open that page.
2. Select one or more learning instances as per your requirement and click Export.
3. Enter an appropriate name for the IQ Bot archive (IQBA) data file, and click to begin the export process.
The name of the backup file is appended with a time stamp to make it unique.
4. Wait for the export process to complete. Once completed, the exported data file with the .iqba extension becomes available in the BackupData folder in the IQ Bot output directory.
C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Output\BackupData
When an export process is in progress, limited user interaction is allowed with the IQ Bot Portal because export is a CPU-intensive activity.
Note: Exporting learning instances does not export production data; therefore, the Dashboard might not be displayed.

Import a learning instance

Import a learning instance using the Migration Utility.

Select from the various available options. Before initiating an import, backup your IQ Bot database. Although Role-Based Access Control (RBAC) applies to the creation of new learning instances in IQ Bot Version 6.5, it does not apply to the following:

- Keep existing learning instances from previous IQ Bot versions.
- Import/export learning instances from one IQ Bot Version 6.5 environment to another.

As a workaround, an administrator can do the following:

- Ensure users and roles are updated in the Automation Anywhere Enterprise Control Room.
- Manually insert a row in the projected and role columns in the database table [FileManager].[dbo].[LearningInstanceRoles].

That database table is automatically created empty during IQ Bot Version 6.5 installation.

Do the following to import learning instances using the Migration Utility feature:

Procedure

1. Copy the exported data file in the BackupData folder in the IQ Bot installation output directory to import.
2. Click Import, and select the IQ Bot Archive (IQBA) backup data file to import.

3. Select the required learning instance and click Import. You are asked to select from the following import options :

Note: The Migration Utility feature in IQ Bot Version 6.5 does not work well in scenarios where learning instances exist in both the source and target systems, and new groups were added to the source system for migration. In these scenarios, the new groups are not migrated to the target system for options 1, 2, and 3 of the Migration Utility feature. Customers are required to upgrade to IQ Bot Version 11.3.3.1 and above to avail these scenarios.

Import option	When to use
Option 1: Append imported groups and trained bots to duplicate existing learning instances:	Use when you must merge new groups and trainings (bots) in existing learning instances. Note: <ul style="list-style-type: none"> When you import archive (.iqba) files using append mode, a trained group in a source environment can overwrite an untrained group in the destination environment. If a learning instance is edited (for example, adding new fields), it cannot be imported using the Append option.
Option 2: Import learning instances, and ignore duplicate learning instances:	Use when you must append only new learning instances, where the learning instance ID in the .iqba file (for example, from the Development environment) differs from the ID in the target environment (for example, Production environment). If a learning instance ID in the .iqba file is the same as an ID in the target environment, the .iqba learning instance is not appended.
Option 3: Overwrite duplicate existing learning instances with imported learning instances:	All groups, trainings (bots), and machine learning of existing learning instances on the destination system get replaced with the ones from source system. This does not impact the processing (dashboard data) done by those learning instances. This is also the only option to update an existing learning instance that was edited to include additional fields or table columns.
Option 4: Remove all existing learning instances and replace with imported learning instances:	When starting fresh and it is okay to lose all work done so far on an IQ Bot installation.

Note: If you merge the iqba files, it does not merge the machine learning (ML) part from one learning instance to another. Instead, it keeps the ML from the existing learning instance, but not the imported learning instance.

4. Select an import option that best meets your requirement. Click Import. You are asked to confirm the import.
5. Click Yes Import to begin the import process. When the import finishes, you are returned to the Migration Utility home page with the list of learning instances. A successful import shows a `Last Migration status COMPLETE` message with the time stamp.

The imported learning instance retains its environment and that of all associated bots.

Examples for IQ Bot learning instances import options

Find out about the impact of each import option.

The table explains the impact of learning instances using the four import options mentioned in the section before.

System before file import (Destination)	Import file (Source)	System after file import (Destination)			
		Option 1: Append imported groups and trained bots to duplicate existing learning instances.	Option 2: Import learning instances, ignoring duplicate existing learning instances	Option 3: Overwrite duplicate existing learning instances with imported learning instances	Option 4: Remove all existing learning instances and replace with imported learning instances
L1	L1	L1 + L1	L1	L1 + L1	L1
L2	L2	L2 + L2	L2	L2 + L2	L2
L3		L3	L3	L3	
	L4	L4	L4	L4	L4
	L5	L5	L5	L5	L5

L1=Learning Instance L2=Learning Instance2

The following table explains the import options in detail. The impact on the learning instances, groups, documents, and bots is explained when using the four import options.

System before importing IQBA file (Destination)			Import IQBA file (Source)			System after importing IQBA file (Destination)											
Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)		
						Option 1: Append imported groups and trained bots to duplicate existing learning instances, LI1			Option 2: Import learning instances, ignoring duplicate existing learning instances, LI1			Option 3: Overwrite duplicate existing learning instances with imported learning instances, LI1			Option 4: Remove all existing learning instances and replace with imported learning instances, LI1		
Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot	Group	Files	Bot
G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1	G1	F1, F2, F3	B1

System before importing IQBA file (Destination)			Import IQBA file (Source)			System after importing IQBA file (Destination)											
Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)			Learning Instance 1 (LI1)		
G2	F4	B2	G2	F4, F10		G2	F4, F10	B2	G2	F4	B2	G2	F4, F10		G2	F4, F10	
			G3	F11, F12	B3	G3	F11, F12	B3				G3	F11, F12	B3	G3	F11, F12	B3
G4	F5, F6		G4	F5		G4	F5, F6	G4	G4	F5, F6		G4	F5, F6		G4	F5	
G5	F7, F8, F9	B5				G5	F7, F8, F9	B5	G5	F7, F8, F9	B5	G5	F7, F8, F9				
			G6	F13, F14	B6	G6	F13, F14	B6				G6	F13, F14	B6	G6	F13, F14	B6

Learning Instance=L1 Group=G Files=F Bots=B

Related tasks

[Export/Import learning instances within IQ Bot 5.3.x, and later versions](#)

Export or Import learning instances within IQ Bot 5.2 installation

Find out how to migrate learning instances within different installations of the same version of IQ Bot.

Prerequisites

To use migration utility, log into the IQ Bot portal. The Migration Utility screen displays a list of all learning instances available on IQ Bot.

IQ Bot supports migration of learning instances from one IQ Bot 5.2 installation to another instance of IQ Bot 5.2 installation, using the export/import feature. Groups, bots, and learning associated with a learning instance are exported, along with training documents, that are used to train the bots during staging.

Procedure

Launch migration utility by adding

```
/migration-utility
```

at the end of the portal URL in the browser, and choose Enter on the keyboard (

```
<IQ
```


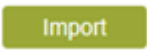

```
bot portal hostname:port>/migration-utility
```

```
)
```

1. Perform the following procedure to export learning instances using the migration utility.

- a) Select one or more learning instances as per your requirement and click



- b) Enter an appropriate name for the backup data file, and click  to begin the export process.
Name of the backup file is appended with timestamp to make it unique.
- c) Wait for the export to complete; after which, the exported data file with .iqba extension becomes available in the OutputBackupData folder within the IQ Bot output directory. As export is a CPU-intensive activity, limited user interaction with IQ Bot is allowed when any export process is in progress.
2. The following procedure walks you through the task of importing the learning instances using the migration utility:
- a) Place the exported data file in OutputBackupData folder within the output directory of the IQ Bot installation, where you want to import the learning instances.
- b) Click , and then select the backup data file to import.
Import replaces all existing learning instances with the instances that you import. Before initiating an import, back up your existing learning instances in case you need them later.
- c) Select the required learning instance and click  to begin the import process.
- d) Once the import completes, you can see the imported learning instances.
The imported learning instance retains its environment state and the state of all the associated bots.

Export/Import learning instances within IQ Bot 5.3.x, and later versions

Find out how to migrate learning instances within different installations of IQ Bot 5.3, Version 6.0, and Version 6.5.x and above.

Prerequisites

- IQ Bot Version 6.5.x and above uses unique delimiters "->:" for group of checkboxes and ":" for linked tables: "Gender_ID->Female" and "Patient_Table->Services."
- IQ Bot Version 5.3.1 uses non-unique delimiters: Gender_ID_Female and Patient_Table_Services, which is harder to split.

That difference between Version 6.5.x and above and 5.3.1. will create field name conflicts, unless the Validator queue in Version 5.3.1 is cleared. Version 6.5.x and above supports IQ Bot and RPA process better.

Import learning instances using the migration utility within IQ Bot 5.3, Version 6.0, and Version 6.5.x and above.

Control Room 11.3.1.2 supports migration of IQ Bot from 5.3.x to Version 6.5 and later.

Note:

- Role-based access control (RBAC) is not migrated when learning instances are migrated using the migration utility. For more information on using RBAC with IQ Bot, see [Define access to learning instances using custom roles](#).
- The Migration utility of IQ Bot does not support any manual changes to the database and the IQBA file. After migration, you get only staging data.

Procedure

1. Copy the exported data file in the BackupData folder within the output directory of the IQ Bot installation, where you want to import the learning instances.
2. Click Import and select the IQBA backup data file to import.
3. Select the required learning instance and click Import. Select one of the import option from the list of import options:

Option	Description
Option 1: Append imported groups and trained bots to duplicate existing learning instances	<ul style="list-style-type: none"> • Merges new groups and trainings bots in existing learning instances. • Appends any new learning instances found in import data file. • Retains validator learning of existing learning instances. <p>Note: During import with this option, an existing group without a bot gets a bot if it is available in the import data file.</p> <p>When to use:</p> <p>When you want to append newer groups and training bots to an existing learning instance of an IQ Bot installation, without impacting the processing (dashboard data) done by that learning instance.</p>
Option 2: Import learning instances, ignoring duplicate existing learning instances	<p>Appends only new learning instances.</p> <p>When to use:</p> <p>When you want to import only new learning instances and or bots on an IQ Bot installation keeping the existing learning instances intact.</p>
Option 3: Overwrite duplicate existing learning instances with imported learning instances	<ul style="list-style-type: none"> • Overwrites existing learning instances including all groups and training of bots. • Appends any new learning instances found in import data file. • Replaces validator learning of existing learning instances. • During import with this option, if any new group is found, it is retained to preserve the associated documents. <p>When to use:</p> <ul style="list-style-type: none"> • When you want to replace all groups, trainings bots and learnings of an existing learning instance of an IQ Bot installation without impacting the processing (dashboard data) done by that learning instance.

Option	Description
	<ul style="list-style-type: none"> This is also the only option to update an existing learning instance which has been edited to include additional fields/table column.
Option 4: Remove all existing learning instances and replace with imported learning instances	<p>Deletes all existing learning instances before importing the new instances.</p> <p>When to use:</p> <p>When you want to start afresh and do not mind losing all the work done so far on an IQ Bot installation.</p>

4. Select an import option that you need. Click Import. A confirmation is requested to confirm the import.
5. Click on Yes, import to begin the import process.
6. Once import completes, the migration utility home page is displayed with the list of imported learning instances.
 - If import is successful, Last Migration status is shown as COMPLETE along with the timestamp.
 - If the import fails, Last Migration status is shown as FAILED along with the timestamp.

The imported learning instance retains its environment state and the state of all the associated bots.

Related concepts

[Examples for IQ Bot learning instances import options](#)

Troubleshooting IQ Bot

Use the following information to troubleshoot your IQ Bot application.

- [Large IQBA files failing import](#)
Using the migration utility feature in IQ Bot you are trying to import a large IQBA file from development to the production server.
- [Installation error in output path configuration screen](#)
- [No learning instance for command in Enterprise client](#)
- [Learning instance classification issue on restarting AWS instance](#)
- [IQ Bot does not load after restarting AWS instance](#)
- [Error message displays indefinitely](#)
- [IQ Bot installation fails to run in RabbitMQ cluster mode](#)
- [IQ Bot HTTPS SSL certificate expiry](#)
- [Automation Anywhere Enterprise Control Room login error](#)
- [Connect ECONNREFUSED error during login](#)
- [Unable to install IQ Bot in express mode](#)
- [Uninstall error](#)
- [Unable to view learning instance listing](#)
- [Your connection is not private error](#)
- [Stalled Classifier](#)
- [Unresponsive Designer while drawing a User-Defined Region \(UDR\)](#)
- [Installer unable to create platform database tables](#)
The IQ Bot installer sometimes in unable to create platform database tables.
- [Classification stalls while training documents](#)
- [Export process hangs](#)
- [Documents not classified after migrating learning instances](#)
- [Installer error 1334](#)
- [Access Denied message](#)
- [Installation fails while installing RabbitMQ](#)
- [Cannot upgrade to IQ Bot 6.0 on Control Room 11.3](#)
Unable to upgrade from IQ Bot 5.3 on Control Room 10.7 to IQ Bot 6.0 on Control Room 11.3.
- [IQ Bot services not getting uninstalled during an installation rollback](#)
- [Output folder path change from local to shared drive](#)
- [Windows authentication with services in local system is not working](#)
- [Database encryption errors](#)
Sometimes IQ Bot is unable to encrypt the database causing the installation process to rollback.
- [SIRs not getting generated consistently](#)
Sometimes OCR fails to extract data from the documents, and occasionally documents with same layout get categorized into different groups.
- [IQ Bot installation FAQs](#)
Find answers to the frequently asked questions related to IQ Bot.
- [IQ Bot user FAQs](#)
Refer to Frequently Asked Questions (FAQs) to know more about IQ Bot.
- [IQ Bot classifier FAQs](#)
View FAQs related to the Classifier.
- [IQ Bot validator FAQs](#)
View FAQs related to Validator.

Large IQBA files failing import

Using the migration utility feature in IQ Bot you are trying to import a large IQBA file from development to the production server.

Issue

When importing a large IQBA file that is more than 500 MB, the import icon keeps running and never ends the import process, and no errors are visible in the project service log file

Symptoms

This issue can occur in any of the following scenarios:

- When you try to import a large IQBA file to IQ Bot, the icon displays that import is in-progress, but the task does not complete. Neither does it show an error in the log files.
- At times, the project service stops the import but the progress icon continues to show import in-progress.

Cause

At times, the project service runs out of memory when trying to import a large iqba file to the system. The system does not update the import status to `failed` due to a memory issue. Our solution is to increase the memory of project service before importing the IQBA file.

Solution

Do the following in the IQ Bot Database server first:

1. Stop the IQ Bot service using the `stopanduninstall service bat` file.
2. Navigate to `C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5\Configurations` directory.
3. Make a back-up of the `microservices_start.bat` file.
4. Open the `microservices_start.bat` file in a notepad++ and search for project service.
5. Replace the project service section with Given fix code. // I increase memory to 8 GB

```
@rem install project service
nssm.exe install "Automation Anywhere Cognitive Projects" "%InstallDIR%JRE
\1.8.0_161\bin\java.exe" "-Dlog4j.configurationFile=log4j2_project.xml" "-
Dfile.encoding=UTF-8 -Xms1256m -Xmx8048m -jar %ProjectJar% %SQLServerAddre
ss% %SQLPort% %ProjectDatabase% %UserName% %ProjectServicePort% %Classifie
rDatabase% %MLDatabase%" ""%OutputPath%
nssm.exe set "Automation Anywhere Cognitive Projects" AppDirectory "%Insta
llDIR%Services"
nssm.exe set "Automation Anywhere Cognitive Projects" Description "Provide
s Automation Anywhere Cognitive"
```

```
nssm.exe set "Automation Anywhere Cognitive Projects" ImagePath "" "%InstallDir%\Configurations\nssm""
nssm.exe set "Automation Anywhere Cognitive Projects" DependOnService "RabbitMQ"
nssm.exe set "Automation Anywhere Cognitive Projects" AppEnvironmentExtra LOGSTASH_SERVER_URL="http://%ProjectHost%:%DefaultInputPort%"
```

6. Next, install and start the services.
7. Start the import process.
8. Once the import completes, revert the microservices_start.bat file and restore the original one.

Installation error in output path configuration screen

Issue

IQ Bot installation error on output path configuration screen

Symptoms

When the user clicks Next on the Destination Folders screen, an error message is displayed that the output path does not have read, write, and delete permissions.

Cause

Insufficient permissions to access a folder.

Solution

Ensure that the output folder has read and write permission.

No learning instance for command in Enterprise client

Issue

No learning instance is available to select in IQ Bot command in Enterprise client.

Symptom

In AAE Client, open the IQ Bot command in the task, and select the learning instance from the Select Learning Instance drop-down list. The Name field does not display any learning instances.

Cause

The cause could be one of the following.

- IQ Bot is not registered with Control Room.
- A learning instance is not created.
- IQ Bot Project service is not working.

Solution

Check the following solution.

- IQ Bot is not registered with Control Room: Ensure that the IQ Bot URL exists in the Administration > Settings > IQ Bot page of Control Room.
- A learning instance is not created

Perform the following steps if a learning instance is not created.

- Ensure that you have created at least one learning instance on the connected IQ Bot.
- Verify that the Host Gateway-2 path is correct in the centralized database configuration, and if necessary:
- Log onto the machine on which the Control Room database is installed.
- Open the SQL Server Management Console, log onto the Control Room database (CRDB) and browse to the database table entry CRDB Tables dbo.centralizedconfiguration.
- In the results tab on the right pane, ensure that the CognitivePlatformHost key value for the IQ Bot category is of the format `http://myiqbotserver:<port>` or `https://myiqbotserver:<port>` (when using HTTPS). `<port>` is IQ Bot port specified during installation. If load balancer is used, `<port>` is the port of the load balancer.
- After updating the key, refresh the learning instance listing in the IQ Bot command. You should now be able to view the list of learning instance in IQ Bot command.

Learning instance classification issue on restarting AWS instance

Issue

When you open IQ Bot after stopping and starting an AWS instance, the documents in the learning instance remain in `Yet to be Classified` status

Symptom

All the documents are classified as `Yet to be Classified`.

Cause

Dynamic IP of AWS causes this issue, which is specific to a stand-alone machine.

Solution

Replace the old internal IP with the local host and reinstall all the services as follows.

1. Run the command `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number> \Configurations\stopanduninstallallservices.bat:`
2. Replace all instances of the internal IP with localhost by modifying the CognitiveServiceConfiguration.json file located in the following locations.
 - a) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Workers\Classifier`
 - b) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Workers\VisionBotEngine`
 - c) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\ML\translationsvc`
 - d) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\ML\web service`
3. Run the command `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations\installandstartallservices.bat:`

IQ Bot does not load after restarting AWS instance

Issue

IQ Bot does not load after stopping and starting an AWS instance.

Symptoms

This site cannot be reached. error message is displayed.

Cause

Dynamic IP address of AWS causes this issue, which is specific to a stand-alone machine.

Solution

1. Run the command `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations\stopanduninstallallservices.bat.`
2. Replace all instances of the internal IP address with local host by modifying the CognitiveServiceConfiguration.json file located in the following location.
 - a) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Workers\Classifier`
 - b) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Workers\VisionBotEngine`
 - c) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\ML\translationsvc`
 - d) `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\ML\web service`
3. Replace the internal IP address with a fully-qualified domain name. For this, modify the file located at `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Portal\www\js\main.<*>.js`
4. Search for :3000 and then replace the internal IP address with a fully-qualified domain name. An example of this would be replacing `http:<IPADDRESS>:3000` to `http://<Fully Qualified Domain Name>:3000`
5. Run the command `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations\installandstartallservices.bat.`

This URL of the IQ Bot is successfully changed to `http://<Fully Qualified Domain Name>:3000`

Error message displays indefinitely

Issue

Updating instance and uploading files message is displayed indefinitely for an HTTPS-enabled IQ Bot installation, when users try to upload multiple files (20 or greater) or with file sizes larger than 2-3 MB to a learning instance, the files are not uploaded.

Symptoms

- The file upload request stays continuously with the Updating instance and uploading files message displayed indefinitely.
- Unable to upload files with large sizes or multiple files together. This happens with file sizes of 2-3 MB or 20-30 files of 50+ KB.
- The file upload wait icon is displayed continuously and the page is never refreshed.
- The request returns: ERR_CONNECTION_RESET message in network sniffers.

Cause

This issue is encountered when Intrusion Prevention Systems (IPS) in the network are set up behind a firewall.

Solution

1. Perform the following steps to ensure that the computer from which you are accessing the browser and the server on which IQ Bot is installed are on the same subnet.
 - a) Run the `ipconfig` command on the Windows command prompt as an administrator in both the computer and the server.
 - b) Note the IP address of the computer and server.
 - c) Involve your IT team for assistance and verification.
2. Consult your IT team and verify whether the machines are in demilitarized zone (dmz) and the Intrusion Prevention Systems (IPS) in the network are set up behind a firewall.
3. If yes, coordinate with your IT team to filter the signature-based detection on IPS or disable it for the specific server from where you are trying to upload the documents. This ensures that the network traffic does not consider the uploaded documents as malicious packets.
4. verify with your IT team whether any policy blocks the traffic or drops the network packets.

Related information

[Intrusion detection system](#)

IQ Bot installation fails to run in RabbitMQ cluster mode

Issue

IQ Bot installation fails to run in RabbitMQ cluster mode

Symptoms

After uploading multiple files, all instances do not participate in the classification process. This can be observed by degradation of performance in overall classification and through observing CPU utilization of each cluster node.

Solution

1. Run the `rabbitmqctl cluster_status` command to get the status of all the nodes in your cluster.

All the nodes in your cluster must be running if the `rabbitmqctl cluster_status` command returns the status of all the cluster nodes as running.

2. Run the `<Drive>:\Program Files\RabbitMQ Server\rabbitmq_server-3.6.6\sbin\rabbitmqctl.bat" cluster_status` command.

The status of all the nodes in your cluster is displayed.

3. Attach a node to a cluster.

If an authentication failure error occurs, the nodes do not share the same `erlang` cookie.

4. Run the `rabbitmqctl status` command on a node.

This happens when the `erlang` cookie is out of sync in `%WINDIR%\erlang.cookie` and `%USERPROFILE%\erlang.cookie`

- a) Make the cookies in both the locations same.
- b) verify whether an environment variable is set: "RABBITMQ_SERVER_ERL_ARGS", remove this variable if the node is not in your cluster.
- c) Remove cookie from the environment variables.

5. `mnesia` database related errors occur if the folders in the `%appdata%\RabbitMQ\db` path are corrupted.

Solution:

- a) Go to these RabbitMQ database folders by entering `%appdata%\RabbitMQ\db` in Run window.
- b) Delete the folders from this path and restart the node.

6. Run the following commands to set permission to see RabbitMQ console for the user:

```
sbin> rabbitmqctl set_permissions -p test messagequeue "." "*" "*" "*" "
```

```
sbin> rabbitmqctl set_user_tags messagequeue administrator
```

7. Log into the RabbitMQ management console <http://localhost:15672> using credentials `messagequeue/passmessage`, go to the overview node and verify if the all the nodes are available or not, else verify for errors.

Table 1.

Symptoms	
Solution	Note: All the nodes should have <code>rabbitmq_management</code> plugin enabled to get the correct status of nodes.

IQ Bot HTTPS SSL certificate expiry

Issue

IQ Bot HTTPS SSL certificate expired

Symptoms

In your browser window, the HTTPS entry is crossed out and displays as not secure.

Cause

HTTPS certificate has expired.

Solution

Reinstall the HTTPS SSL certificate as follows:

1. Open %installation_dir%\Configurations as an administrator and run stopanduninstallallservices.bat.
2. Open %installation_dir%\Portal\keys and take a backup of both cert.crt and key.key file.
3. Convert .pfx certificate in .crt format and .key by running the following commands:

a) openssl.exe pkcs12 -in "path_to_cert\example.pfx" -nocerts -out "path_to_cert\example encp.key"

This command fetches an encrypted key from pfx.

b) openssl.exe rsa -in "path_to_cert\example encp.key" -out "path_to_cert\key.key".

This command converts encrypted key to a readable format.

c) openssl.exe pkcs12 -in "path_to_cert\example.pfx " -clcerts -nokeys -out "path_to_cert\cert.crt".

This command converts from .pfx to .crt format.

4. Copy or replace cert.crt and key.key on location "%installation_dir%\Portal\keys".
5. Go to "%installation_dir%\Configurations" and run installandstartservices.bat as an administrator.

For more information on the need for HTTPS Certificate, see <https://www.instantssl.com/compare-tsl-ssl-certificates#Zj0vY2F0ZWdvcnkvZXhwbG9yZT9wPUV4cGxvcmU=> and to know about HTTPS SSL certificate in detail, see <https://www.websecurity.digicert.com/security-topics/what-is-ssl-tls-https#Zj0vY2F0ZWdvcnkvZXhwbG9yZT9wPUV4cGxvcmU=>.

Automation Anywhere Enterprise Control Room login error

Issue

IQ Bot login: Control Room returns the Certificate path validator signature check failed error

Symptoms

When a user tries to log into IQ Bot, a certificate path validation error message is displayed.

Cause

The signature verification has failed because the self-signed SSL certificate does not exist for Control Room.

Solution

Run the following command to import the SSL certificate of Control Room into the Java keystore of IQ Bot:

```
keytool.exe -import -alias dev -keystore installation path\Java\jre1.8.0_161\lib  
\security\cacerts" -file "D:\cert\xyz.com.crt"
```

Note: The Control Room SSL certificate gets synched automatically after you run this command.

Connect ECONNREFUSED error during login

Issue

Connect ECONNREFUSED error message is displayed during login

Symptom

When a user tries to log into IQ Bot, the Connect ECONNREFUSED error message is displayed.

Cause

A connection error occurs because Automation Anywhere Gateway-2 service is not running.

Solution

Start the Automation Anywhere Gateway-2 service.

Unable to install IQ Bot in express mode

Issue

Unable to install IQ Bot in express mode because Control Room is not installed in express mode

Symptoms

IQ Bot returns the Enterprise Control Room and database compatibility error when installing IQ Bot in the express mode.

Cause

Control Room is not installed in express mode

Solution

Ensure:

- Control Room 10.5.x is installed in express mode using the recommended/provided SQL Server version.
- Enterprise Control Room version is compatible with the version of IQ Bot.

Note: To install IQ Bot Version 6.5 in the express mode, the Enterprise Control Room installation does not have to be in the express mode as well.

Issue

Unable to install IQ Bot in express mode because SQL Server Browser service is disabled

Symptoms

Unexpected error running Liquibase: `java.net.SocketTimeoutException: Receive timed out.`

Verify the server and instance names and ensure no firewall is blocking User Datagram Protocol (UDP) traffic to the port number 1434. For SQL Server 2005 or later, verify that the SQL Server Browser Service is running on the host.

Cause

SQL Server Browser service is disabled.

Solution

Ensure that SQL Server Browser service is up and running.

Related reference

[IQ Bot installation prerequisites](#)

Uninstall error

Issue

Error during uninstallation of IQ Bot

Symptoms

When you attempt to uninstall IQ Bot, the error message Error 1601. Could not access network location <output_folder_path> is displayed.

Cause

This error message occurs when the shared drive location is used as an output path and is unavailable during uninstallation.

Solution

1. Open the registry editor.
2. Search for the output folder path used during installation or displayed exactly on the error message dialog box. For example, search should navigate to one of the registry entry, for example, "HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Installer\UserData\S-1-5-18\Components\B89B12C85959B9D4B85FD9D07CC9FBC0" where the ID can vary depending on server name.
3. Check for the value which stores output folder path and replace it with the local accessible folder. It does not delete that folder, however, its recommended to use the temp folder.
4. Uninstall IQ Bot again.

Unable to view learning instance listing

Issue

IQ Bot command does not display any learning instances and does not return specific errors when and IQ Bot is configured in cluster mode

Symptoms

Some users are unable to view learning instance listing.

Cause

This is a distributed cache synchronization issue because of disabled network multicast.

Solution

1. Ensure that Enterprise Control Room is configured with multiple nodes and the distributed cache is synchronized properly.
2. By default, the Enterprise Control Room Distributed Caching service gets installed with the multicast mode. Check with your IT/Networking team that the multicast is enabled on all Enterprise Control Room servers.
3. Run the Enterprise Control Room Distributed Caching service in the console mode instead of the Windows service to verify whether multicast is enabled on all Enterprise Control Room servers.

Your connection is not private error

Issue

Your connection is not private error is displayed on IQ Bot

Symptom

IQ Bot displays this error message `Your connection is not private.`

Cause

Either the HTTPS certificate used is not a Certifying Authority (ca) certificate or it has expired.

Solution

Update the certificate as follows:

1. Run the following command as an administrator `C:\Program Files (x86)\Automation Anywhere IQ Bot 5.3\Configurations\stopanduninstallallservices.bat`
2. Go to `%installation_dir%\Portal\keys` and take a backup of both `cert.crt` and `key.key` files.
3. Convert `.pfx` certificate in `.crt` format and `.key`. Run the following commands to convert the `.pfx` certificate into the `.crt` format:

a) `openssl.exe pkcs12 -in "path_to_cert\example.pfx" -nocerts -out "path_to_cert\example encp.key".`

This command fetches encrypted key from `.pfx`.

b) `openssl.exe rsa -in "path_to_cert\example encp.key" -out "path_to_cert\key.key".`

This command converts encrypted key to a readable format.

c) `openssl.exe pkcs12 -in "path_to_cert\example.pfx" -clcerts -nokeys -out "path_to_cert\cert.crt".`

This command converts `.pfx` certificate to the `.crt` format.

4. Copy or replace `cert.crt` and `key.key` on location `%installation_dir%\Portal\keys`.
5. Go to `%installation_dir%\Configurations` and run the following command as an administrator `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>\Configurations\installandstartservices.bat`

Stalled Classifier

Issue

Classifier service stalls, and timer continues to spin after restarting IQ Bot services

Symptom

Timer continues to spin for an unusually long time after restarting IQ Bot services.

Cause

IQ Bot exhibits this behaviour when cognitive services stop, resulting in interruption of classification of documents.

Solution

Use the following REST API to process the `Yet to be Classified` documents and reclassify these documents:

`localhost:9996/organizations/1/projects/<LearningInstanceID>/reclassify`

Note: This API is available only on the local server where IQ Bot is installed.

Unresponsive Designer while drawing a User-Defined Region (UDR)

Issue

Designer becomes unresponsive when drawing a User-Defined Region (UDR)

Symptom

IQ Bot Designer window turns grey and you cannot select any elements.

Solution

Restart the Designer and resume your work.

Installer unable to create platform database tables

The IQ Bot installer sometimes in unable to create platform database tables.

Issue

Installer is unable to create IQ Bot database tables

Symptom

1. User is unable to find any learning instance after logging into the IQ Bot.
2. User is unable to see any listing of fields to select while creating a new learning instance.

Cause

Missing IQ Bot database tables.

Solution

- Installation User Administrative Access Rights:

User installing the IQ Bot must be a local administrator of system.

- Database User Access Rights:

Ensure the SQL user has sysadmin access rights which is required to create the databases and tables.

Classification stalls while training documents

Issue

Classification stalls while training documents in IQ Bot

Symptom

Training documents remain in status `Yet to be classified` and classification of documents seems to have stalled.

Cause

- Documents are corrupted
- OCR of documents has not been done successfully
- New fields added are not found in the document

Solution

- Upload valid documents
- Perform the OCR of documents again
- Match the new fields with the document and ensure that fields exist in the document

Export process hangs

Issue

Export process hangs while creating IQ Bot learning instances

Symptom

During the creation of a learning instance, the export process takes longer than expected time to export the data. The timer continues to spin for an unusually long time. There is at least one learning instance in the selected list of learning instances to be exported that did not have any classification groups.

Cause

The learning instance must have at least one classification group. This could happen if user has created a learning instance when the file manager service has stopped.

Solution

1. Restart the project service on server.
2. Avoid selecting empty learning instances for export process.

Documents not classified after migrating learning instances

Issue

Documents are not classified after migration of IQ Bot learning instance to a new machine with a custom domain

Symptom

User applies migration utility to import a learning instance file on a new machine with a custom domain. After the import, the documents cannot be classified.

Cause

AliasData database does not exist on the new machine.

Solution

1. Use the migration utility to take the backup from the database of AliasData from the machine where the learning instance was exported.
2. Use the overwrite option to restore the AliasData database to the new machine using the backup file you generated.
3. If you are unable to do this, you can select the option to close existing and begin restore in the destination database.
4. Restart all services using restart.bat file from .\configuration\restart.bat.

The learning instance related to the newly-imported archive can be used for further work.

Installer error 1334

Issue

IQ Bot installer error 1334, file cannot be installed

Symptom

When you launch IQ Bot installation, you see error 1334, and installation cannot be completed.

Cause

Error could be caused by any of the following:

- Installation file was not completely downloaded
- Installation file is corrupt
- Network error
- Error reading installation file

Solution

Download the installation file again and install IQ Bot.

Access Denied message

Issue

Access denied: You are not authorized to log into IQ Bot

Symptom

When you log into IQ Bot , you see a message that access is denied, because you do not have authorization.

Cause

User does not have a valid IQ Bot role.

Solution

Assign the user a valid IQ Bot role, such as AAE_IQ Bot Services, AAE_IQ Bot Validator, or AAE_IQ Bot Admin.

Installation fails while installing RabbitMQ

Issue

IQ Bot installation fails while installing RabbitMQ

Symptom

While installing RabbitMQ, you see a message that installation failed.

Cause

Error codes in batch scripts are not propagated to the installer. Possible causes could be that RabbitMQ is not installed properly or you do not have access to the RabbitMQ folder.

Solution

Note: First verify whether RabbitMQ is installed. If you do not find the RabbitMQ server folder in the `C:\Program Files\`, then it means RabbitMQ is not installed successfully. Also, you must have full read/write access to RabbitMQ server folder.

verify the status of RabbitMQ installation

verify whether RabbitMQ is installed by verifying for a RabbitMQ server folder in `C:\Program Files` directory.

- To verify RabbitMQ installation status on cluster environment, run the command from `C:\Program Files\RabbitMQ Server\rabbitmq_server-3.6.6\sbin\` directory: `rabbitmqctl cluster_status` command and run `rabbitmqctl status` command to get the status of all the nodes in your cluster. If it does not return any error, then RabbitMQ is up and running fine.
- To verify RabbitMQ installation status on standalone environment, run the `rabbitmqctl status` command. If it does not return any error, then RabbitMQ is up and running fine.

One of the following errors might be generated after you verify the status of RabbitMQ installation. Contact the Automation Anywhere support team if any other error is returned.

- Authentication failure errors: Authentication failure error is displayed if the cookie in the `%WINDIR%\erlang.cookie` and `%USERPROFILE%\erlang.cookie` does not match, then copy the `.erlang.cookie` from `%USERPROFILE%\erlang.cookie` to `%WINDIR%\erlang.cookie` and restart the RabbitMQ service. Verify RabbitMQ installation status by running either of these commands: `rabbitmqctl cluster_status` command and run `rabbitmqctl status` command.
- mnesia database errors are generated because of corruption of the folders in the `%appdata%\RabbitMQ\db`, delete the folder and restart the node.
- Verify RabbitMQ installation status using RabbitMQ portal: If you are still unable to find the status of RabbitMQ installation, then run the following commands and then enable the `rabbitmq_management` plugin on all the RabbitMQ cluster nodes to get more detailed error information.

- Enable RabbitMQ management plugin:

Run this command: `rabbitmq-plugins enable rabbitmq_management`

- Grant access to the `messagequeue` user:

Run this command: `rabbitmqctl set_user_tags messagequeue administrator` to grant access to the `messagequeue` user to login through a console.

- Verify whether you can log into IQ Bot:

Log into the IQ Bot using the `messagequeue/passmessage` credentials to `http://localhost:15672`.

Cannot upgrade to IQ Bot 6.0 on Control Room 11.3

Unable to upgrade from IQ Bot 5.3 on Control Room 10.7 to IQ Bot 6.0 on Control Room 11.3.

Issue

Cannot upgrade from IQ Bot 5.3 on Control Room 10.7 to IQ Bot 6.0 on Control Room 11.3

Symptom

During installation of Control Room 11.3, you see the following message:

```
Unable to use the required port because it is already assigned.
```

Cause

RabbitMQ port conflict occurs because RabbitMQ in IQ Bot 5.3 uses port 5672, which is used by Control Room 11.3 Active MQ.

Solution

To fix this issue, you can either change the installation sequence or modify the RabbitMQ port as described in the following list.

- Change the installation sequence by installing IQ Bot 6.0 first, and then install Control Room 11.3. This ensures that the port of RabbitMQ is changed to 5673.
- Run the following commands to modify the RabbitMQ port to 5673 before installing Control Room 11.3:
 1. Go to %appdata%/RabbitMQ.
 2. Open the rabbitmq.config file.
 3. Add this code to the configuration file: `[{rabbit, [{tcp_listeners, [5673]}]}]`.
 4. Save the file.
 5. Restart RabbitMQ services.
 6. Install Control Room 11.3.

IQ Bot services not getting uninstalled during an installation rollback

Issue

IQ Bot services are not getting uninstalled during an installation roll back

Symptom

Perform the following procedure to reproduce this issue.

1. Run IQ Bot installer.

2. When installing services process is complete, abort/cancel installer for IQ Bot, which will force IQ Bot installation rollback.
3. After rollback, all services are not in a running state and not uninstalled.

Solution

To fix this issue, removing the jar file is not sufficient. You must also unregister the registered services. Also, when reinstalling Automation Anywhere Cognitive Console after aborting install midway, service needs to be restarted along with Automation Anywhere Enterprise Control Room Reverse Proxy.

Output folder path change from local to shared drive

Issue

After changing the path, when user tries to save a document in Validator, the following error message is displayed:

```
The learning instance for this Bot has been deleted. The Bot is no longer valid.
The Validator will close when you click OK.
```

This error message is displayed while changing path from local to shared drive.

Symptom

Validator service does not have read/write permissions to the shared folder with the default user role, generally the default role is `Local System`.

Prerequisite

Share drive should be accessible by the validator service.

Solution

Solution 1:

Find the `Local System` user and authorize read/write permissions to the shared folder.

Solution 2

Change the service user from `Local System`, to the user with read/write permissions to the shared folder. Perform the following steps to make the changes:

1. Open Services.
2. Select Automation Anywhere Cognitive Validator service. Right-click and choose Properties.
3. Select This Account radio button and click Browse.
4. Find your user and click Check Names. Ensure your user name displays along with the domain name.
5. Click Ok.
6. Enter a password for the user you selected in the step before, and confirm it.
7. Click Ok.

A message is displayed to restart validator services, as the validator is running with a different user.

8. Restart the validator service.

Limitation

Mapping a drive is not supported. We recommend using full-shared path.

Windows authentication with services in local system is not working

Issue

Windows authentication with services in local system is not working, none of the services are able to access the database.

Symptom

Gateway Health Check gives Database Connectivity: NOT_OK.

Cause

NT AUTHORITY\SYSTEM does not have the sysadmin role.

Solution

Assign the sysadmin role to NT AUTHORITY\SYSTEM user.

Database encryption errors

Sometimes IQ Bot is unable to encrypt the database causing the installation process to rollback.

Issue

Unable to encrypt database. Rolling back installation.

Symptom

Error message is displayed and installation rollback starts.

Cause

IQ Bot is unable to encrypt the database.

Solution

Review the errors generated during the encryption process from the installation-helper.log log file and resolve the errors.

Log file location: %public%\Documents\Automation Anywhere IQBot Platform\Logs\installation-helper.log file.

Table 1.

Symptom	
Cause	
Solution	

SIRs not getting generated consistently

Sometimes OCR fails to extract data from the documents, and occasionally documents with same layout get categorized into different groups.

Issue

- OCR fails to extract data from documents.
- Documents with same layout get categorized into different groups.

Cause

This can occur when the quality of documents is low (low DPI, high background noise, poor contrast etc.) or if the target data is not captured well.

This issue can occur either in the segmentation phase where individual words are being located or during the OCR recognition phase. If the associated words are not detected in the image then blue SIRs (System Identified Regions) are not generated. If no SIRs are generated, then no OCR recognition is attempted. When SIRs are generated but the extraction is poor, it typically happens as a result of extraction issues in that particular document location, caused by the inability of the OCR engine to distinguish the individual characters.

Solution

If your documents have low DPI (dots per inch), more noise, or contrast issues, contact Automation Anywhere Enterprise support team to leverage some pre-processing capabilities to improve extraction.

Criteria for successful processing and extraction of documents:

- Supported image file types (TIF/TIFF, JPG/JPEG, PNG)
- Supported PDF file types (vector, raster, hybrid[vector and raster])
- 300 DPI resolution or higher
- Minimal document noise and high contrast
- 12 MB individual file size limit
- One file per document (ideal case), however, multiple pages in a document is fine

Note:

- Areas or regions where it is difficult for a person to read and identify, is generally difficult for OCR engines to extract.
- IQ Bot supports a variety of different OCR engines that can be used for different document types for different results.

IQ Bot installation FAQs

Find answers to the frequently asked questions related to IQ Bot.

1. Can [IQ Bot](#) databases be renamed?

No the [IQ Bot](#) databases cannot be renamed as they are auto created by the system during the installation process.

2. Can IQ Bot databases be set up manually?

It is best practice to let the IQ Bot installer create the required databases. This ensures creation of correct tables and properly set attributes.

3. The IQ Bot installer requires HA and is backed up by VM Ware replication (primary data center is being backed up to a secondary data center continuously, but the IP address changes). Are there any foreseeable problems/ issues with this set up?

There are many different Disaster Recovery (DR) deployment and architecture available in the industry. Unlike HA, DR is typically application agnostic and relies on replication of computer systems, memory, and storage. To remove DR failover complexity, many application are setup with name services or DNS. IQ Bot and Enterprise Control Room is typically setup using name services and not IP addresses. This means that NS/DNS resolution occurs and automatically maps to the correct IP address. In a DR environment, it is assumed that the DR site is cold standby and thus there is no risk of conflicts between the two systems. Hence IQ Bot fits into a standard DR architecture.

4. Can you use an SQL cluster for IQ Bot and for the entire product suite?

Yes, customers have successfully used an SQL cluster for IQ Bot, and it has worked without any problems.

5. Does MS SQL Server have horizontal scaling for IQ Bot?

MS SQL Server does not have out-of-the-box horizontal scaling at the configuration level. Scaling can be achieved through sharding but is supported at the application level. One SQL Server with 16CPU and 32Gb RAM can process 1 million pages per day and support 250+ concurrent validators. Improving the performance of IQ Bot databases will eliminate the requirement for horizontal scaling. SQL Server can be configured in Fail Over mode for a quick recovery.

6. What can you do if you are unable to access the Cognitive Solutions Console Web page after installing IQ Bot?

Ensure that the status of the Automation Anywhere Cognitive Console service is started and its Status is set to Running in the Windows Services window.

Tip: To open the Windows Services window, click Start > Run, and enter

```
services.msc
```

in the Run dialog box. Then choose Enter.

7. Why is the following message displayed when trying to uninstall IQ Bot? Which services and files require an update during the uninstall process?

```
"The setup must update files or services that cannot be
updated while the system is running. If you choose to
continue, a reboot will be required to complete the
setup"
```

This message is automatically returned by the Microsoft Windows installer if it detects that some resources of the program that require an uninstall are still in use. Click OK to resume installation, and restart the machine after installation completes.

8. Why are you unable to see the list of learning instances in the IQ Bot command? How could you resolve this? This issue could be because of the following reasons:

- If the IQ Bot application registration is not completed successfully in the Automation Anywhere Enterprise Control Room, the list of learning instances does not appear.
- If you have not created any learning instance on the IQ Bot, the list in the IQ Bot command in Automation Anywhere is empty.
- If a service is down, the list of learning instance does not appear. Restart the service.

9. When running the installer, the following error message appears after the Database Configuration page of the installation wizard:

```
"The given database user doesn't have necessary administration
privileges. Please make the necessary change and try again."
```

Ensure you allocate the correct administration permissions to continue with the installation.

10. How would you determine the build number of the IQ Bot installation?

In Microsoft Windows Explorer, navigate to the installation path of IQ Bot. By default, this is C:\Program Files (x86)\Automation Anywhere IQ Bot <version number>. Here, open the ProductReleaseInfo.xml file. The <Version> tag holds the version number of the IQ Bot installation.

11. Can you install IQ Bot using Microsoft Windows Authentication for SQL Server?

Yes. The current version of IQ Bot supports Microsoft Windows authentication for the database.

12. Is SQL authentication supported for installing IQ Bot?

Yes.

13. Does IQ Bot support a fully-qualified domain name?

Yes, IQ Bot supports a fully-qualified domain name that you can specify during the installation process. This allows IQ Bot to run even if the IP address of the computer on which IQ Bot is installed is changed.

IQ Bot user FAQs

Refer to Frequently Asked Questions (FAQs) to know more about IQ Bot.

1. When is the document splitter/classifier going to be ready for clients?

Document Splitter is not yet available in any of IQ Bot releases, but a custom built internal release of a doc splitter app is planned to be distributed internally.

2. I have pay stubs, which type of scanner is recommended to convert to PDF?

Pick a leading brand which supports a resolution 300 dpi.

3. What is a Learning Instance?

A Learning Instance is the basic building block of the IQ Bot Platform. It is domain-specific and has the capability to learn from documents classified and processed by it. This learning is translated to tangible benefits, for example, improved Straight-Through Processing (STP) and Accuracy figures for the Instance over a time period.

4. What should I do before I start creating a Learning Instance in IQ Bot?

Before you start creating new Learning Instances, you must know what information you want to extract from the documents you will be processing.

Have some sample documents in training, representative of the larger batch of documents that you eventually want to process automatically in Production, Refer to these documents to decide which specific items to extract. You can then use them as the first set of documents to train against the newly created Learning Instance.

5. How are Staging and Production modes of a Learning Instance different?

The differences are listed in the following table.

	Staging	Production
Processing mode based on presence of any human	Attended processing during bot training	Unattended processing
Role of human user	<ul style="list-style-type: none"> Create and train Learning Instances Provide corrective training to Learning Instances against processed document, if required. 	Manual check, verify, and fix failed documents during Validation
Number of documents that can be processed in a single run	Multiple documents	Continuous processing
When to use	<ul style="list-style-type: none"> Train new Learning Instances Retrain existing Learning Instances 	Process documents in unattended/headless mode.
Dashboard	Basic information	Detailed information
Document upload	Using IQ Bot Platform Web UI	Using IQ Bot Lite command in a TaskBot.

6. Can IQ Bot automatically identify and merge the uploaded TIFF or PDF files into multi page documents?

No. Merge those individual TIFF/PDF files into the respective multi page documents before uploading them.

Note: Automation Anywhere RPA has the functional capability to merge these files.

7. What file types are supported by IQ Bot?

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

8. Does IQ Bot support handwritten documents?

Yes, using Microsoft Azure Computer Vision OCR engine.

9. Does IQ Bot support tabular data extraction?

Yes.

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

Virtually unlimited.

11. Does IQ Bot support documents with multiple text colors?

Yes, but only for darker shades of colors.

12. What are the various kinds/types of field validation available in IQ Bot and how and when to use it?

- Date patterns for date fields
- Number for number fields : Apply Starts With, End With patterns, regular expressions, number patterns
- Text for text field: Apply Starts With, End With, List validation

13. My document contains more than one table, is it possible to create two or more tables?

Yes. Just add additional tables in the Designer and move the fields from the first table to the newer ones.

14. What is the purpose of List Data and how do I use it?

The list data provides a set of possible values for any field. It also puts a validation that the field can only have values from the specified ones. For example, if a field's OCR value (for example, 100001) versus each list value (for example, 100001, 100011) exceeds 66% character match. The field's OCR value is replaced by the list value (100001) with the higher percent match (100001 matches 83% or 5/6 of characters, and 100011 matches 66% or 4/6 of characters).

15. Does IQ Bot support documents other than invoices?

Yes, it supports other domains such as: Purchase Orders, Billing Statements, Contracts Claims, Automobile Insurance Claims, Health Insurance Claims (1500 and UB 04), and Custom formats. Select the required domain when you create a Learning Instance.

16. What if my scanned document is not correctly oriented, and the document is rotated to some angle or is inverted vertically or horizontally?

Using its processing logic, the Learning Instance automatically rotates or orients the document to a correct vertical position.

17. Can I stop Document analysis or processing in-between?

No.

18. What should I do if I see the extracted value of an OCR is incorrect? For example, instead of an "S" it shows a "\$" symbol.

If the document and section dpi is 300, then not much can be done. A "Starts With" or "Ends With" validation pattern can be considered. We expect to have a new OCR engine to improve such issues in a future release of IQ Bot.

19. If the date on a document is "01-02-2015", will it be considered 1st of February or 2nd of January? Can I configure this?

View the Date format on more of your sample invoices. Specify the date pattern for more control over the date format validation.

20. Is it possible to export the extracted date in a specific format?

No.

21. Can I specify the character separator for the CSV file?

No.

22. Where can I access the files that are not processed by IQ Bot, which do not have a Learning Instance associated with it?

The files are stored in the following folders:

- Not Processed folder: Original documents that went unclassified output to this folder. The Not Processed folder is located in the Output folder of your server.
- Invalid folder: If documents classify but enter Validation, and users mark the documents as invalid in Validator, the original documents are output to this folder.

23. Why am I unable to see data of my Vendor list (or any other list) across all Learning Instances?

List data are stored specific to each IQ Bot and not shared across bots.

24. Can I specify more than one Label value for any form field? If yes how?

Yes. Each Label value must be separated by a pipe symbol ("|"). For example, Invoice number; invoice #.

25. What is the maximum number of Learning Instances I can create? What is the maximum number of Learning Instances that can simultaneously exist in the system at a specific time?

There is no limit to the number of IQ Bots you can create or that can simultaneously exist in the system at a specific time.

26. Does IQ Bot support cursive type of fonts?

No.

27. Is there a restriction to the number of characters for naming a Learning Instance?

50 characters.

28. Does IQ Bot support processing of password-protected PDF files?

No.

29. What is the average time to process one single page document? Is the time dependent on the page complexity?

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

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

30. Can IQ Bot capture document image as field value?

It is not possible to capture a document image as field value because it is not possible to segment, OCR.

31. I have an invoice with the client name as Brett Crocitto. Why is it always captured as Bren Crocitto?

- Use a document resolution of 300 dpi and a document type of PNG.
- In this example, we have a document of 300 dpi, and the PDF is generated by a popular printer/fax machine, which has as driver with CCITTFaxDecode filter and therefore the document output is a bad PDF.
- Data in invoice: Brett Crocitto
- Data captured: Bren Crocitto
- Reason: The tt – two "t" are joined with no space and the OCR is getting misled and interpreting as "n."
- Note: Never encode text with CCITTFaxDecode because this filter is useful only for monochrome images.

32. How many templates do I have to train the Learning Instances on before it "learns" or the amount of training that a Learning Instance must go through to be ready for use on a format / layout or number of hours of training that it should be put through?

Each bot can be trained on one representative sample document, which can be previewed on another representative sample document from the same group. If these document results are acceptable, then your bot is ready for a larger batch of similar documents in Production. The training requirement is kept minimal. In most cases, you get the required value in a single pass.

33. What are the languages supported by IQ Bot?

IQ Bot supports the following languages out of box:

- Afrikaans
- Belgian
- Catalan
- Czech
- Danish
- Dutch
- Flemish
- Hungarian
- Indonesian
- Malay
- Norwegian
- Polish
- Portuguese
- Romanian
- Slovakian
- Swedish

- Turkish
- Latin

In addition to these, the following languages have limited (beta) support for machine readable PDFs. Scanned PDFs and images might not return satisfactory results.

Note: Contact the Automation Anywhere services team if you need to use any of these languages.

- Bulgarian
- Chinese-simplified
- Chinese-traditional
- Greek
- Japanese
- Korean
- Russian
- Serbian

34. I have added a custom domain; however, why are the documents I add to this custom domain getting unclassified?

To classify a document accurately, the classifier must find at least one field from the uploaded document.

For Example: If your custom domain has a single field named: Invoice Number, but the OCR is Invoice Number, the classifier cannot find that field.

35. What is the accuracy rate of IQ Bot learning instances?

It dependst on the field capture requirements and the document quality. As an example, it has been observed that if a customer captures one to two fields across a Grade A document quality, an accuracy of 86% is achieved. A customer that captures 11 differentially weighted fields across highly varying document quality will see a lower accuracy.

36. When I move a Learning Instance from Production to a Staging environment and create a bot for a group of that Learning Instance, the following error message appears: "Staging documents are not available for this category. Please upload the following documents in staging."

This happens when a new untrained classification group is created for a Learning Instance in the Production environment. When you move the Instance to Staging and try to train this new classification group, the bot is unable to find any sample documents that it expects from Staging, and therefore, the message appears. In this scenario, edit the Learning Instance and add (upload) some sample documents similar to the examples in the Production environment, as shown in the message.

Related reference

[IQ Bot validator FAQs](#)

[IQ Bot classifier FAQs](#)

IQ Bot classifier FAQs

View FAQs related to the Classifier.

1. What happens when the Classifier is unable to classify one or more documents?

If the Learning Instance is in the Staging environment, the documents are placed in a separate group called Not Classified; and for the Production environment, the documents are placed in a separate group called Unprocessed.

Note: To view and access the unclassifiable documents, open the Non Classified/Unprocessed folder located in the Output folder of your server.

2. Why are some documents getting unclassified?

Some reasons for this behavior could be unacceptable document quality, poor DPI, minimum fields required for classification criteria not being met, or documents not related to the selected domain. A document gets unclassified because of the minimal field identification rule. This rule helps to maintain the quality of classification vis-a-vis the quality of a document. It dictates the classifier to classify a document only when a specific minimal number of Keys/Fields related to a domain are found in that document. This minimal number depends on the number of fields selected when creating a Learning Instance for a specific domain.

An example of this rule is as follows:

- Except for Other domain or a custom domain, if you selected six or more fields from a default or uploaded domain for extraction when creating a Learning Instance, the classifier expects to find at least six fields (any six, not specifically the selected ones) related to the selected domain in the document. If it is unable to do so, the document gets unclassified. A person can also classify by entering a limited number of custom fields.
- If you selected 5 domain fields for extraction when creating a Learning Instance, the classifier expects to find at least 5 fields (any 5, not specifically the selected ones) related to the selected domain in the document. If it is unable to do so, the document gets unclassified.
- If you selected 4 or less domain fields for extraction when creating a Learning Instance, the classifier expects to find at least 4 fields (again, any 4 and not specifically the selected ones) related to the selected domain in the document. If it is unable to do so, the document gets unclassified.

Note: When the document quality is not so good, it negatively affects the number of Keys/Fields related to a domain in that document.

If the document quality is good and yet the document is getting unclassified, there is a good chance that the domain dictionary does not contain the fields and aliases that are representative of that document.

IQ Bot validator FAQs

View FAQs related to Validator.

1. Why do I need Validation?

- IQ Bot processes a document before it can be viewed in the Validator, and flags field errors in that document. The user has the option to fix the flagged fields or verify the unflagged fields in the Validator.
- After being fixed and saved, the updated document does not count as STP but still moves to the successful queue where it can be picked up by an upstream automation task.

2. Can I do a Validation task when designing an IQ Bot?

Yes, if the Learning Instance is in the Production environment but the specific bot is in the staging environment. You can still do Validation of failed documents in the Production environment.

3. What happens after I manually correct and submit a document using the Validation interface?

After the failed document is manually corrected and submitted using the Validation interface, it moves to a "Success" folder from where it can be picked up by an upstream automation task.

4. What happens to the documents, which I choose not to correct using the Validation interface?

You can simply mark them as invalid. These documents will be moved to an Invalid folder on the output path. You can collect these documents from this Invalid folder for further action.

5. Do I need a special license to enable Validation?

No. You just need an IQ Bot license to enable Validation. However, you do need a Validator role assigned to you by the Administrator. If you have an IQBotServices role assigned to you, you can access Validator from the Learning Instance listing.

6. Can I use the Validation interface to open regular Excel or CSV files?

No. You cannot use the Validation interface to open regular Excel or CSV files.

7. Is it possible to have multiple Validators validate a common Learning Instance?

Yes, different Validator users can view different documents from each other simultaneously. However, with the smart queue management feature, a document is exclusively available to only one Validator at a time for View or Edit.

IQ Bot trials quick start guide

IQ Bot stores images and documents uploaded by users or Remote Process Automation (RPA) tasks and extracts structured data from those images and documents, for example, Tiffs, PNG, and JPG images and PDF documents. You can build your IQ Bot and experience the ease of using cognitive automation on the IQ Bot trials site.

Get started with IQ Bot

To use the IQ Bot Trials site, first register for the IQ Bot Trial site, then login with credentials from the welcome email you receive.

On the IQ Bot Trials site, you can perform the following tasks.

- Create a learning instance
- Upload invoice documents to the learning instance
- Train an invoice document, and
- Export data to a CSV file

What happens when you upload a document to IQ Bot?

1. IQ Bot takes structured data, for example, invoice documents in the learning instances.
 2. Categorizes documents similar in content layout and content in an IQ Bot for invoice documents in one or multiple groups.
 3. Trains IQ Bots and extracts data from documents to a CSV file.
- [Registering as an IQ Bot user](#)
Register as an IQ Bot user on the IQ Bot trials portal.
 - [Prerequisites for using IQ Bot](#)
Determine the prerequisites to access IQ Bot.
 - [Creating a learning instance with English invoices](#)
Create a learning instance to train your learning instance and to improve the accuracy of extracted data.
 - [Training groups in a learning instance](#)
Train the groups created in your learning instance so that when you extract data from documents to a CSV file, extracted data is more accurate.
 - [Adding a new table field](#)
When your document has new fields, you might need to define new table fields to your learning instance.
 - [Exporting data to a CSV file](#)
When you want to see the exported data to a CSV file, you might need to perform this procedure.
 - [Useful tips](#)
Find useful information that will assist you during your participation in the IQ Bot trials in this topic.
 - [FAQs for IQ Bot Trials](#)
This topic answers frequently asked questions about the IQ Bot Trials

Registering as an IQ Bot user

Register as an IQ Bot user on the IQ Bot trials portal.

Procedure

1. Click on Register to register as a new IQ Bot user.
The login credentials and a link to the IQ Bot portal URL are sent to you in an email.
2. Check your registered email account for credential and use it to log into the IQ Bot portal.

Prerequisites for using IQ Bot

Determine the prerequisites to access IQ Bot.

- Ensure you have installed IQ Bot trial and have already watched the IQ Bot trial informational videos on the IQ Bot Trials portal.
- Ensure you have unzipped the bank statements and invoice documents on your desktop.

Creating a learning instance with English invoices

Create a learning instance to train your learning instance and to improve the accuracy of extracted data.

For example, learning instance created for different types of invoice documents for banks, insurance companies, and pharmacies. Based on the training provided to the learning instance and its documents, the accuracy of extracted data is improved.

Note: You can use different invoices in TIFF, JPEG, PNG, and PDF, and other format to train your learning instance.

1. Open the IQ Bot portal.
2. Click LEARNING INSTANCES > New Instance.
3. Enter the following information:
 - Instance name: Enter a name for the instance. For example, enter Learning Instance Invoice.
 - Domain: Select Invoices, that is, the domain for the documents you are going to upload.
 - Primary language of files: Select the language of the instance from the drop-down list. For example, select English for uploading invoices in English.
 - Description(optional): Enter a description for the learning instance.
 - Upload files from: Click Browse and select all the English Invoices from the folder where you had downloaded them on your desktop and click Open.

Tip: Besides image formats, such as TIFF, JPG, and PNG files, you can also upload PDF (Vector and Raster) documents for classification and analysis.

Note: You can upload a file of maximum 12 MB size during learning instance creation/editing.

4. Select the standard form and table fields that you want to add from Standard form fields and Standard table fields sections.

5. Enter names of the form fields in the text box in Other Fields (Optional) section and click Add as form to add customized form fields. Similarly, you can add new table fields and click Add as table.
6. Click Create instance and analyze to create the instance.

The process of classification of invoice documents begins where the invoices are grouped together and analysed. IQ Bot categorizes invoice documents similar in content layout and content in one or multiple groups.

You can now train your IQ Bot for this learning instance.

Training groups in a learning instance

Train the groups created in your learning instance so that when you extract data from documents to a CSV file, extracted data is more accurate.


Note: The Field Auto-Mapping feature reduces the time and effort it takes to train the invoice document.

Pre-requisites

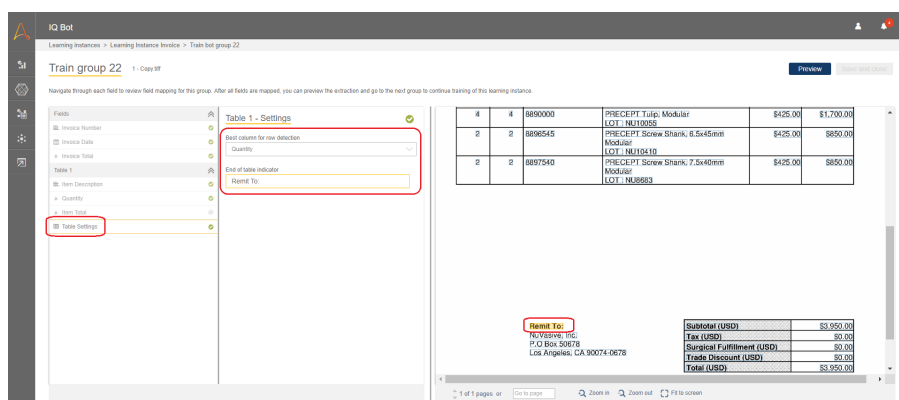
- Created a learning Instance with English invoices
- Logged into IQ Bot portal.

1. Click LEARNING INSTANCES from the left pane.
2. Click on the learning instance you created.
3. Click Start Training on the learning instances page.

Note: Fields and corresponding values are mapped automatically. If they are not mapped automatically, then map the fields again.

7. Click the  icon next to the field name from the left pane and drag and click the correct label name on the

- Click on Table Settings in the left pane.
- Select the End of Table Indicator text box in the left pane.



- A group is now trained and IQ Bot brings the next group in line to train. Train all the groups in your learning instance.

When your document has new fields, you might need to define new table fields to your learning instance.

1. Click LEARNING INSTANCES from the left pane.

2. Click on the learning instance you created.
3. Click Edit.
4. To add a new field, either select the check box next to the table field name or enter the field name in the Other fields (Optional) and click Add as table.

5. Click Save.
6. Click Yes, Proceed with Field addition.

The table field is added to the learning instance.

Exporting data to a CSV file

When you want to see the exported data to a CSV file, you might need to perform this procedure.

Procedure

1. On the Training page, click Preview at the end of the left pane.
2. Click Export to CSV.

Export to CSV... [Back to Training](#)

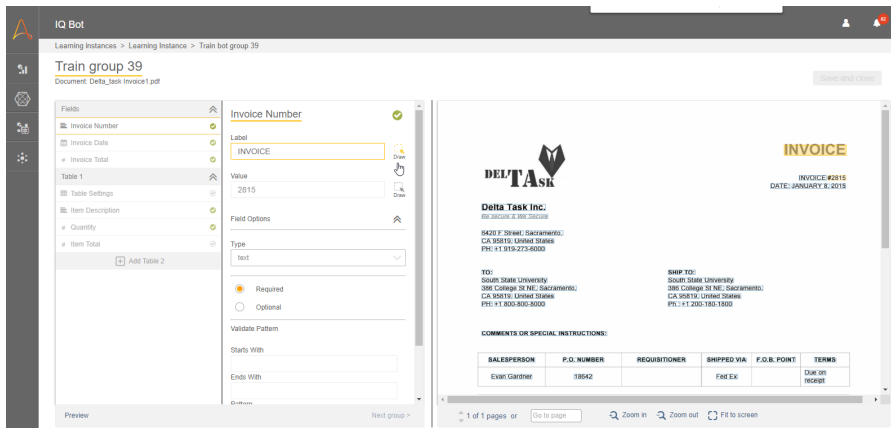
The CSV file is downloaded with the data extracted from the document.

Useful tips

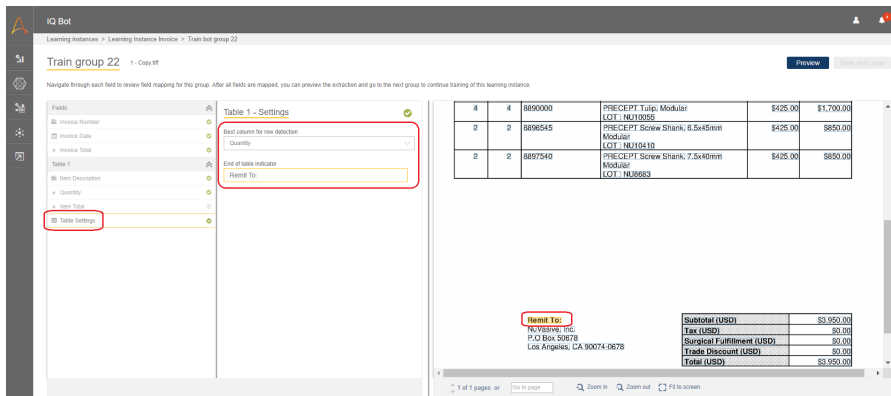
Find useful information that will assist you during your participation in the IQ Bot trials in this topic.

Correcting incorrect field mappings

Click the Draw icon next to the field name from the left pane. Then drag and click the correct label name in the document to correct the inaccurate field mappings. Similarly, map and correct the value of the field by clicking the Draw icon.



Make sure you define the best column for row detection and end of table indicator for a table. The data extraction fails if you do not define them.



FAQs for IQ Bot Trials

This topic answers frequently asked questions about the IQ Bot Trials

Overview

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

Use IQ Bot, and Automation Anywhere in conjunction to automate your business processes that rely on semi-structured or unstructured data hidden in electronic documents, images, emails, and other such areas. IQ Bot leverages computer vision and multiple 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 trial version, we've made five domains available for use such as: Invoices, Purchase Orders, Bank Statement, Pay Stubs, and Electricity Bills. IQ Bot uses the OCR technology to extract information from a document. The OCR tools measure results based on accuracy, and 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 (Straight Through Processing) and Accuracy figures for the Instance over a period.

3. What's 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 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 Bots?

The most primary metric for IQ Bot is straight through processing, or 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 trial version.

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.

Using IQ Bot trial

1. What are the limitations of the trial version?

Flow Limitations: You can use IQ Bot for training only, as production mode and batch processing is not available.

Processing Limitations: The user can create up to five learning instances and upload to a limit of 10 documents for each learning instance. Each document is limited to a single page only.

2. I have trained the learning instance, yet cannot see the output.

For each trained group, you can select Preview > 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.

Go to the Bots tab and send that bot back to staging.

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

IQ Bot can process files in batch mode when connected to RPA. This feature is not available in the trial version.

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

Importing domains is not available for the trial version.

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 trial version.

7. What is the prerequisite step to creating a Learning Instance in IQ Bot?

Before you start creating a new learning instance, you must 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 on the items you want to extract. Use them as the first set of documents to train against the new learning instance.

8. How would I perform validation in the trial?

Validation is available for production processes only. In the trial version, you can validate using Preview.

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

In the trial version, IQ Bot accepts up to a limit of 10 documents for each learning instance. The full license would support millions of documents per year that can be uploaded in a queue.

10. What is the license requirement for IQ Bots?

You require Automation Anywhere Enterprise with an activated IQ Bot feature. This license is installed from the Control Room.

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

You can configure unlimited number of tables for extraction.

12. 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 and 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 should be able to get the desired 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. 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 quite easily add new domains as well.

The following domains are available in the trial version:

- Invoices
- Purchase orders
- Bank statements
- Pay stubs
- Electricity bills

Note: You can select the desired domain when you create a Learning Instance.

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

Yes, however 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 Bots I can create? What is the maximum number of IQ Bots that can simultaneously exist in the system at once?

There is no limit to the number of IQ Bots you can create or that can exist simultaneously in the system at a time.

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 must be converted to PDFs, so they can be processed in 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.
- [Create a learning instance](#)
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.
- [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 TaskBot to automate data extraction. One [TaskBot](#) 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 Enterprise Control Room home page, choose COGNITIVE AUTOMATION > LAUNCH IQ BOT.
4. The IQ Bot Community Edition Home page displays in a new window.

Create a learning instance

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.

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 TaskBot to automate data extraction. One [TaskBot](#) 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 with IQ Bot using Loop action](#)
You can upload multiple files by adding a Loop action to the Upload Document action in the Bot editor.
- [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 Enterprise Control Room.
- Ensure your local host is a registered device in the Enterprise Control Room.

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

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.
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 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.
5. Click Apply.
6. Click Save.
7. Click Run now.
8. Click Close.

Next steps

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

Upload multiple files with IQ Bot using Loop action

You can upload multiple files by adding a Loop action to the Upload Document action in the Bot editor.

Procedure

Follow these steps to upload multiple documents:

1. In the Actions palette, double-click or drag the Loop action from the Loop package.
See [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, specify the variable name and value.
For example, if the variable name is filename, this variable is used to store file names of the chosen folder.
Select the value filename - Dictionary of Strings.

See [Dictionary package](#).

6. Click Apply.
7. In the Actions palette, double-click or drag the Upload Document action from the IQ Bot package.
8. Complete the information, except the File Path field.
9. In the File path field, enter a dynamic file path using a variable.

a) Add a file path pointing to the folder:

```
C:\input\
```

.

b) Add the dynamic file name string:

```
$filename (name) $. $filename (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\${filename (name)}$.${filename (extension)}$
```

10. Click Apply.
11. 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.

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 Local output folder field, provide a path to your local folder.
4. 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.
 - Untrained: Documents were classified into new groups during processing and require training.
5. In the Delete files from the server after downloading check box, select the option to delete documents.
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.