October 15, 2019

Automation Anywhere IQ Bot

Legal Notices

Contents

IQ Bot Release Notes

This document for IQ Bot Version 6.5.x describes new capabilities, changed and migrated features, fixed features, technical updates, and known limitations.

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

Major Release	Minor Release	Patch Release
Version 6.5	Version 6.5.2	There are no patch releases

Related concepts
IQ Bot operating system compatibility
IQ Bot database compatibility
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 IQ Bot Version 6.5.x, review the considerations section before starting the upgrade 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.

  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 checkbox or linked table functionality, clear that leaning 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 checkbox (for example, "Gender_ID->Female") and ":" for linked tables (for example, "Patient_Table:Services"), which can make it easier to process in RPA.

  See Migrating learning instances within IQ Bot 5.3.x, Version 6.0.x, and Version 6.5 installations.

- For security protection, the SQL server database is now encrypted. The added protection may increase the database size by up to 4x.

- When upgrading IQ Bot Version 5.3.x to Version 6.5, the installer encrypts data related to files in the database.

  See IQ Bot database encryption.

Related concepts
IQ Bot Release Notes
Related reference
Version 6.5 Release Notes
Changed Features
Bug Fixes
Known Limitations

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 Automation Anywhere Enterprise compatibility matrix

The following table contains a list of IQ Bot and Enterprise Control Room compatible versions.

IQ Bot Version	Version 10.4	Version 10.5.2	Version 10.5.5	Version 11.3	Version 11.3.1 base + Version 11.3.1.1 patch	Version 11.3.1 base + Version 11.3.1.2 patch	Version 11.3.2	Version 11.3.3	Version A2019
5.0.0	Y	N	N	N	N	N	N	N	N
5.1.x	N	Y	Y	N	N	N	N	N	N
5.2.x	N	N	Y	N	N	N	N	N	N
5.3.0	N	N	Y	N	N	N	N	N	N
5.3.1.x (unofficial release)	N	N	Y	N	N	N	N	N	N
6.0.0	N	N	N	Y	N	N	N	N	N
6.0.1	N	N	N	N	Y	Y	N	N	N
Version 6.5	N	N	N	N	Y	Y	Y[1]	Y[1]	N
6.5.2 IQ Bot Version 6.5.2	N	N	N	N	Y	Y	Y	Y[1]	N
IQ Bot A2019 (Build 550)	N	N	N	N	N	N	N	N	Y

Note 1:

In the cluster.properties file, set 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 following property options to the file.
   - c) For IQ Bot Version 6.5, add `ignite.security.disable=true` and `ignite.tls.disable=true`.
   - d) For IQ Bot Version 6.5.2, add `ignite.tls.disable=true`.
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

IQ Bot feature comparison matrix

Compare features between different product releases.

IQ Bot initial features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Pre-built domains	X	X	X	X	X
User confidence threshold	X	X	X	X	X
Learning instance creation/editing	X	X	X	X	X
Document image pre-processing	X	X	X	X	X
Document image classification	X	X	X	X	X
Document image OCR	X	X	X	X	X
Bot creation/editing	X	X	X	X	X
Designer/Preview/Test	X	X	X	X	X
Production toggle	X	X	X	X	X
Validator	X	X	X	X	X
CSV output files	X	X	X	X	X
Learning instance import/export	X	X	X	X	X
Ease-of-use features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Web-based UI			X	X	X
Domain import/export			X	X	X
Hover over text segment to view OCR	X	X		X	X
Resize mapped box in Designer	X	X		X	X

IQ Bot initial features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Delete mapped box in Designer	X	X		X	X
Populate text in End of table/section indicator				X	X
Single click to extract text in the Validator					X
Document group description					X
Extraction/validation features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Original IQ Bot text segmentation / document classifier from IQ Bot Version 5.3.0 / 6.0	X		X	X	X
New IQ Bot text segmentation / document classifier from IQ Bot Version 5.3.1 / 6.5		X		X	X
Option to select classifier version of existing learning instances during IQ Bot upgrade: • Version 1 (IQ Bot 5.3.0 or before / 6.0) • Version 2 (IQ Bot 5.3.1 / Version 6.5 Beta				X	X
Enhanced compatibility with ABBYY FineReader engine FineReader Engine 12.2 Plugin		X		X	X
Automated installation of ABBYY FineReader engine FineReader Engine 12.2 Plugin				X	X
Validator auto-correction		X		X	X
Checkbox extraction		X		X	X
Advanced extraction: Repeated tables / sections; linking tables / sections; map some header-less columns		X		X	X
Alternative to stop extraction at End of table/section indicator		X		X	X
Select text segments that enclose or are enclosed by other text segments	X	X		X	X
Option to select default training document	X	X		X	X

IQ Bot initial features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Formula validation	X	X		X	X
List validation in UI	X	X	X	X	X
List validation via external file	X	X			
Microsoft Azure Computer Vision API (OCR)					X
Add user logic in the Designer					X
View and test all documents in the Designer > See extraction results					X
Enterprise features	Version 5.3.0	Version 5.3.1.x	Version 6.0.x	Version 6.5	Version 6.5.2
Access IQ Bot without device license (without Bot Creator or Bot Runner license)				X	X
Access IQ Bot as Validator users without Bot Creator or Bot Runner license				X	X
Database encryption				X	X
Roles-based access (RBAC) for new learning instances				X	X
Audit logs				X	X
Windows authentication				X	X
Azure PaaS Database Service				X	X
Counter for number of uploaded pages in production				X	X
API access					X
Access IQ Bot without sysadmin role that includes support for Amazon Relational Database Service (RDS) out of the box					X
Internationalization				X	X
UI Localization: Chinese Simplified, Chinese Traditional, French, German, Japanese, Korean, and Spanish				X	X
UI Localization: Portuguese					X

IQ Bot operating system compatibility

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

Table 1. IQ Bot Operating System Compatibility

Microsoft Windows Version	IQ BotVersion 6.5	IQ BotVersion 6.0.1	IQ Bot Version 5.3.1.x	IQ Bot Version 5.3.0	IQ Bot Version 5.2.x	IQ Bot Version 5.1.x	IQ Bot Version 5.0.0
Microsoft Windows Server 2016 Standard / Data Center	Yes	No	No	No	No	No	No
Microsoft Windows Server 2012 R2 Standard / Data Center	Yes	No	No	No	No	No	No
Microsoft Windows 10 Pro/Enterprise	Yes	No	No	No	No	No	No

Note: The open source software (OSS) disclosure for IQ Bot Version 6.5 is stored in the Installation folder with the filename: IQ Bot v6.0 OSS Disclosures.html.
<Installation folder>\Automation Anywhere IQ Bot 6.5\IQ Bot v6.0 OSS Disclosures.html

IQ Bot database compatibility

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

Table 1. IQ Bot Database Compatibility

Database	IQ Bot Release 6.5	IQ Bot Release 6.0.1	IQ Bot Release 5.3.1.x	IQ Bot Release 5.3.0	IQ Bot Release 5.2.x	IQ Bot Release 5.1.x	IQ Bot Release 5.0.0
Microsoft SQL Server 2008	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft SQL Server 2012	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Microsoft SQL Server 2016	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Database	IQ Bot Release 6.5	IQ Bot Release 6.0.1	IQ Bot Release 5.3.1.x	IQ Bot Release 5.3.0	IQ Bot Release 5.2.x	IQ Bot Release 5.1.x	IQ Bot Release 5.0.0
Amazon Relational Database Service (Amazon RDS)	Yes	No	No	No	No	No	No
Microsoft Azure	Yes	No	No	No	No	No	No

IQ Bot hardware and software requirements

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

Important: Install IQ Bot Version 6.5 on a dedicated server, and install Enterprise Control Room on a separate server.

Table 1. Hardware requirements

IQ Bot	Requirements
Minimum requirements	• 16 GB RAM • Quad Core Processor • 200 GB hard disk space[1] • Ensure C: drive has 100 GB plus free hard disk space
Optimum requirements	• 32 GB RAM • Octa Core Processor • 500 GB hard disk space[1] • Ensure C: drive has 100 GB plus free hard disk space.

Note 1:
Assuming the Data Management System (DMS) is installed on the same machine as IQ Bot. If DMS is installed on a separate machine, provision similar hard disk space on that machine.

Note: If IQ Bot Version 6.5 needs to be installed on the same server for test environments, the following server requirements are required:

- 32 GB RAM
- 8 cores
- 500 GB hard disk space
- 100 GB+ free hard disk space on C:\\ drive

The following software is required for IQ Bot installation:

Table 2. Software requirements

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 (version 69 or later) Web browser is supported.
Dependencies	Automation Anywhere IQ Bot is dependent on the following software, which is automatically installed during the installation process: • Erlang v19.2 • RabbitMQ v3.6.6 • NodeJS v10.15.0 • Microsoft .NET Framework v4.7.2. The system prompts for a restart to complete the update. • Microsoft SQL Server 2012 Native Client - QFE Note: This is installed automatically by the installer. A system restart is required.
Engine server requirements	• 128 GB RAM • 32 core processor • 500 GB hard disk space

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	New APIs have been added for: • 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]	IQ Bot now has native support for Microsoft Azure Computer Vision OCR engine. For example: It can help handwriting, driver licenses, and passport extraction. Important: Internet connectivity is required.
Add user logic in the Designer	In the Designer, under Logic, Python language support has been added, so power users can add custom code to: • 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: Portuguese	You can now select Portuguese to show the UI in that language. 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.

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	The sysadmin SQL database role requirement has been removed from the IQ Bot installer. The following privileges are checked instead: • SQL connection • database creation • view any database Installation with Microsoft Azure SQL requires the following role: dbmanager
Localized text in UI updated	The localized UI text has been updated for Chinese Simplified, Chinese Traditional, French, German, 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 Role-Based Access Control to learning instances in IQ Bot 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 and/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
	• 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	IQ Bot Designer is responsive: • 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 IQ 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

IQ Bot Version 6.5.2 Fixed Features	
COG internal ticket number	Description
	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.
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
COG-18213	Text segments may not get generated for PDFs with multiple file formats on different pages. Tip: A current workaround is to convert the PDF 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 greater than 10MB when using the APIs.

IQ Bot Version 6.5.2 Known Limitations	
JIRA/Zendesk ticket number	Description
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 Botversion, incorrect timestamp is inserted for the uploaded documents. The 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 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 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 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 Role-Based Access Control to learning instances in IQ Bot.

- 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 Artificial Intelligence 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, and/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:

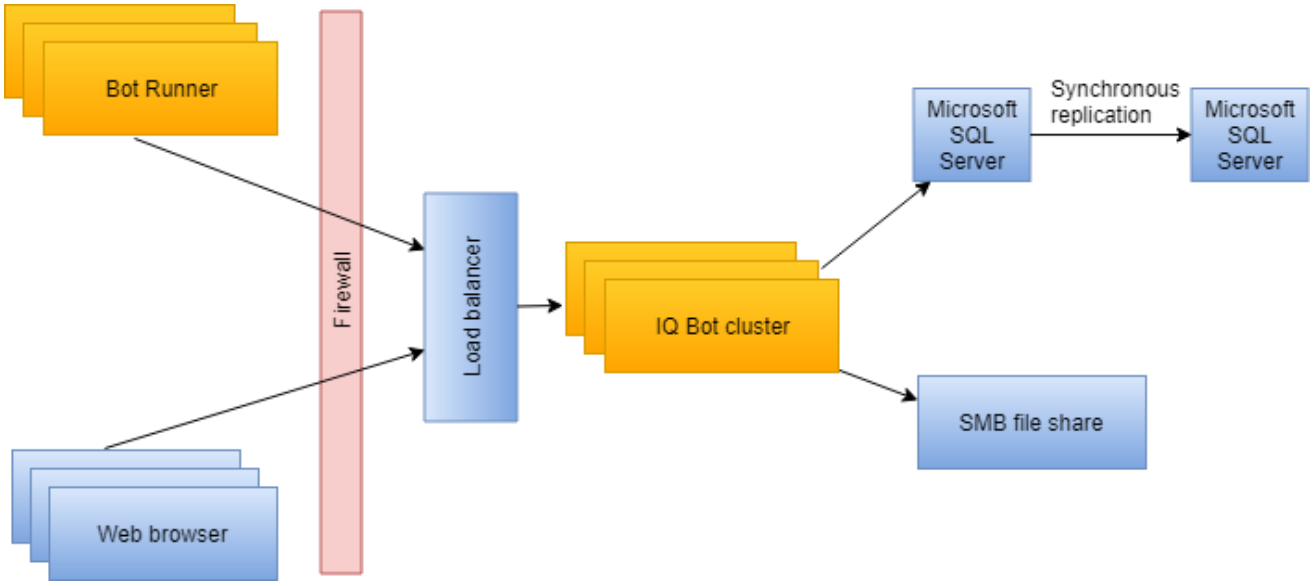
- Deployment
- Protocols
- Ports
- Encryption and credentials
- Sensitive user information

- 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 clusterdatabase. 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
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	
Gateway to Message queue	HTTP	Encrypted communication will be mandatory in a future release.

Component Communication	Protocol	Notes
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.

Ports and services

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

Important: Configure the ports 47100 through 47200 on your IQ Bot server as inbound listening for Cluster communication with the Enterprise Control Room.

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

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	• 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.
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.

Micro Service	Communication-Mode/ Port-Number	Notes
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.

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.

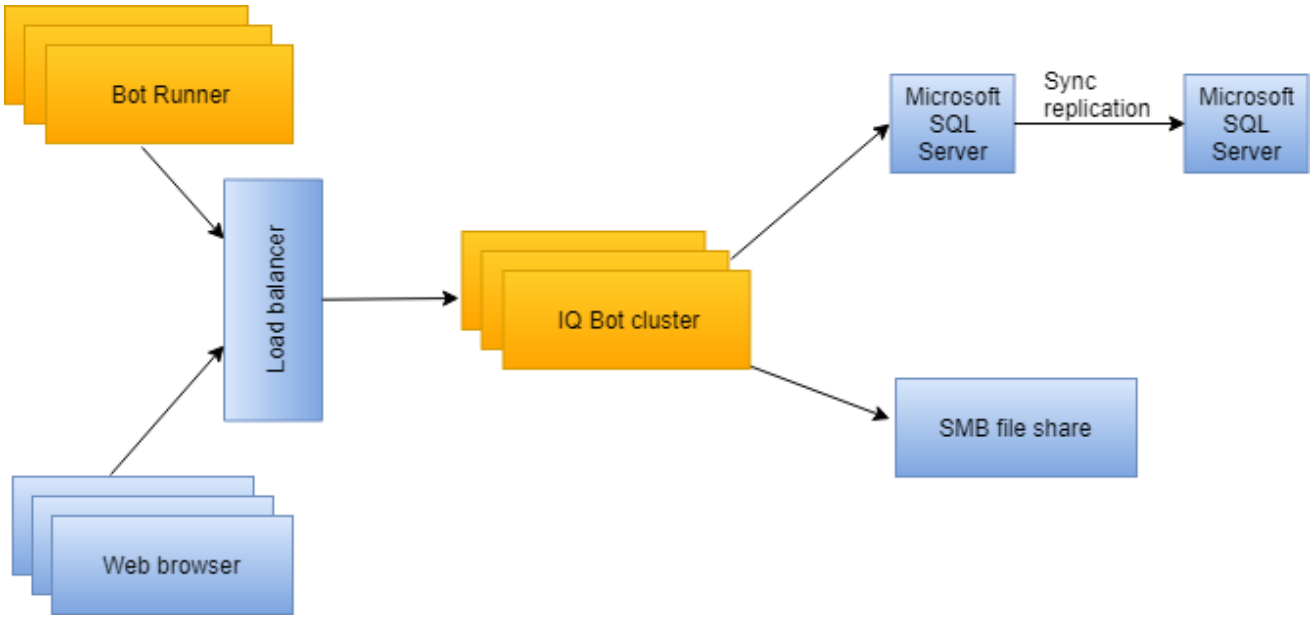
High reliability
: The ability to reduce the frequency of system failure.

- 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.

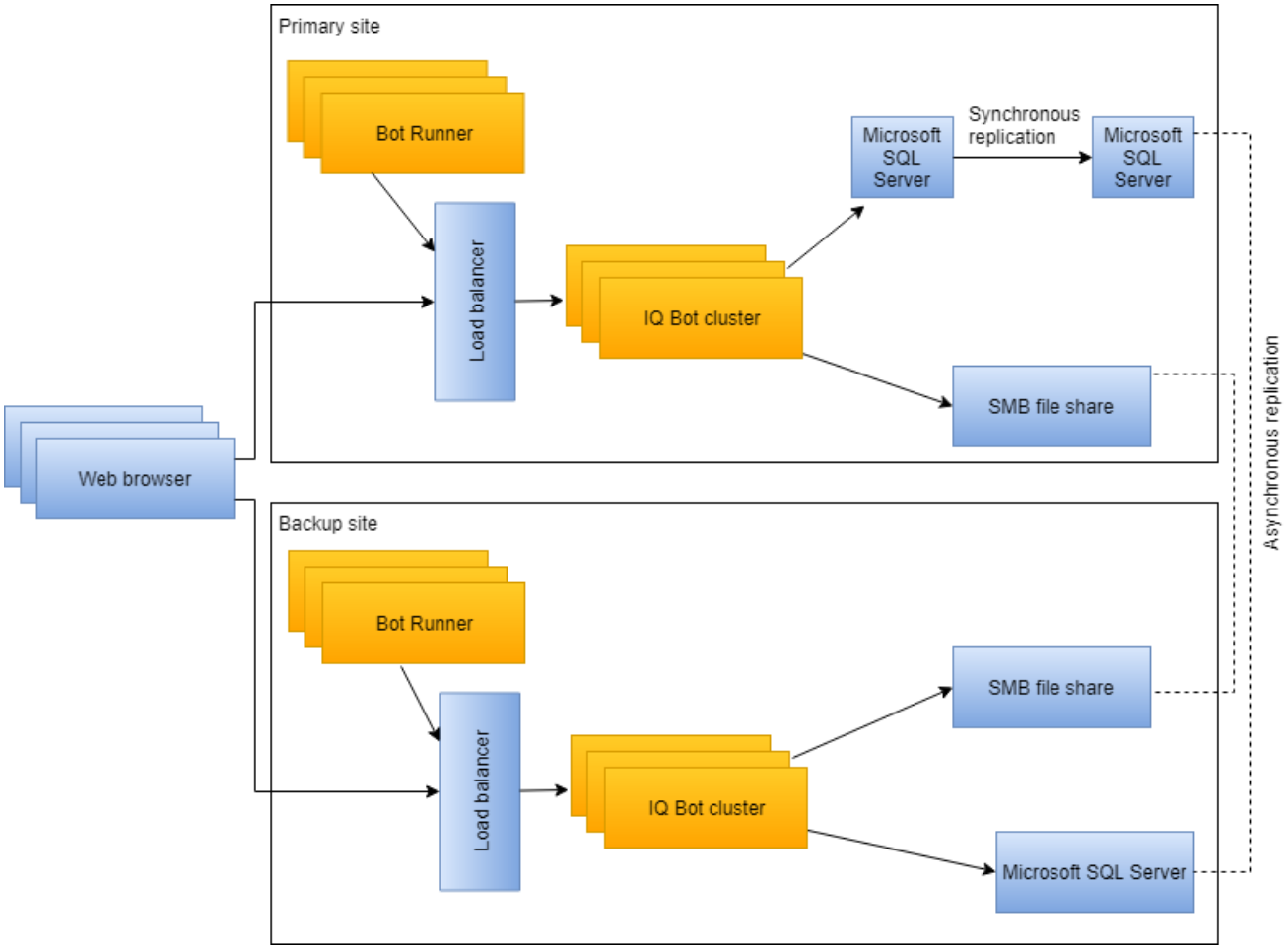
Use Cases

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 loosing 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.

Related tasks
Re-establish a duplicate DR site

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 health check APIs, and
- recommended database maintenance plan.

- Logs for components
  Find out the different logs generated for IQ Bot components and the location of logs.
- Enabling tracing in logs
  Find out the procedures to enable tracing in the logs for the various components of IQ Bot.
- 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
Logs for components
Enabling tracing in logs
Monitoring services
Database maintenance plan

Logs for components

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

Component	Log File	Location	Notes
Firewall	N/A		
Enterprise Client	ClientServiceLog.log	%public%/ Documents \Automation Anywhere Client Files\LogFiles \ServiceLogs	
Control Room	• query-engine-xxxx.log • WebCR_xxxx.log • aa_cr_elasticsearch_xxxx.log • zoomdata_xxxx.log	%ProgramData% \AutomationAnywhere\Logs	
SQL Server	• Application • Windows	Start Menu > Event Viewer > Windows Logs.	

Installer	• IQBotSetupLog.log • MSI****.log	%temp%	"****" Random string generated by installer at runtime.
Web Server (Node.js)	N/A		
RabbitMQ	rabbit@<hostname>.log	%appdata%\RabbitMQ	
Gateway service	Gateway.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Alias service	Alias.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Application service	Authorization.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Classifier service	ClassifierWorker.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
File Manager service	FileManager.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Project service	ProjectService.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Report service	Reports.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Validator service	Validator.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
VisionBotEngine service	VisionBotWorker.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
VisionBot Manager	VisionbotService.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	
Machine Learning	• MLTranslationService.log • MLWebService.log	%public%/ Documents \Automation Anywhere IQBot Platform\Logs	

Related concepts
Download a document from a learning instance

Enabling tracing in logs

Find out the procedures to enable tracing in the logs for the various components of IQ Bot.

To enable trace logging for a component, open the log file of a component with write permission and navigate to the configurations > loggers > root folder.

To enable trace logging for the Gateway service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in the log file: `<iq_bot_installation_dir>\Services\log4j2_gateway.xml`.

Do not restart service after changing the configuration.

To enable trace logging for the Alias service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_alias.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Application service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_application.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Classifier service, perform the following procedure.

1. Go to the `loggersettings` json tag in the log file and change the value of the log level from `ERROR` to `TRACE` in:

   `<iq_bot_installation_dir>\Workers\Classifier\CognitiveServiceConfiguration.json`

2. Restart the Classifier service.

To enable trace logging for the File Manager service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_filemanager.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Project service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_project.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Report service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_reports.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Validator service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_validator.xml`

Do not restart service after changing the configuration.

To enable trace logging for the VisionBotEngine service, perform the following procedure.

1. Go to the `loggersettings` json tag and change the value of the log level from `ERROR` to `TRACE` in:

   `<iq_bot_installation_dir>\Workers\VisionBotEngine\CognitiveServiceConfiguration.json`

2. Restart the VisionBotEngine service.

To enable trace logging for the VisionBot Manager service, perform the following procedure.

Change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Services\log4j2_visionbot.xml`

Do not restart service after changing the configuration.

To enable trace logging for the Machine Learning service, perform the following procedure.

1. Go to `loggersettings` json tag and change the value of the log level from `ERROR` to `TRACE` in: `<iq_bot_installation_dir>\Workers\ML\translationsvc\CognitiveServiceConfiguration.json /<iq_bot_installation_dir>\Workers\ML\webservice\CognitiveServiceConfiguration.json`
2. Restart the MLWeb service.

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 check 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	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
Report service	http://<hostname/IP>:9992/healthcheck
Gateway service	http://<hostname/IP>:8100/healthcheck
Frontend or Console service	http://<hostname/IP>:3000/healthcheck
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.

Follow the installation task list to install IQ Bot:

Step 1: IQ Bot version compatibility matrix
To use the product, install the Enterprise Control Room and IQ Bot. Read through the compatibility matrix to know which release versions of the product to download.

Step 2: IQ Bot installation prerequisites
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.

Step 3: IQ Bot installation options
Install IQ Bot using any of the following installation options:

- IQ Bot Custom installation
- Installing IQ Bot in Express mode
- Installing IQ Bot in Cluster mode
- Installing IQ Bot in Cluster mode on Amazon EC2

Step 3: IQ Bot post installation configuration
After downloading IQ Bot, register with the Enterprise Control Room and perform the various configurations as required. You would also go through the checklist to ensure all services, databases, tables, and configuration settings are in place.

Step 4: IQ Bot post installation validation
Create and register IQ Bot specific users in the Enterprise Control Room, and perform other validation actions as required.

Step 5: IQ Bot upgrade and uninstallation
The topics describe uninstall and upgrade scenarios for IQ Bot.

IQ Bot installation prerequisites

Verify the hardware, software, database compatibility, and configuration required to install IQ Bot in your environment.

Follow the pre-installation checklist before installing IQ Bot

- IQ Bot hardware and software requirements
- IQ Bot version compatibility matrix
- IQ Bot operating system compatibility
- IQ Bot database compatibility
- IQ Bot prerequisite steps

- IQ Bot service configuration
- IQ Bot Windows services
- Installation limitations
- Prerequisites for installing in Cluster mode
- Prerequisites for installing IQ Bot in Express mode

Note: 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.
Related tasks
Installing IQ Bot in Express mode
Installing IQ Bot in Cluster mode
Installing IQ Bot in Cluster mode on Amazon EC2
Related reference
IQ Bot Custom installation

IQ Bot prerequisite steps

Complete the following steps before you begin installing IQ Bot.

Procedure

1. Database administrator permissions (SYSADMIN) for the SQL database account is required because this is used during installation to create databases and run the BULK INSERT statement.
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 (Bundle).
   - Enterprise Control Room certificate in .crt format (Public).
   - 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:

- 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 through47600 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.

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 can 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.

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 the 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.

See Installing 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.

Service name	Description
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 Botservice 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.

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 following 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
Related information
https://media.amazonwebservices.com/AWS_WSFC_SQL_Server_AlwaysOn.pdf

Prerequisites for installing IQ Bot in Express mode

Complete the following 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 + 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`
   .

Next steps

See Installing IQ Bot in Express mode for steps to install in Express mode.

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 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 Custom mode

Use custom mode to install IQ Bot with configuration details, for example, connection to a Microsoft SQL database, load balancer details, and output folder definitions.

Prerequisites

The IQ Bot database gets created when you install it for the first time. To create the following databases, run the `create database` SQL query before installing IQ Bot.

- `AliasData`
- `ClassifierData`
- `Configurations`
- `FileManager`
- `MLData`

Log in to the Microsoft SQL Server with your database credentials.

Follow these steps to install IQ Bot in Custom mode:

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 above, Microsoft SQL Server 2012 Native Client - QFE is installed automatically. A server restart is required after the installation. Restart the IQ Bot Custom installation process.
3. Select the Custom option on the Automation Anywhere IQ Bot Setup Wizard, and click Next.
4. On the Database Configuration window:

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

5. Type the following database server details on the Database Configuration window, and click Next.
   - Hostname or IP: Type the hostname or IP address.
   - If a Microsoft SQL Server Express database is installed locally on the target machine, the hostname is auto populated as `localhost` and port as `1433`.
   - Port: Type the port number.

   The `Unable to connect to the SQL server with given configuration.` error message appears if the following scenarios occur:
   - Incorrect hostname/IP address and port number
   - Incorrect database server credentials
   - Lack of permissions to connect to the database server

Note: When installing IQ Bot, when you configure the credentials of a newly hosted database on Microsoft Azure SQL PaaS, it 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.
Note: 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.
Note: When IQ Bot and the database instance already exist, and IQ Bot is installed again, IQ Bot takes the default database instance during installation.

6. In the Services Configuration window, select the Local system account check box and click Next.
    - If you select the Local system account checkbox, the services run with the local account.
    - If you do not select the Local system account checkbox, provide your user credentials. The IQ Bot services are run using these credentials.
7. A valid system administrator user requires Windows authentication with the Services user credentials in the Services Configuration window.
    - 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.
8. Type 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.
Type a valid certificate passphrase from the Certificate Passphrase field.

Portal configuration	
Hostname or IP	Type the hostname or IP address of IQ Bot or use the autopopulated 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	Type the port number or use the auto populated default, 3000.

9. In the Load Balancer Configuration window, do the following:
    a) Select the Use same as IQ Bot Portal checkbox 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 checkbox 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, deselect the Use same as IQ Bot Portal check box and type the following:
        - e) Load Balancer Hostname: Type the hostname or IP address.
        - f) Load Balancer Port: Type 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 reinstallation, 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), type 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 pre fetched values in the disabled text boxes from the Enterprise Control Room.

10. 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

11. In the Ready to Install the Program window, verify and review your installation settings and click Install to start the 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). Using the Alt + TAB key combination, verify that the Windows Security Alert window is not hidden behind other visible windows.
12. Click Allow access to complete the installation, and in the Installation Successful window, click Finish. An IQ Bot icon is created on the desktop.
13. 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

Next, register IQ Bot with Automation Anywhere Enterprise Control Room. See Registering IQ Bot with the Enterprise Control Room for more information.
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

Installing IQ Bot in Express mode

Install IQ Bot in Express mode with default settings.

See Prerequisites for installing IQ Bot in Express mode before you begin the installation process.

Procedure

1. Double-click the `Automation_Anywhere_IQ_BOT_<version_number>.exe` file. The IQ Bot Setup Wizard appears.
2. Click Yes, and then Next.
3. The Prerequisites page appears.
   Note: The Enterprise Control Room installation does not have to be in express mode to install IQ Bot Version 6.5 in express mode.
4. Review the prerequisites carefully and click Next. The License Agreement page appears.
5. Read the license agreement, accept the terms, and click Next. The Installation Type page appears with Express and Custom options.
   Note: Express installation installs the HTTP based IQ Bot without Active Directory support.
6. Select Express and click Next. The Ready to install the program page appears.
7. The `unable to proceed with installation` error appears after you click Next if either of the following conditions are not met:
   - If Automation Anywhere Enterprise Control Room Version 11.3.1 base + either Version 11.3.1.1 or Version 11.3.1.2 patch are not preinstalled on the target machine in express mode.
   - If the installer is unable to communicate with the Enterprise Control Room/SQL Express.
8. If the error message displays, do the following:
   a) Click Back to review or change the installation settings, or exit the Setup Wizard, and click Cancel.
   b) When you click Cancel, a confirmation dialog box appears.
   c) Click Yes to exit the Setup Wizard. This rolls back all the changes.
   d) Click No to resume.
9. Click Install.
10. The express installation begins and the system shows the Finished page after a few minutes to indicate a successful installation.

11. 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

IQ Bot is installed with the following default settings:

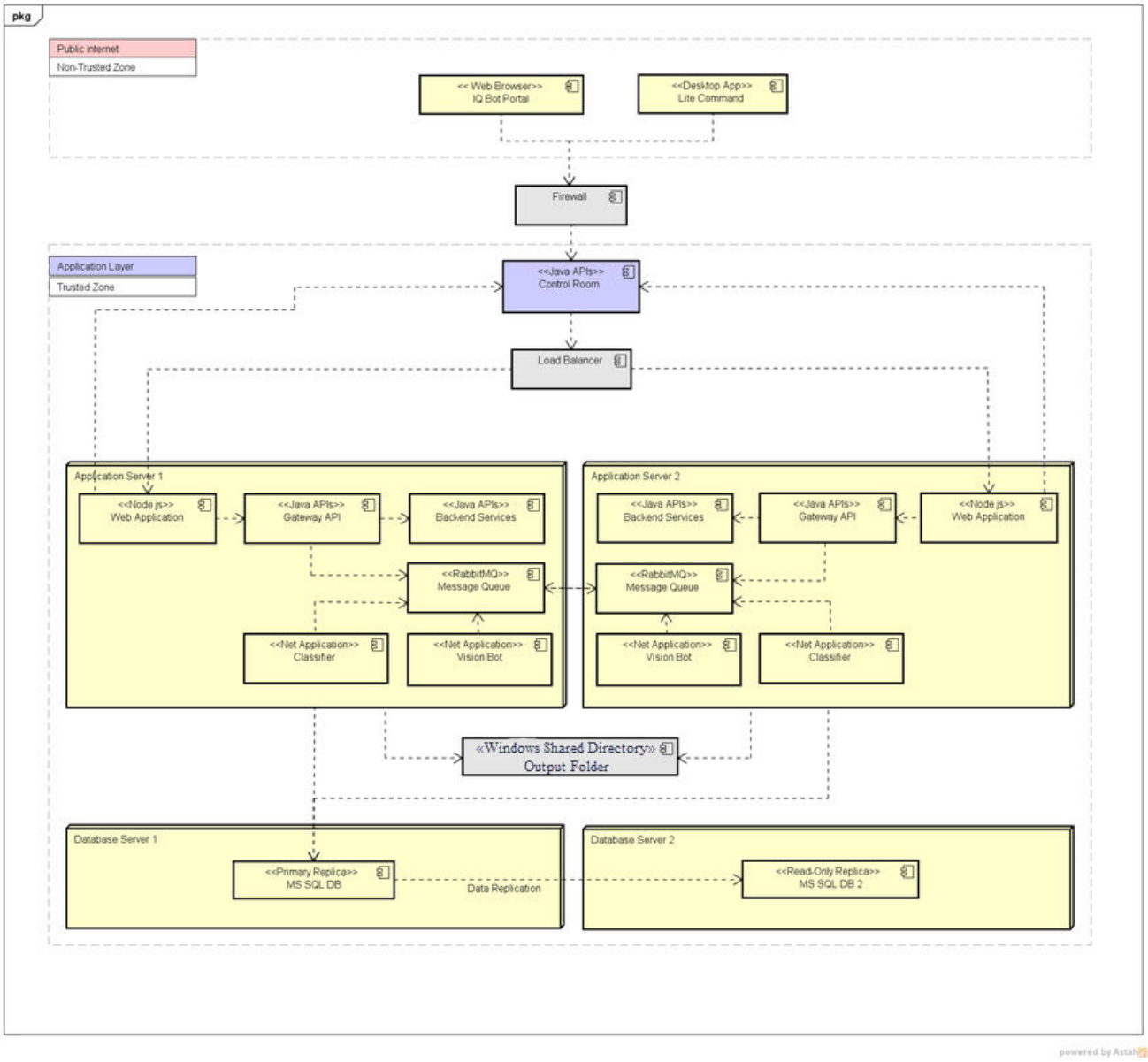
- Security Type: `None (HTTP)`
- Web configuration: `<web url:port>`
- Database configuration: `<database url:port> (user: aaadmin ; Authentication: SQL)`
- Host Gateway: `<gateway:port> (SSL Offloading: No)`
- Output Path: `C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Output`
- Logging Path: `C:\Users\Public\Documents\Automation Anywhere IQBot Platform\Logs`
- Installation Path: `C:\Program Files (x86)\ IQ Bot<version number>`

Next steps

Double-click the IQ Bot shortcut on your desktop to launch IQ Bot.
Related tasks
Installing in Custom mode
Installing IQ Bot in Cluster mode
Installing IQ Bot in Cluster mode on Amazon EC2

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 to complete the process:

1. Get the host name of the primary node, which is Server 1.
   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>\Configu
rations>
messagequeue_cluster_configuration.bat Server1
```

Related tasks
Installing IQ Bot in Cluster mode on Amazon EC2

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.

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.

- 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 V12.2 in IQ Bot
  IQ Bot Version 6.5 installation now automates some installation steps for the : ABBYY FineReader engine FineReader Engine (FRE) V12.2. optical character recognition (OCR) plug-in.
- 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
- Generating authorization token
  Before doing an IQ Bot task, get authorization using an authorization token.
- Post-installation checklist
  Check whether IQ Bot is installed successfully and check whether the IQ Bot services are running using the health check APIs.

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:
TheAutomation Anywhere Enterprise Control Room 11.3.1.0 base plus either Version 11.3.1.1 or Version 11.3.1.2 patch can be installed in Express mode before installing IQ Bot.
For Custom installation:
The Automation Anywhere Enterprise Control Room 11.3.1.0 base plus either Version 11.3.1.1 or Version 11.3.1.2 patch can 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 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.
Related tasks
Resolving IQ Bot registration failure
Unregistering IQ Bot from the Enterprise Control Room
Related reference
IQ Bot installation use cases

Unregistering IQ Bot from the Enterprise Control Room

You might 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]`
   - `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
Related reference
IQ Bot installation use cases

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.
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:
   default endpoint = https://aai-iq-bot-ocr.cognitiveservices.azure.com/
   on default port = 443.
2. You can use your own Microsoft Azure Computer Vision OCR engine subscription and/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 6.5.2\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 as an administrator. The default location of the file is at C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5.2\Configurations.
5. Run the installandstartallservices.bat file as an administrator. The default location of the file is at C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5.2\Configurations .
   Log in or refresh your IQ Bot web page.
6. 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.

Next steps

Go to Configuration/IQ Bot/Workers/Classifier and Configuration/IQ Bot/Workers/VisionBotEngine folders to check the successful installation of Microsoft Azure Computer Vision OCR engine.
Note: Microsoft Azure Computer Vision OCR engine provides approximately 18% STP and 80% accuracy with data extraction.

Use your own keys for Microsoft Azure Computer Vision OCR engine

You can use your own Microsoft Azure Computer Vision OCR engine subscription and/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 6.5.2\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
}
```


Install ABBYY FineReader engine V12.2 in IQ Bot

IQ Bot Version 6.5 installation now automates some installation steps for the : ABBYY FineReader engine FineReader Engine (FRE) V12.2. optical character recognition (OCR) plug-in.

When installing IQ Bot Version 6.5, the system automatically installs an ABBYY FineReader engine open run-time license on your server. Use the following steps to complete installation:

Procedure

1. Download the OCR plug-in with IQ Bot Version 6.5.
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 6.5.
3. Ensure the folder says \OCR Plugins\ABBYY SDK\12\. . . , and the unzipping does not create OCR Plugins\OCR Plugins twice.
4. From the C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5\Configurations folder, open the Settings.txt file, change OCREngine=Tesseract4 to OCREngine=Abbyy, and save the file.
5. Run the stopanduninstallallservices file at C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5 Beta \Configurations.
6. Run the installandstartallservices file and log in or refresh your IQ Bot web page.
7. Create learning instances in IQ Bot, and use the ABBYY FineReader engine Version 12.2 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, automapped fields, cognitive extraction, and field value autocorrection.
8. Repeat steps 2 through 5 above to switch back to Tesseract4 OCR.
   If you install IQ Bot Version 6.5 in a different folder besides C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5 Beta, find the Configurations folder, open the ABBYYOCREngineSettings.txt file, 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 FRE 12.2 remains installed from a previous IQ Bot version

If ABBYY FineReader engine FRE 12.2 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 6.5 Beta\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 6.5 \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 6.5 Beta\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 6.5 \Configurations.
4. Run the installandstartallservices file and log in to or refresh your IQ Botweb page.

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/ce
rt/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:\s
sc\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/cer
t/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 installandstartervices.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

There are two main scenarios:

- Installing IQ Bot and Control Room on a single domain.
- Installing IQ Bot and Control Room on 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.

Prerequisites:

The following certificate files are required:

PFX file:
One or more PFX files are required based on the scenario. For example, for installation on a single domain, there would be one PFX file; and two PFX files for installation on different domains.

CA Bundled certificate from the Enterprise Control Room (with all intermediate certificate information):
Use any tool to create the bundle certificate. You will need the Enterprise Control Room bundle certificate for each of the scenarios.
Follow this example to create a bundle certificate: openssl.exe pkcs12 -in "D:\cert\xyz.com.pfx" -cacerts -nokeys -chain -out "D:\cert\xyz.com-CA.crt".

Public certificates from IQ Bot and the Enterprise Control Room:
Use any tool to create the public certificates.
Follow this example to create public certificates for IQ Bot or Enterprise Control Room: openssl.exe pkcs12 -in "D:\cert\xyz.com.pfx" -clcerts -nokeys -out "D:\cert\xyz.com.crt".
For a single domain, there will be one public certificate for both, IQ Bot, and Enterprise Control Room. Whereas, for different domains we will need two different public certificates.

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

Related tasks

Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS

Upgrading IQ Bot and Control Room from HTTP to HTTPs without unregistering IQ Bot

Related reference

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

ConfiguringIQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTP

Configuring IQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTPS

Configuring IQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTPS

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

1. Set up IQ Bot using the PFX file with HTTPS configuration during installation.
2. Put the bundled certificate 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 bundled certificate to ca.crt.

3. Add the Enterprise Control Room public certificate to the keystore for IQ Bot by running this command as a system administrator:
   ```
   "JRE location" -import -alias cr -keystore "cacerts location of
                          iq bot" -file "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: The system will ask for a keystore password, which is
   ```
   changeit
   ```
   .
4. 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".

5. Next, restart the machine(s).
6. As the final step, register IQ Bot in the Enterprise Control Room. In the Enterprise Control Room, log in as an administrator and go to Administration > Settings > IQ Bot . Click Edit and add the IQ Bot URL and the port number used during installation.
   Note: Ensure this URL has the HTTPS prefix.
7. Click on the Save button.

Related tasks
Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS
Upgrading IQ Bot and Control Room from HTTP to HTTPs without unregistering IQ Bot
Related reference
Configuring IQ Bot with HTTP when Automation Anywhere Enterprise Control Room is configured with HTTPS
ConfiguringIQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTP

ConfiguringIQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTP

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

1. Set up IQ Bot using the PFX file with the HTTPS configuration during installation.
2. Copy the bundled certificate of the Automation Anywhere Enterprise Control Room into the IQ Bot folder after IQ Bot installation: <Installation Dir of IQ Bot>\Portal\keys.

   The filename is ca.crt.

Importing public certificate into Enterprise Control Room

To import the public certificate into Control Room, run the following command in administrator mode from the Installation path, for example, from the <Installation directory of the Control Room>:

For example:

jre\bin\java -jar certmgr.jar -appDir "C:\Program Files\Automation Anywhere\Enterprise" -importTrustCert "C:\Certificate\ca.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\ca.crt".

This is the IQ Bot certificate.

Related tasks
Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS
Upgrading IQ Bot and Control Room from HTTP to HTTPs without unregistering IQ Bot
Related reference
Configuring IQ Bot with HTTP when Automation Anywhere Enterprise Control Room is configured with HTTPS
Configuring IQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTPS

Configuring IQ Bot with HTTP when Automation Anywhere 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. Copy the bundled Control Room certificate into the IQ Bot folder after installing IQ Bot: <Installation Dir of IQ Bot>\Portal\keys.

   The filename must be ca.crt.

2. Add the certificate to the keystore for IQ Bot by running the following command in administrator mode: "JRE location" -import -alias cr -keystore "cacerts location of iq bot" -file "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"

This is a public certificate of the Control Room.

Related tasks
Upgrading IQ Bot and Automation Anywhere Enterprise Control Room from HTTP to HTTPS
Upgrading IQ Bot and Control Room from HTTP to HTTPs without unregistering IQ Bot
Related reference
ConfiguringIQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTP
Configuring IQ Bot with HTTPS when Automation Anywhere Enterprise Control Room is configured with HTTPS

Generating authorization token

Before doing an IQ Bot task, get authorization using an authorization token.

Procedure

1. Pass the user credentials in the body of the POST request using the authentication REST API endpoint.

```
HTTP POST URL: http://localhost:8100/authentication
Request Headers: Content-Type=application/json
POST Payload: {"username": "{{Username}}",
"password": "{{Password}}"}
Response Payload (on success): none
Response Payload (on error): Default Error Response
```

   Success response

```
Status: 200 OK
```

   The status `200 OK` indicates that the authorization token is now successfully generated.

2. In the Postman tool, include the following code in the Body tab and click the raw option:

```
{
"username": "{{Username}}",
"password": "{{Password}}"
}
```



```
{
        "token"
        "user": {
        "email": "a@gm.com",
        "username": "%!@#^*()"
        "domain": null,
        "firstname": "",
        "lastname": "",
        "version": 1,
        "principalid": 10,
        "deleted": false,
        "roles":
        .
        .
        .
}
```

3. Click Send to test your POST request.

Post-installation checklist

Check whether IQ Bot is installed successfully and check whether the IQ Bot services are running using the health check 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 health check

If needed, use the Healthcheck API to do a detailed check on the required service. The request/response details of the Healthcheck API are decribed in the following table.

Requests

The following table lists the API requests sent for doing a health check of different IQ Botservices:

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
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 check 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.
- 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 Trial 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.

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 roles and the associated permissions:

Role	Default IQ Botpermissions	Access to tabs
AAE_IQ Bot Admin	All IQ Bot permissions	• Dashboard • Learning Instances • Bots

Role	Default IQ Botpermissions	Access to tabs
		• Domains • Administration Migration utility can be accessed using this tab.
AAE_IQ Bot Services	All permissions available as per View my learning instances	• 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

Next steps

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

Navigate to https://www.automationanywhere.com Resources > > Product Documentation > Install and configure the product > Configuration > Log on to Enterprise Control Room > > Bot Runners and Bot Creators - overview

- 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).
- Role-Based Access Control to learning instances in IQ Bot
  Role-Based Access Control (RBAC) enables/restricts access to IQ Bot's new learning instances, related features, and functionality based on permissions defined for various roles that are configured through the 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.

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: • Admin • Service • Validator	None	Role-specific view	Can access IQ Bot
Users with both roles: • 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.
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.
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.
Service	Bot Runner	Services	Can access the IQ Bot Portal and Enterprise client. In the Enterprise client, navigate to New >

User	Device license	UI view in IQ Bot Portal	Comments
			Workbench > Command > tab to: • Run a task. • Select a task. 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
Role-Based Access Control to learning instances in IQ Bot

Role-Based Access Control to learning instances in IQ Bot

Role-Based Access Control (RBAC) enables/restricts access to IQ Bot's new learning instances, related features, and functionality based on permissions defined for various roles that are configured through the Control Room.

6.5.2 For IQ Bot Version 6.5.2 the standard role names such as AAE_IQ BotAdmin, AAE_IQ BotServices, and AAE_IQ BotValidator, work as before. However, there are some changes to the permissions for custom roles as follows:

View learning instances:
User can decide to turn on permissions by selecting The View learning instances from the same role and/or View ALL learning instances. However, if the user has to create, train, edit, delete, and send learning instances to production, then user has to select the Create learning instances and Train learning instance groups permissions as well.

View domains:
User can see the Domains tab in IQ Bot, but does not have permission to import or export learning instances.
Note: These permissions work as expected for the standard IQ Bot AAE_IQBOTAdmin role.

View Administration:
User can see the Administration tab in IQ Bot, but does not have permission to import or export learning instances.
Note: These permissions work as expected for the standard IQ Bot AAE_IQBOTAdmin role.

6.5 Although RBAC can apply to creation of new learning instances in IQ Bot Version 6.5, it does not apply to the following:

- Keeping 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 and populate the projected (learning instance ID) column and role column in the SQL database table: [FileManager].[dbo].[LearningInstanceRoles].

Note: The database table is automatically created empty during the IQ Bot Version 6.5 installation.
A user has the option of three views:

Validator:
Learning instances (validation only)
Services:
Dashboard, learning instances, and bots
Admin:
Dashboard, learning instances, domains, bots, and administration

Filter the learning instances based on the permissions that are configured for a custom role the user is assigned to.

- A custom role with view-all learning instances permissions allows access to all learning instances with a Services view.
- A custom role with view learning instances from the same role permissions allows access to learning instances created by users assigned to the same role.
- To have access to the Validator view with restricted access to learning instances, the user must be assigned to multiple roles. For example, a system-defined Validator role, and a custom role with permissions to view learning instances from the same role.

The following matrix explains various combinations of the system-defined and custom roles. These roles have specific permissions assigned to them that let the user access various views and learning instances:

Table 1. RBAC matrix

	System-defined role			Custom role				
User	AAE_IQBotServices	AAE_IQBotValidator	AAE_IQBotAdmin	View IQ Bot only	View IQ Bot + View LI + View All LIs	View IQ Bot +View LI +View LIs from the same role	IQ Bot Portal	Learning Instances list
User 1	X						Services view	All LI
User 2		X					Validator view	All LI

	System-defined role			Custom role				
User	AAE_IQBotServices	AAE_IQBotValidator	AAE_IQBotAdmin	View IQ Bot only	View IQ Bot + View LI + View All LIs	View IQ Bot +View LI +View LIs from the same role	IQ Bot Portal	Learning Instances list
User 3			X				Admin view	All LI
User 4				X				None
User 5						X	Services view	My Role LI
User 6	X				X		Services view	All LI
User 7	X					X	Services view	All LI
User 8		X			X		Validator view	All LI
User 9		X				X	Validator view	My Role LI
User 10			X		X		Admin view	All LI
User 11			X			X	Admin view	All LI
User 12		X			X		Services view	All LI

	System-defined role			Custom role				
User	AAE_IQBotServices	AAE_IQBotValidator	AAE_IQBotAdmin	View IQ Bot only	View IQ Bot + View LI + View All LIs	View IQ Bot +View LI +View LIs from the same role	IQ Bot Portal	Learning Instances list
User 13	X	X				X	Services view	All LI
User 14		X	X		X		Admin view	All LI
User 15		X	X			X	Admin view	All LI
User 16	X		X		X		Admin view	All LI
User 17	X		X			X	Admin view	All LI
User 18	X	X	X		X		Admin view	All LI
User 19	X	X	X			X	Admin view	All LI
User 20	X				X	X	Services view	All LI
User 21		X			X	X	Validator view	All LI

	System-defined role			Custom role				
User	AAE_IQBotServices	AAE_IQBotValidator	AAE_IQBotAdmin	View IQ Bot only	View IQ Bot + View LI + View All LIs	View IQ Bot +View LI +View LIs from the same role	IQ Bot Portal	Learning Instances list
User 22			X		X	X	Admin view	All LI
User 23	X	X			X	X	Services view	All LI
User 24		X	X		X	X	Admin view	All LI
User 25	X		X		X	X	Admin view	All LI
User 26	X	X	X		X	X	Admin view	All LI

Note:

- 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:
  - A system-defined admin
  - A system-defined service role
  - A custom role with permissions to view all learning instances
- Using the Admin system-defined 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.

See https://www.automationanywhere.com/products/enterprise Resources > Product Documentation and search for the Roles Overview topic.

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`	Failure 1: `localhost refused to connect` Failure 2: `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`	Failure:	Reason for failure: • The RabbitMQ node/service is down.

Service name	Healthcheck response	Reason for failure
`http://<hostname>:<9999>/healthcheck`	`localhost refused to connect`	
`Validator` `http://<hostname>:<9995>/healthcheck`	Failure: `localhost refused to connect`	Reason for failure: • The RabbitMQ node/service is down.
`VisionBotManager` `http://<hostname>:<9998>/healthcheck`	Failure: `localhost refused to connect`	Reason for failure: • The RabbitMQ node/service is down.
`Gateway-2 service` `http://<hostname>:8100/healthcheck`	Application: gateway-2 Failure 1: `localhost refused to connect` Failure 2: `localhost refused to connect`	Reason for failure 1: Port is blocked and the Gateway-2 service is running. Reason for failure 2: The Gateway-2 service is not running.

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.
2. Go to %installation_dir%\Portal\keys and make a backup of the cert.crt, key.key and ca.cert 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.cert file from the Control Room certifcate (.pfx) file only if the Control Room certificate also expires.

```
openssl pkcs12 -in <filename.pfx> -cacerts -nokeys -chain -out <cacert
s.cer>
```

4. Copy or replace the cert.crt, key.key, and ca.cert on location %installation_dir%\Portal\keys.
5. Go to %installation_dir%\Configurations and as an administrator, run installandstartervices.bat.

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.

- Uninstalling IQ Bot using installer
  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 higher version to upgrade. Uninstall and install a lower version of IQ Bot to downgrade.

Uninstalling IQ Bot using installer

Uninstall IQ Bot and its dependencies.

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 of IQ Bot begins.

   Note: During the uninstallation process, the following listed setup information might appear. Click OK to continue. If you click on Cancel, the uninstallation is aborted.
5. After the backup files are removed, when the Finished page appears,click Finish to complete the uninstallation.

Note: Uninstalling IQ Bot does not result in deletion of the IQ Bot database. You must manually uninstall the following dependencies from the Microsoft Windows Control panel:

- Erlang v19.2
- RabbitMQ v3.6.6
- NodeJS v6.10.2
- SQL Server Native Client v11.0

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 theAutomation 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 higher version to upgrade. Uninstall and install a lower version of IQ Bot to downgrade.

Note: 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.
To upgrade IQ Bot, perform the following procedure.

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 uninstallation process.
4. Copy a higher 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 file, and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.json to enter the configuration values while you are installing a higher version of the product.
- Backing up database helps you to restore it in case if any issue occurs in future or to downgrade to a desired IQ Bot version.

To downgrade IQ Bot, perform the following procedure.

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 higher version of IQ Bot. For example, IQ Bot 6.0.
3. Take a backup of the current databases. For example, databases of IQ Bot 6.0.
4. Remove the backup of the current databases. For example, databases of IQ Bot 6.0.
5. Restore the database backup of the lower version of IQ Bot. For example, IQ Bot 5.3.
6. Install the lower version of IQ Bot. For example, IQ Bot 5.3.

- Refer to the settings from the Settings.txt and both or either of the .json files ImageProcessingConfig.json or AbbyyImagePreProcessingSettings.jsonto enter the configuration values while you are installing a lower 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 using installer
Installing IQ Bot in Express mode
Databases created during IQ Bot installation
Related reference

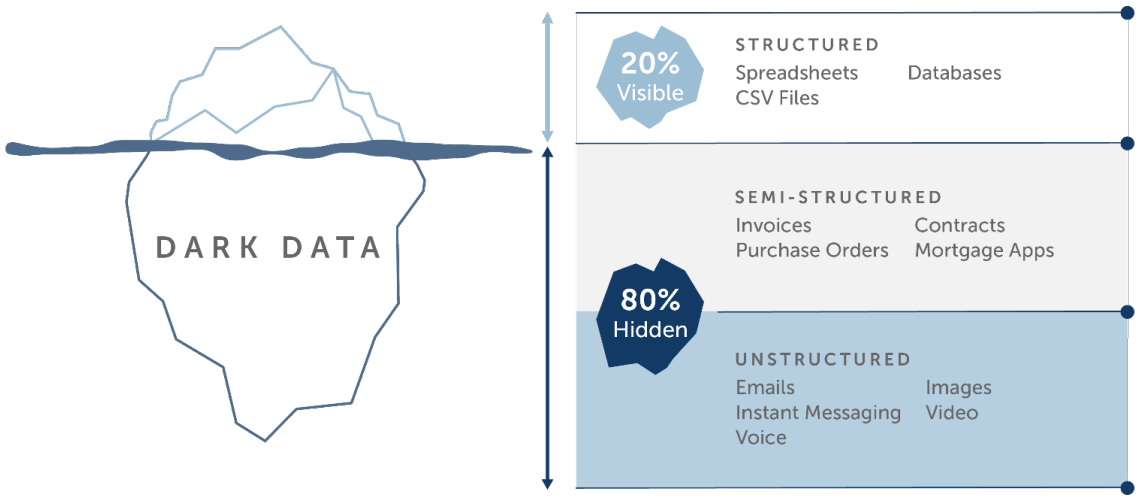
IQ Bot installation prerequisites

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 botand 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 and/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.
- Edit a learning instance
  Edit a learning instance to change the description, add additional training documents, or include additional fields for extraction.
- 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 languages
  Access 190 languages from IQ Bot.
- 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.
- Use MetaBot to access filename and group ID
  The IQ Bot administrator requires access to filename data to provide a list of filenames and their document groups to business users for tracking purposes. Users prefer tracking the different filenames assigned to the various document groups.
- 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.
- Add scripts in Designer to improve automatic extraction/validation in production
  Enter logic in the IQ Bot Designer to improve text extraction and validation, and reduce the number of documents entering the Validator and/or that require RPA post processing.
- Audit log overview
  Across the platform, event details along with the outcome are automatically captured for more than 60 types of entity actions, including creation, modification, enablement, disablement, and removal of users, bots, Bot Creators, and Bot Runners. Comprehensive and continous audit logging capabilities in the Enterprise Control Room ensures enterprise-level security and quality compliance.

Related concepts
Dashboard
Learning Instances
Bots
Related tasks
Getting started with IQ Bot

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.

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.

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.

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.

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 tab. 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.

Related concepts
Staging environment
Production environment
Use Migration Utility to export/import learning instances
Related tasks
Create a learning instance

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.

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 additionto 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.

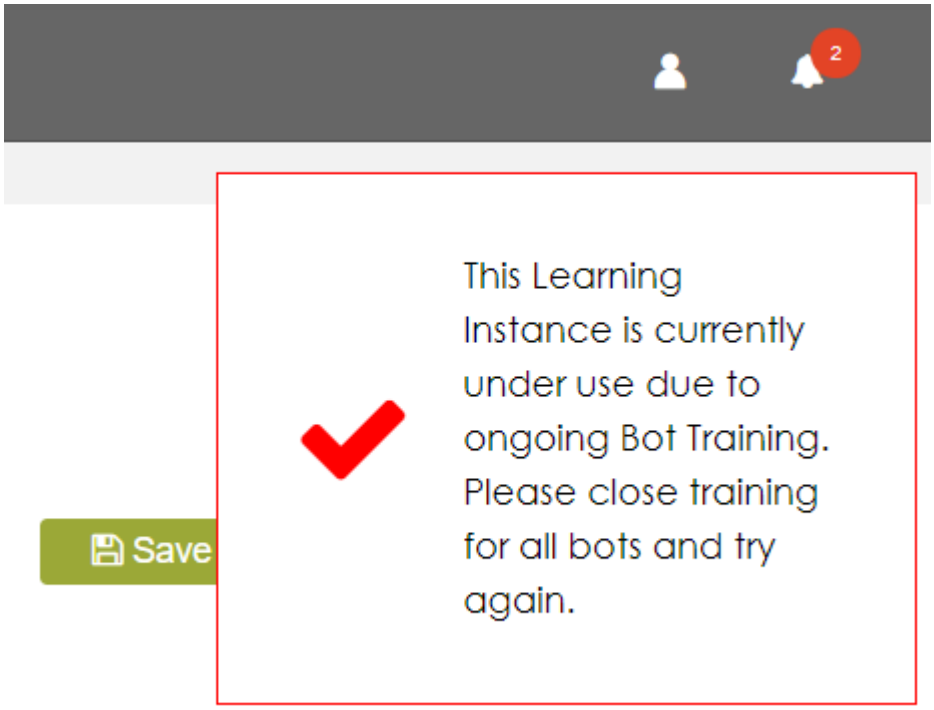
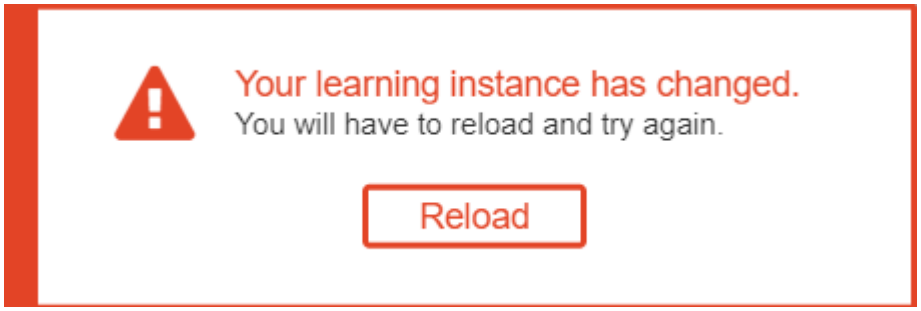
Next steps

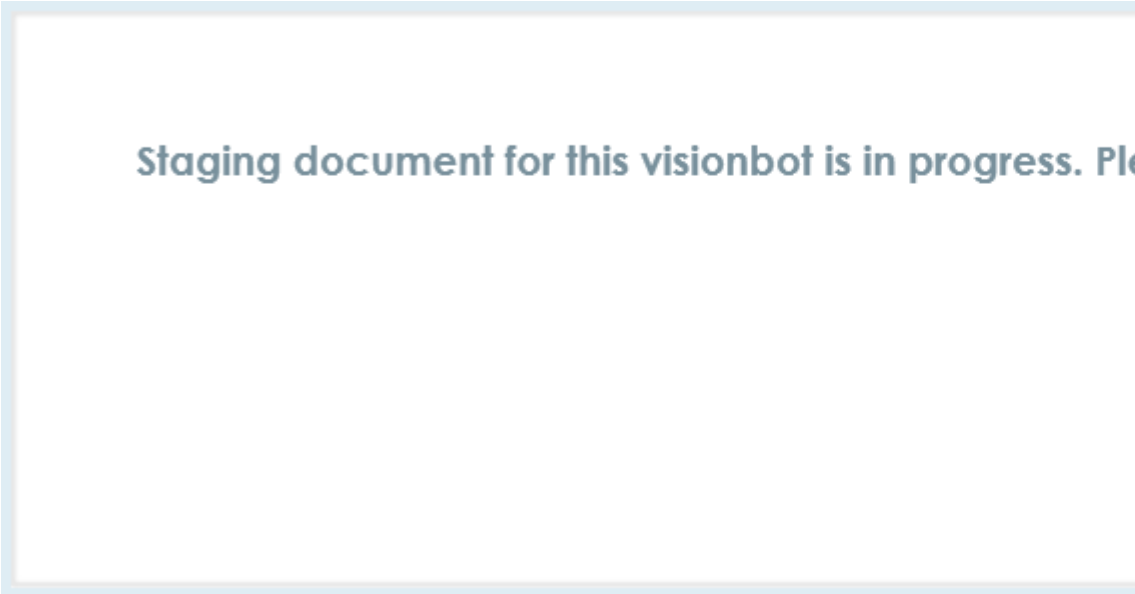
After you successfully edit a learning instance to add additional fields for extraction, these fields become available in all the bots as optional fields in that learning instance. The bots must be retrained for these fields to successfully extract these fields.

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.

Case	Details	Message
Bot in training	Learning instance is in use because of ongoing bot training and you edit the same instance A) User 2 is editing the same learning instance	
Case 1: Simultaneous editing of same learning instance	Example for case 1: User 1 uploads a document to the same learning instance. User 2 adds a field when editing the same learning instance.	

Case	Details	Message
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.	

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 DetailsIcon 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 and/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 lets you do tasks, for example, 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/or also check 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.
- 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. 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. This feature helps train the bots.
- Multi line segmentation for data extraction
  In Designer, resize/draw a region consisting of a group of system identified regions (SIRs). The resized/draw boxes extract data only from the enclosed SIRs. Additionally, you can also extract text from an entire region by selecting it.
- 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.
- 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 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/or field values, selecting the X delete symbol next to the mapped label/value.
- Designer validation patterns
  IQ Bot Designer allows you to validate a field and/or table column against a set of predefined parameters so that you can be warned if any mismatch is found during data digitization process.
- Common fields across multiple document groups
  Create a learning instance with a single document group.
- 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.

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
Related reference
Map a document group
Next group

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 wish to extract from the document(s) in the Designer.

When you click on 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).

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 tool tip 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.

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 and/or table column while mapping the document class helps validate a field and/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%.

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. 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. 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.

Multi line segmentation for data extraction

In Designer, resize/draw a region consisting of a group of system identified regions (SIRs). The resized/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 the Preview (See extraction results views. The blue text segment boxes that enclose and/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.

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.

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.

- 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 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 tool tip 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 single check boxes, appearing just once in a document, as a standard form field during create/edit of 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 once 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.

Delete mapping in the Designer

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

Designer validation patterns

IQ Bot Designer allows you to validate a field and/or 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

You can validate a field or table column against the following predefined parameters of validation options:

- Start With / End With
- Pattern
- Lists
- Formulas

Tip: You can set validations while defining the design of any field and or table column during training.

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.

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 and/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.

Specify any regular expression in the Text data type. The following table lists some of the common examples:

Field	Pattern	Notes	Description
Email	`^([a-z0-9_\.-]+)@([\da-z\.-]+)\.([a-z\.]{2,6})$`	This regular expression validates emails like john@ado.com.	The Email field supports regular expressions.
Phone Number	`^(\(?\+?[0-9]*\)?)?[0-9_\- \(\)]*$`	This regular expression validates phone numbers like (+64) 38 3235393.	The Phone Number field supports regular expressions.
Website	`^([a-zA-Z0-9]+(\.[a-zA-Z0-9]+).*)$`	This regular expression validates websites like www.domain.com.	The Website field supports regular expressions.

Field	Pattern	Notes	Description
Number string	`^[0-9]{1,45}$`	This regular expression validates a string with numbers 0 - 9 and limit length to 45.	The Number string field supports regular expressions.
Alpha-numeric	`^[A-Za-z0-9_@./#&+-]*$`	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	• d-m-yy • dd-mm-yy • mm-dd-yy • dd-mm-yyyy • mm-dd-yyyy • dd-mmm-yyyy • mmmm dd, yyyy	Supported date separators include /(forward slash), –(dash), space, .(dot), and ,(comma). Here, • 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

Date	Pattern
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
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	`^[0-9]{1,45}$`	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: • 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€	

Field	Pattern	Notes	Description
	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 15 10-2015	dd mmm yyyy dd-mm-yyyy	12 FEB 2015 15-10-2015	In the first example, IQ Bot auto corrects incorrect OCR "F3B" to "FEB". In the second example, IQ Bot auto corrects "15 10-2015" to"15-10-2015".
NUMBER	123 4567 12.34,S67.12	9999999 99,99,999.00	1234567 1234567.12	In the first example, the extra space between "3" and "4" is deleted after validation against the pattern. 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 and/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 and/or comparative validations, in the design view, specify a formula as part of validation options for a selected field and/or table column.

Prerequisites

You can only specify formula validation when format of field and/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
-	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	[Current Field/Column Name] == [expression comprised of one or more field/column name and/or fixed numeric values] For example, AMOUNT == MUL(QUANTITY, UNIT_PRICE)
>=	Greater than or Equal To	[Current Field/Column Name] >= [expression comprised of one or more field/column name and/or fixed numeric values] For example, TOTAL_BILL_AMOUNT >= AMOUNT_PAID
<=	Less than or Equal To	[Current Field/Column Name] <= [expression comprised of one or more field/column name and/or fixed numeric values] For example, AMOUNT_PAID <= TOTAL_BILL_AMOUNT
>	Greater Than	[Current Field/Column Name] > [expression comprised of one or more field/column name and/or fixed numeric values] For example, BILL_AMOUNT > 0
<	Less Than	[Current Field/Column Name] > [expression comprised of one or more field/column name and/or fixed numeric values]

Operations	Description	Syntax
		For example, DISCOUNT_PERCENTAGE < 100
!=	Not Equal To	[Current Field/Column Name] != [expression comprised of one or more field/column name and/or fixed numeric values] For example, DEBIT_AMOUNT != 0

Table 3. Logical Operators

Operations	Description	Syntax
&&	And: Field/Column is valid if all conditions are true	<Current Field/Column Name> <operator 1> <expression 1> && <Current Field/Column Name> <operator 2> <expression 2> For example, DISCOUNT_PERCENTAGE >= 0 && DISCOUNT_PERCENTAGE <=100
||	Or: Field/Column is valid if any one of the given conditions is true	<Current Field/Column Name> <operator 1> <expression 1> || <Current Field/Column Name> <operator 2> <expression 2> For example, DISCOUNT_PERCENTAGE >= 0 || DISCOUNT_PERCENTAGE == 'Net'
!	Not: Converts a true expression to false and also the other way round	!<expression> For example, !(AGE < 18) ==> valid when AGE is not less than 18

Table 4. Functional Operators

Operations	Description	Syntax
SUM	Summation: gives result of addition of one or more field/ column/fixed-number values	SUM(n1,n2,....,nN) For example, SUM(SUB_TOTAL, SERVICE_TAX, EDUCATION_CESS) ==> equivalent to SUB_TOTAL plus SERVICE_TAX plus EDUCATION_CESS

Operations	Description	Syntax
SUB	Subtraction: gives result of subtraction of one or more field/column/fixed-number values from the first specified value	SUB(n1,n2,....,nN) For example, SUB(SUB_TOTAL, TOTAL_DISCOUNT, ADJUSTMENTS) ==> equivalent to SUB_TOTAL minus TOTAL_DISCOUNT minus ADJUSTMENTS
MUL	Multiplication: gives result of multiplication of one or more field/column/fixed-number values	MUL(n1,n2,....,nN) For example, MUL(QTY_IN_BOX, UNIT_PRICE, SHIPPED_BOXES) ==> equivalent to QTY_IN_BOX multiply-with UNIT_PRICE multiply-with SHIPPED_BOXES
DIV	Division: gives result of division of one or more field/ column/fixed-number values from the first specified value	DIV(n1,n2,....,nN) For example, DIV(AMOUNT, SHIPPED_BOXES, UNIT_PRICE) ==> equivalent to AMOUNT divide-by SHIPPED_BOXES divide-by UNIT_PRICE
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	COLSUM("<table-name>", "<expression to evaluate for each row of specified table-name>") For example, FINAL_TOTAL == COLSUM("LINE_ITEMS", "MUL(QTY, UNIT_PRICE)") 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) 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.

Tip: We recommended using functional operators instead of mathematical operators when validating fields and tables for better accuracy.

Next steps

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 as an invalid formula.
- For variable declaration or manipulation, ensure not to use certain keywords that are reserved for formulating an expression. For example, SUM, SUB, DIV, MUL, COLSUM, IF.

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.

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.

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.

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 lets you do tasks, for example, 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 iappears in the details area.

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

- 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 on 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.
- 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.
- 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.
- 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.
- Read a successfully digitized document using TaskBot
  Use a TaskBot to read a processed document from a CSV file.

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.
   - c) The Output Path area is populated with the name of the learning instance files and path.

   d) 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.
   e) 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

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.
Related concepts
Validator window
Validate document with errors
Mark document as invalid
Edit file name and contents of IQ Bot archive file
Related tasks
User roles and permissions

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.

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 doesl 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.

Use Artificial Intelligence 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 autocorrects the erroneous field value.

If additional documents are uploaded in Production, IQ Bot autocorrects 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 Artificial Intelligence (AI) learning model.
Note: The Validation queue autocorrection 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 autocorrects the field value in real-time with your suggested value (when you click into the cell).
5. For uploaded documents, if all failed fields are autocorrected, the document skips the Validator, and instead, exports directly to CSV, counting as Dashboard STP.

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

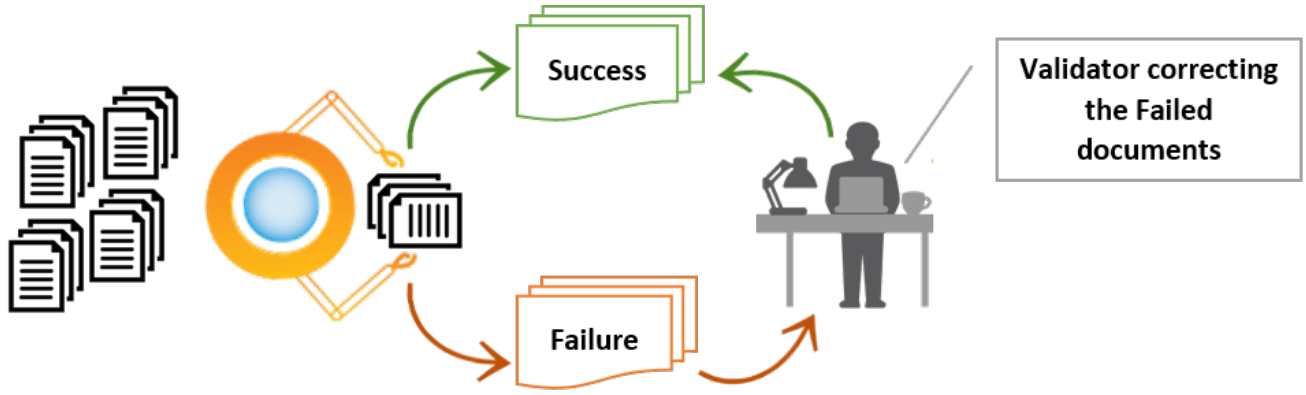
Note: To view and access the documents marked as invalid, go to the Invalid > Output folder located in your server.

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 impor 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 showss 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.

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 MicrosoftWindows 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

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).

Read a successfully digitized document using TaskBot

Use a TaskBot to read a processed document from a CSV file.

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.

Example:

Procedure

1. On the Automation Anywhere Enterprise Client Editor UI, drag and drop 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.

`$Filedata Column(1)$` 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.

Next steps

After upgrading from a previous version of IQ Botto 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.

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.

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 to complete.When done, 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.

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 pevious 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:

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 :

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.
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: Warning: This option might create new groups unexpectedly. Use the other options instead.	The following is expected behavior from previous releases. All groups, trainings (bots) and learnings of an existing learning instance are replaced without impacting the processing (dashboard data) done by that learning instance. This is also the only option to update an existing learning instance that was edited to include additional fields or table columns.

Import option	When to use
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.
Attention: If you try to import an incompatible learning instance IQBA file, the system shows an error message. For example, when importing a learning instance from IQ Bot Version 5.2 to IQ Bot Version 6.0.
Important: Export an IQBA file from an IQ Bot platform version that is compatible with the platform where this IQBA file will be imported. If you export an IQBA file from IQ Bot Version 6.0, then you can import the IQBA file to only the same version.

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	

System before file import (Production)	Import file (Staging)	System after file import (Production)			
	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
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.

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 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 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.

Table Note 1:

For these OCR engines, IQ Bot uses its text segmentation + OCR.

Table Note 2:

For Microsoft Azure API, user can select any language from IQ Bot's drop down, but the API aims to auto-detect the language during processing, and override the user selection.

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
English	X	X	X	X
Abkhaz	X			
Adyghe	X			
Afrikaans	X		X	X
Agul	X			
Albanian	X			
Altaic	X			
Armenian (Eastern)	X			
Armenian (Grabar)	X			
Armenian (Western)	X			
Avar	X			
Aymara	X			
Bashkir	X			
Basque	X			
Belarussian	X			
Bemba	X			
Blackfoot	X			
Breton	X			
Bugotu	X			

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Bulgarian	X		X	X
Burmese (technical preview)	X			
Buryat	X			
Catalan	X		X	X
Chamorro	X			
Chechen	X			
Chinese (Simplified)	X	X	X	X
Chinese (Traditional)	X	X	X	X
Chukcha	X			
Chuvash	X			
Corsican	X			
Crimean Tatar	X			
Croatian	X			
Crow	X			
Czech	X	X	X	X
Danish	X	X	X	X
Dargwa	X			
Dungan	X			
Dutch		X		
Dutch (Netherlands)	X	X		
Dutch (Belgium) or Flemish	X	X	X	X
Eskimo (Cyrillic)	X			
Eskimo (Latin)	X			
Esperanto	X			
Estonian	X			
Even	X			
Evenki	X			
Faeroese	X			
Fijian	X			

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Finnish	X	X		
French	X	X	X	X
Frisian	X			
Friulian	X			
Scottish Gaelic	X			
Gagauz	X			
Galician	X			
Ganda	X			
German	X	X	X	X
German (new spelling)	X			
German (Luxembourg)	X			
Greek	X	X	X	X
Guarani	X			
Hani	X			
Hausa	X			
Hawaiian	X			
Hungarian	X	X	X	X
Icelandic	X			
Ido	X			
Indonesian	X		X	X
Interlingua	X			
Irish	X			
Italian	X	X	X	X
Japanese	X	X	X	X
Kabardian	X			
Kalmyk	X			
Karachay-Balkar	X			
Karakalpak	X			
Kasub	X			

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Kawa	X			
Kazakh	X			
Khakas	X			
Khanty	X			
Kikuyu	X			
Kirghiz	X			
Kongo	X			
Korean	X	X	X	X
Korean (Hangul)	X			
Koryak	X			
Kpelle	X			
Kumyk	X			
Lak	X			
Sami (Lappish)	X			
Latin	X		X	X
Latvian	X			
Latvian language written in Gothic script	X			
Lezgin	X			
Lithuanian	X			
Luba	X			
Macedonian	X			
Malagasy	X			
Malay	X		X	X
Malinke	X			
Maltese	X			
Mansi	X			
Maori	X			
Mari	X			
Maya	X			

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Miao	X			
Minangkabau	X			
Russian and English	X			
Mohawk	X			
Mongol	X			
Mordvin	X			
Nahuatl	X			
Nenets	X			
Nivkh	X			
Nogay	X			
NorwegianNynorsk and NorwegianBokmal	X			
Norwegian	See below	X	X	X
Norwegian (Bokmal)	X			
Norwegian (Nynorsk)	X			
Nyanja	X			
Occidental	X			
Ojibway	X			
Old English	X			
Old French	X			
Old German	X			
Old Italian	X			
Old Slavonic	X			
Old Spanish	X			
Ossetian	X			
Papiamento	X			
Tok Pisin	X			
Polish	X	X	X	X
Portuguese	See below	X	X	X
Portuguese (Brazil)	X			

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Portuguese (Portugal)	X			
Provencal	X			
Quechua	X			
Rhaeto-Romanic	X			
Romanian	X	X	X	X
Romanian (Moldavia)	X			
Romany	X			
Ruanda	X			
Rundi	X			
Russian (old spelling)	X			
Russian	X	X	X	X
Russian (with accents marking stress position)	X			
Samoan	X			
Selkup	X			
Serbian	See below		X	X
Serbian (Cyrillic)	X	X		
Serbian (Latin)	X	X		
Shona	X			
Sioux (Dakota)	X			
Slovak	X	X	X	X
Slovenian	X			
Somali	X			
Sorbian	X			
Sotho	X			
Spanish	X	X	X	X
Sunda	X			
Swahili	X			
Swazi	X			
Swedish	X	X	X	X

OCR language	ABBYY FineReader engine FineReader Engine FRE 12.2[1]	Microsoft Azure Computer Vision OCR engine[1,2]	Tesseract4	In IQ Bot UI other domain by default
Tabassaran	X			
Tagalog	X			
Tahitian	X			
Tajik	X			
Tatar	X			
Thai	X			
Jingpo	X			
Tongan	X			
Tswana	X			
Tun	X			
Turkish	X	X	X	X
Turkmen	X			
Turkmen (Latin)	X			
Tuvan	X			
Udmurt	X			
Uighur (Cyrillic)	X			
Uighur (Latin)	X			
Ukrainian	X			
Uzbek (Cyrillic)	X			
Uzbek (Latin)	X			
Vietnamese	X			
Cebuano	X			
Welsh	X			
Wolof	X			
Xhosa	X			
Yakut	X			
Yiddish	X			
Zapotec	X			
Zulu	X			

Create a custom domain

When creating a learning instance, you have the option to create a custom domain.

Prerequisites

Before creating a domain, generate an authorization token. An authorization token is required to do a task on IQ Bot. See Generating authorization token for details.

Procedure

1. Create the Domain JSON structure that you needs 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-authoriz
ation=authentication token
POST Payload: Domain Metadata JSON Structure
Response Payload (on success): none.
Response Payload (on error):  Default Error Response.
```

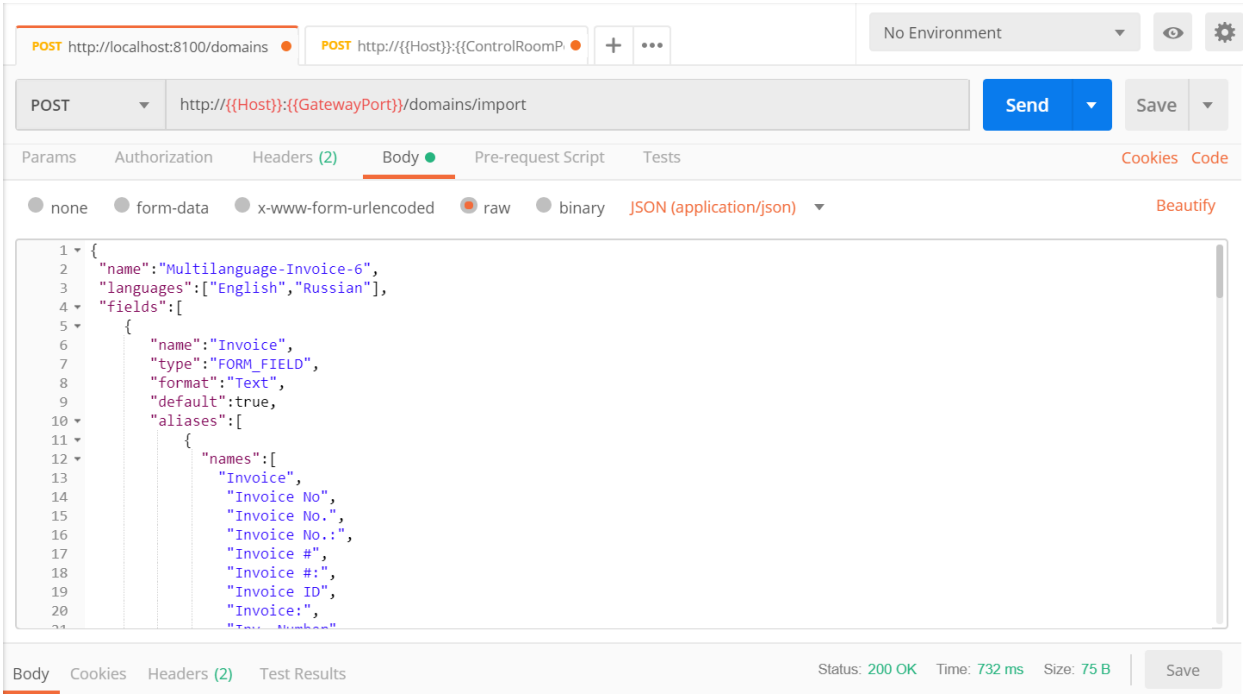
Response HTTP Status Codes

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.

4. 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.

Next steps

Related tasks
Generating authorization token

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.datalob
- 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 explatory 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.

Use MetaBot to access filename and group ID

The IQ Bot administrator requires access to filename data to provide a list of filenames and their document groups to business users for tracking purposes. Users prefer tracking the different filenames assigned to the various document groups.

Ensure you are using IQ Bot Version 6.5 and above.

Because the IQ Bot database is encrypted, it is not possible to see the filename or the group ID. A workaround is provided to help decrypt the filename and FileDetails columns in the database to view the document names assigned to the document groups by their ID. Use the MetaBot to decrypt and expose the following information from the database. The MetaBot is built on top of the API, which combines SQL and REST-based calls. Using the MetaBot exposes the following methods:

- Generate Authentication Token (returns a valid authentication token to use in all other calls)
- Get Learning Instance ID From Name (returns the internal ID of a learning instance)
- Get Learning Instance Statistics (returns the statistics of a learning instance based on its internal ID)
- Get Validation Queue Count (returns the current number of files in the validation queue of a learning instance)
- Get List of Files in Learning Instance (returns the list of files associated or processed in a learning instance)

To start using the MetaBot, download the mbot file from the Delivery folder, and add it to your AAE Metabot folder.

Note: All responses are in JSON or CSV format, depending on the value of the variable vInputJsonResponse (true or false).

Example of utilities MetaBot

This is an example of various functions and logic used to define a utilities MetaBot.

Note: This is for Enterprise Control Room Version 11.x and above, and IQ Bot Version 6.5 and above.

Table 1. MetaBot Functions/Logic

Function	Inputs	Outputs	Comments
Generate authentication token (returns an authentication token required for all other calls)	• String – vInputCRUrl • String - vInputCRPort • String – vInputCRLogin • String – vInputCRPassword • String - vInputJsonResponse	String – vOutputString*	For example, • vInputCRUrl: "http://localhost" • vInputCRPort: 81 • vInputCRLogin: iqbotuser • vInputCRPassword: myPassword • vInputJsonResponse: false
Get learning instance ID from name (returns the unique ID of a learning instance from its name)	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String vInputLearningInstanceName	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to

Function	Inputs	Outputs	Comments
			false will generate a CSV response.
Get learning instance statistics (returns accuracy, files processed, and so on)	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.
Get validation queue count (returns the number of files in validation queue)	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.
Get list of files in learning instance (returns the file list from a learning instance)	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.
Get field accuracy statistics for learning instance	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.

Function	Inputs	Outputs	Comments
Get field classification statistics for learning instance	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.
Get group definition	• String – vInputCRUrl • String - vInputCRPort • String – vInputAuthToken • String – vInputJsonResponse • String - vInputLearningInstanceID • Int – vInputGroupNumber • String – vInputShowAllFields (true or false)	String – vOutputString*	• vInputAuthToken: uses the token generated by "Generate Authentication Token" call. • vInputJsonResponse: set to true will generate a JSON response. Set to false will generate a CSV response.

*vOutputString is either CSV or JSON depending on vInputJsonResponse (true or false).

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

Related reference
Known Limitations

Add scripts in Designer to improve automatic extraction/ validation in production

Enter logic in the IQ Bot Designer to improve text extraction and validation, and reduce the number of documents entering the Validator and/or that require 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.
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.

Procedure

Navigate to the Configurations folder. For example: C:\Program Files (x86)\Automation Anywhere IQ Bot 6.5.2\Configurations. Then paste and/or open the features.json file, and change the values of the following, to true:

```
"fieldLogic": true,
"tableLogic": true,
"logicEditor:fullscreen": true
```

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.

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 modifyIQ 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 da
te 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"] != "")]
```



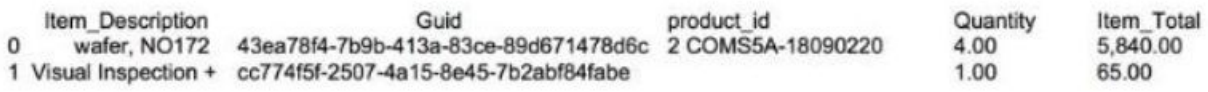
```
# Quantity: extract first part of the string, the numeric part only
df['Quantity'] = df['Quantity'].str.split(' ', 1).str[0].str.strip()

# 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.

	Item_Description	Guid	product_id	Quantity	Item_Total
0	wafer, NO172	43ea78f4-7b9b-413a-83ce-89d671478d6c	2 COMS5A-18090220	4.00 PCS	5,840.00
1	Visual Inspection +	cc774f5f-2507-4a15-8e45-7b2abf84fabe		1.00 EA	65.00
2		6bddfed1-2359-4305-a0ac-a1769c113bfb	5% VAT : Total - 4.00PCS GR: 5,905.00		
3		2dc642a7-8e6e-4bc6-9672-85afff8c21db	Total - KGD: 0.00		



	Item_Description	Guid	product_id	Quantity	Item_Total
0	wafer, NO172	43ea78f4-7b9b-413a-83ce-89d671478d6c	2 COMS5A-18090220	4.00	5,840.00
1	Visual Inspection +	cc774f5f-2507-4a15-8e45-7b2abf84fabe		1.00	65.00

6. If you select See extraction results or save the bot, your script is saved.

Use cases

These are some use cases the Designer script feature supports.

For examples of user scripts and more use cases, contact your Sales Engineering or Services representative.

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
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.

Audit log overview

Across the platform, event details along with the outcome are automatically captured for more than 60 types of entity actions, including creation, modification, enablement, disablement, and removal of users, bots, Bot Creators, and Bot Runners. Comprehensive and continous audit logging capabilities in the Enterprise Control Room ensures enterprise-level security and quality compliance.

As an Enterprise Control Room administrator or a user with Audit Log privileges, view logs and details of both successful and unsuccessful activities in the Audit log page.

Audit log actions

In the Audit log page you can do the following:

- Time filter - view activities for specific time period. Default time filter setting is Last 24 hours. Select from preset time filters or configure a custom time filter.
- Search - Search the entries of the table. To search the exact phrase, enclose the search phrase within double quotes. Combine Time and Search filters to refine your search. For example, you can filter the audit log to search for Status = Successful for Last 7 days.
- Export data - export checked items to a CSV file based on month, filters, or selection
- View - view details of a table entry, mouse over the entry to expand and click Audit details. Refresh the contents to view the updated status.
- Customize columns to show or hide specific columns.

How to work efficiently with audit log entries

You can perform the following actions on a column of the Audit log table to help you work efficiently:

- Click a column to sort it in ascending and descending order. Sort up to three columns by holding the Shift key when you click two more columns. This gives you the option of sorting two additional columns. This way the sorting is done on the entire table and not just on the data that is currently visible to you. The last sorting is stored in memory applied by a user per session.
- Use a drag-and-drop operation to move the column left or right.

- Move your mouse cursor at the end of the column and drag to resize.

- View details of selected audit log using which is seen after you move your mouse over the Actions icon .
- Specify search parameters for the same column for the Enterprise Control Room to search using OR operator. Specify search parameters for different columns, for using the AND operator.

  Note: When you use special keys "-" or "_", the system lists all Item Names, Source Devices, and Request ID instead of these columns having these parameters.

- View audit details
  The Enterprise Control Room admin or a user with Audit Log privileges can track the activity details from the Audit Log page.
- Audit logs for run bot deployment and bot runner session
  As a Control Room administrator or a user with "View everyone's audit log actions" privileges, you can view audit entries for Run Bot Deployment and Bot Runner Sessions in the Audit log page of the Enterprise Control Room.
- 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.

Related tasks
View audit details

View audit details

The Enterprise Control Room admin or a user with Audit Log privileges can track the activity details from the Audit Log page.

Procedure

1. Click Audit Log.
2. (Optional) Use the Time Filter drop-down to change the interval time for the activity log.

   The Time Filter is set to 24 hours by default.

3. (Optional) Use the All columns drop-down and the Search field to find a specific action item.

   The Actions table lists the various available 'Action' items.

4. To view the details of any 'Action', click the > icon.

   Action Details page is displayed with the following details:

   - Status

     Shows if the selected action was succeded or failed.

   - Action taken by

     The user name who performed the action.

- Object type

  Type of object for the selected action.

- Source device

  The IP address of the source device.

- Request ID

  Details of the Request ID.

- Item name

  Name of the item (if available).

- Time

  The time stamp of the user login.

- Action type

  Details of the type of action performed.

- Source

  Name of the source.

  Note: Only those fields where updates are available can be viewed. Also, the information that is stored in the Credential Vault is displayed (encrypted).

Note: It is not recommended to restart only the Automation Anywhere Elastic Search Service as it results in an error on the Enterprise Control Room Audit log page.

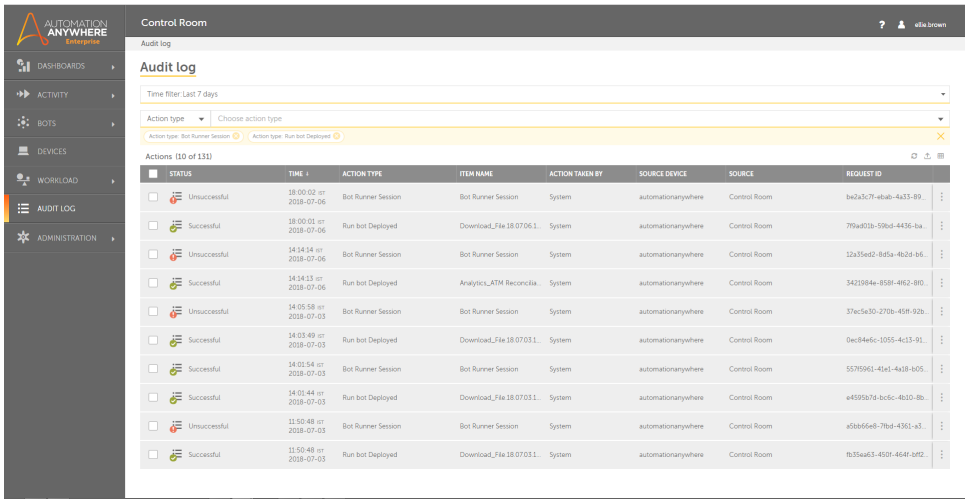
Related concepts
Credentials - Overview

Audit logs for run bot deployment and bot runner session

As a Control Room administrator or a user with "View everyone's audit log actions" privileges, you can view audit entries for Run Bot Deployment and Bot Runner Sessions in the Audit log page of the Enterprise Control Room.

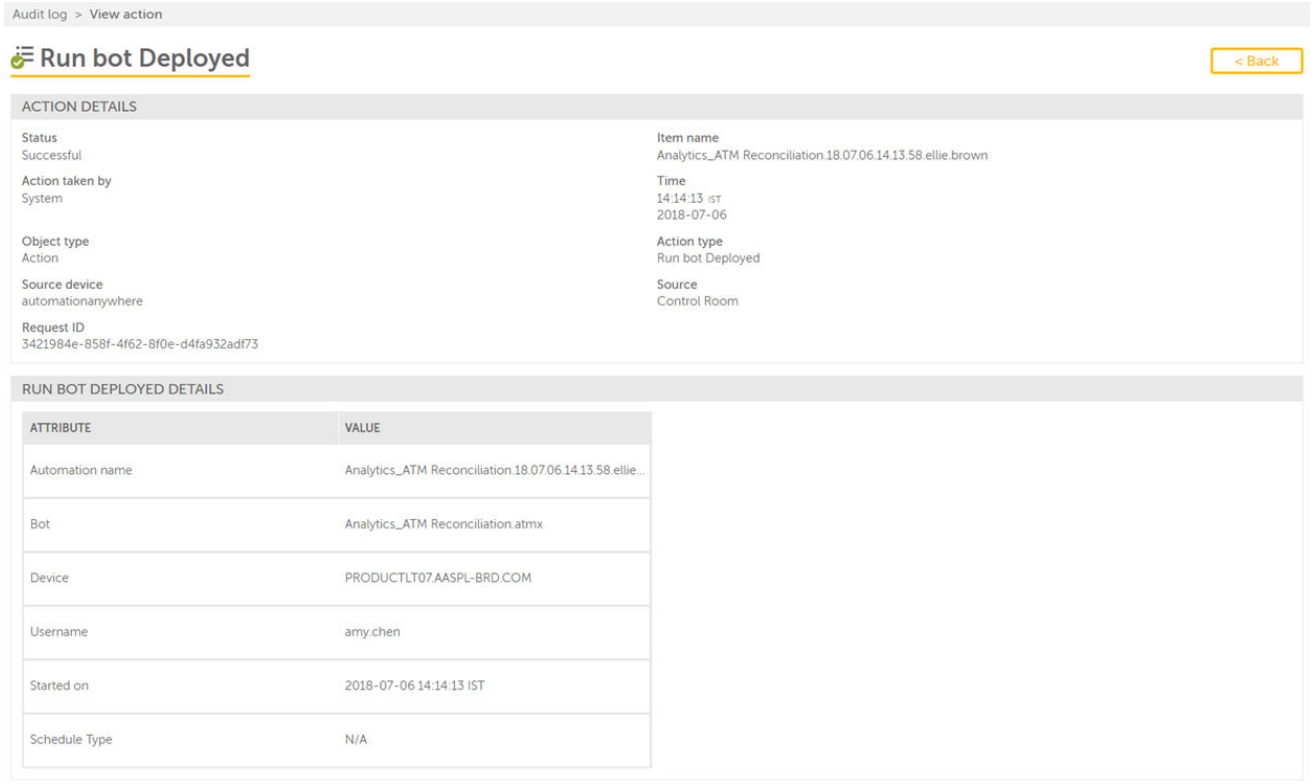
Audit logs for the above include both entries - Successful and Unsuccessful.

The following illustration shows entries relevant to Bot Deployment or through RDP i.e. Bot Runner Session:



Run bot deployment

Entries for a successful or unsuccessful bot deployment using the action Run now are logged in the Audit log page of the Enterprise Control Room. The following illustration shows successful deployment of a bot on a Bot Runner machine:



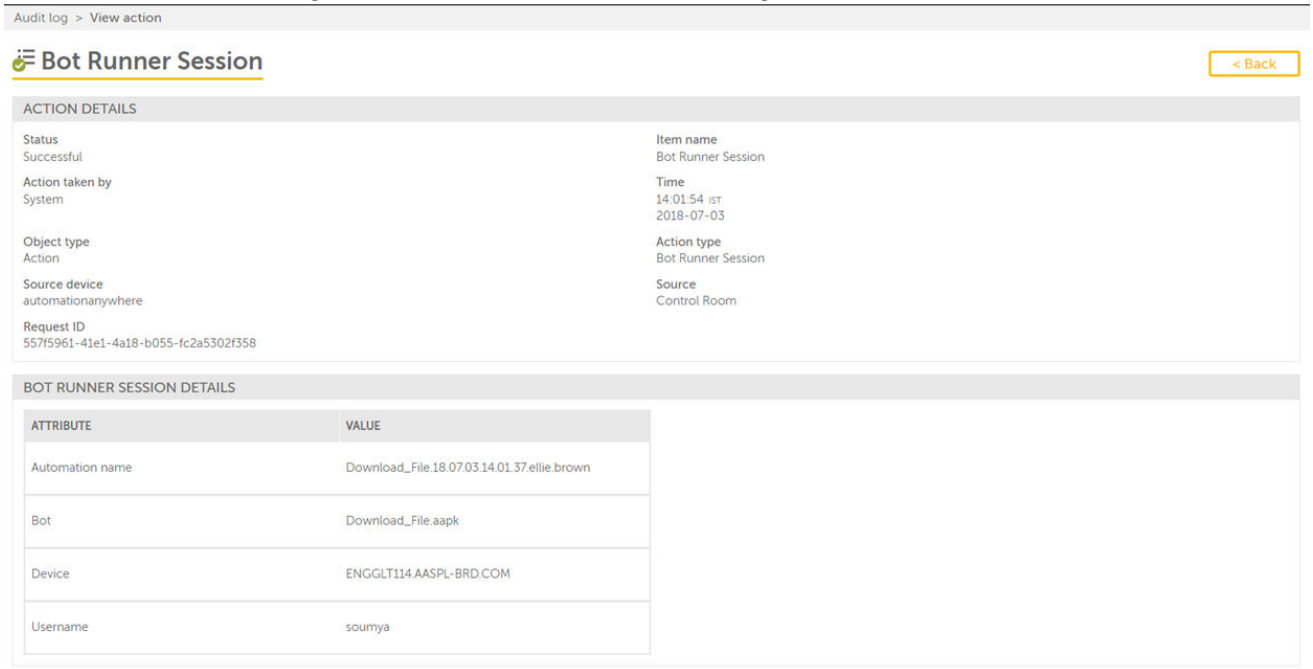
Reasons for run bot deployment failure

The reason for a run bot deployment failure is logged when,

1. Bot Runner could not be reached or shows disconnected, which could be due to:
    a) The Enterprise client Service not running on the Bot Runner machine.
    b) Bot Runner machine is shut down
    c) Network issues
    d) Bot Runner user is not logged on to the Enterprise client.
2. Bot Runner is disabled
3. Bot Runner could not download the deployed package

Bot Runner Session

The audit entry for a Bot Runner Session is logged to indicate whether a bot was deployed successfully to a Bot Runner machine using methods such as RDP. The following illustrates a successful Bot Runner Session:



Similarly, when a Bot Runner Session fails, the audit details display the reasons in Results panel.

Reasons for Bot Runner Session failure

The reason for a Bot Runner session failure is logged when the Bot Runner's remote desktop session cannot be acquired in the following cases,

1. User has not set the Windows Login Credentials in the Tools →Options →Login Settings of Enterprise client.
2. User has selected Bypass legal disclaimer in the Tools →Options →Login Settings of Enterprise client.
3. Automation Anywhere Player is already running on the Bot Runner.
4. Remote Desktop Session to the Bot Runner is disabled
5. Either the RDP port is blocked, there is a network error, or the Bot Runner hostname was not resolved

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

Related reference
Known Limitations

Migrating IQ Bot installations

Find out how to migrate installations of 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
- 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 5.3.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 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.x.
- Upgrading system from IQ Bot Version 6.5 and before, to IQ Bot Version 11.3.3
  Find out how to upgrade your system from IQ Bot Version 6.5.x and before, to Version 11.3.3.x.
- Migrating learning instances (export/import) within IQ Bot 5.2 installations
  Find out how to migrate learning instances within different installations of the same version of IQ Bot.
- Migrating learning instances within IQ Bot 5.3.x, Version 6.0.x, and Version 6.5 installations
  Find out how to migrate learning instances within different installations of IQ Bot 5.3, Version 6.0, and Version 6.5.
- IQ Bot upgrade options
  This topic discusses various options and use cases by which, in a customer environment, users have the option to try a newer version of IQ Bot before they decide to upgrade their existing IQ Bot servers with development and production environments.
- 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.

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.
`'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.

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.

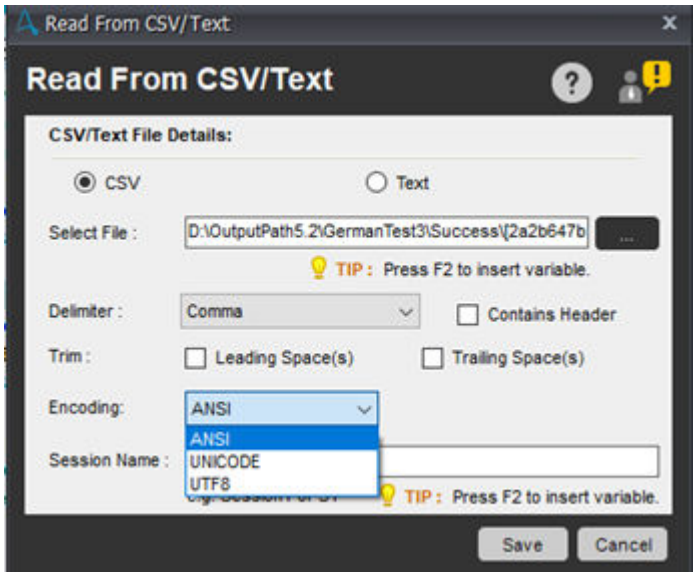
Upgrading system from IQ Bot 5.3.x to 6.0.x

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. Next, install IQ Bot 5.3.x in custom mode.
   For an HTTPS based installation, add the PFX format certificate.

3. 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.
4. Complete the installation by retaining the rest of the settings, as they get auto populated during installation.
5. Your migration is now complete.

Next steps

Launch IQ Bot.

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.x.

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.
- If upgrading from IQ Bot Version 5.3.1.x and you have learning instance that rely on 5.3.1.x checkbox 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 6.0.x to Version 6.5.x, 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. Next, install IQ Bot Version 6.5 in custom mode.
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.
   Your migration is now complete.

Next steps

You can launch IQ Bot.

Upgrading system from IQ Bot Version 6.5 and before, to IQ Bot Version 11.3.3

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

- 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. 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.

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 and Enterprise client are installed, and not the 10.x versions. See for information on the versions that are compatible.
3. Next, install IQ Bot Version 11.3.3 in custom mode.
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.
   Your migration is now complete.

Next steps

You can launch IQ Bot.

Migrating learning instances (export/import) within IQ Bot 5.2 installations

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.

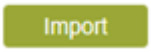
   a) Select one or more learning instances as per your requirement and click 

.

   b) Enter an appropriate name for the backup data file and/or 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.

Next steps

Migrating learning instances within IQ Bot 5.3.x, Version 6.0.x, and Version 6.5 installations

Find out how to migrate learning instances within different installations of IQ Bot 5.3, Version 6.0, and Version 6.5.

Prerequisites

- IQ Bot Version 6.5uses 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 and 5.3.1. will create field name conflicts, unless the Validator queue in Version 5.3.1 is cleared. Version 6.5 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.

Control Room 11.3.1.2 supports migration of IQ Bot from 5.3.x to Version 6.5 and later.

Note: 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:
    - Option1: Append imported groups and trained bots to duplicate existing learning instances

      Description:
      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.
      Note: During import with this option, an existing group without a bot gets a bot if it is available in the import data file.

      When to use:
      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.

    - Option 2: Import learning instances, ignoring duplicate existing learning instances

      Description:
      Appends only new learning instances.

      When to use:
      When you want to import only new learning instances and or bots on an IQ Bot installation while keeping the existing learning instances intact.

    - Option 3: Overwrite duplicate existing learning instances with imported learning instances

      Description:
      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.

      When to use:
      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.
      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

      Description:
      Deletes all existing learning instances before importing the new instances.

      When to use:
      When you want to start afresh and do not mind losing all the work done so far on an IQ Bot installation.

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

IQ Bot upgrade options

This topic discusses various options and use cases by which, in a customer environment, users have the option to try a newer version of IQ Bot before they decide to upgrade their existing IQ Bot servers with 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.
5. When transferring data from development to the production environment, do the following:

Next steps

- 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.

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 custom domain and Bot Store domain, reach out to Automation Anywhere Enterprisesupport.

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.

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 to complete.When done, 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.

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 pevious 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:

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 :

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.

Import option	When to use
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: Warning: This option might create new groups unexpectedly. Use the other options instead.	The following is expected behavior from previous releases. All groups, trainings (bots) and learnings of an existing learning instance are replaced without impacting the processing (dashboard data) done by that learning instance. 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.
Attention: If you try to import an incompatible learning instance IQBA file, the system shows an error message. For example, when importing a learning instance from IQ Bot Version 5.2 to IQ Bot Version 6.0.
Important: Export an IQBA file from an IQ Bot platform version that is compatible with the platform where this IQBA file will be imported. If you export an IQBA file from IQ Bot Version 6.0, then you can import the IQBA file to only the same version.

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 (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, 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 while using the four import options.

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
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

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)		
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

Migrating learning instances within IQ Bot 5.3.x, Version 6.0.x, and Version 6.5 installations

Troubleshooting IQ Bot

Use 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
- Stalled classification
- 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
- Classification stalls while training documents
- Export process hangs
- Documents are not classified after migration of IQ Bot learning instance
- Installer error 1334
- Access Denied message
- Installation fails while installing RabbitMQ
- Cannot upgrade from IQ Bot 5.3 on Control Room 10.7 to IQ Bot 6.0 on Control Room 11.3
- IQ Bot services are 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
- 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.

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% %SQLServerAddress% %SQLPort% %ProjectDatabase% %UserName% %ProjectServicePort% %ClassifierDatabase% %MLDatabase%" ""%OutputPath%` `nssm.exe set "Automation Anywhere Cognitive Projects" AppDirectory "%InstallDIR%Services"` `nssm.exe set "Automation Anywhere Cognitive Projects" Description "Provides Automation Anywhere Cognitive"`

	`` nssm.exe set "Automation Anywhere Cognitive Projects" Im agePath """%InstallDIR%Configurations\nssm""" nssm.exe set "Automation Anywhere Cognitive Projects" De pendOnService "RabbitMQ" nssm.exe set "Automation Anywhere Cognitive Projects" Ap pEnvironmentExtra LOGSTASH_SERVER_URL="http://%ProjectHo st%:%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

Table 1. 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.

Stalled classification

Table 1. Classification stalls after IQ Bot installation

Symptoms	When user uploads documents, the status on IQ Bot shows Yet to be Classified indefinitely and timer continues to spin.
Cause	RabbitMQ cluster/RabbitMQ setup (standalone)
Solution	Check the following: • Run the `rabbitmqctl cluster_status` command for status on all the nodes in your cluster as follows: `"C:\Program Files \RabbitMQ Server\rabbitmq_server-3.6.6\sbin \rabbitmqctl.bat" cluster_status.` If no errors are returned, then RabbitMQ is running as expected.

	• Authentication failure error is displayed if the cookie in the `%WINDIR%\.erlang.cookie and %USERPROFILE%\.erlang.cookie` does not match. • `mnesia` database related errors are generated if the folders in the `%appdata%\RabbitMQ\db` are corrupted, try to remove the folder and restart the node. • Verify RabbitMQ user creation: 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. • `rabbitmq-plugins enable rabbitmq_management` • Run this command: `rabbitmqctl set_user_tags messagequeue administrator` to grant access to the `messagequeue` user to login through console. • Verify whether you can log into IQ Bot using the `messagequeue/passmessage` credentials to http://localhost:15672. • If you are not able to log into IQ Bot , it is an issue with creation of the RabbitMQ user. Run the following commands to create a `messagequeue` user in RabbitMQ: • `rabbitmqctl stop_app` • `rabbitmqctl reset` • `rabbitmqctl start_app` • `Rabbitmqctl add_user messagequeue passmessage` • `Rabbitmqctl add_vhost test` • `rabbitmqctl set_permissions -p test messagequeue "." "." ".*"` • `rabbitmqctl set_user_tags messagequeue administrator` Reinstall IQ Bot after the RabbitMQ installation is successful.

No learning instance for command in Enterprise client

Table 1. No learning instance is available to select in IQ Bot command in Enterprise client

Symptoms	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

Table 1. 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

Symptoms	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\webservice 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

Table 1. 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\webservice 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

Table 1. `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 check 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. Check with your IT team whether any policy blocks the traffic or drops the network packets.

Related information
https://en.wikipedia.org/wiki/Intrusion_detection_system

IQ Bot installation fails to run in RabbitMQ cluster mode

Table 1. 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) Check 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 check if the all the nodes are available or not, else check for errors. Note: All the nodes should have `rabbitmq_management` plugin enabled to get the correct status of nodes.

IQ Bot HTTPS SSL certificate expiry

Table 1. 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 installandstartervices.bat as an administrator.

	For more information on the need for HTTPS Certificate, see https://www.instantssl.com/ssl-certificate-products/https.html and to know about HTTPS SSL certificate in detail, see https://www.websecurity.symantec.com/security-topics/what-is-ssl-tls-https.

Automation Anywhere Enterprise Control Room login error

Table 1. IQ Bot login: Control Room returns the `Certificate path validator signature check failed` error

Symptom	When a user tries to log into IQ Bot, a certificate path validation error message is displayed.
Cause	The signature check 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

Table 1. Connect ENCONNREFUSED 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

Table 1. Unable to install IQ Bot in express mode because Control Room is not installed in express mode

Symptom	IQ Bot returns the Enterprise Control Room and database compatibility error while 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.

Table 2. Unable to install IQ Bot in express mode because SQL Server Browser service is disabled

Symptom	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

Table 1. Error during uninstallation of IQ Bot

Symptom	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

Table 1. IQ Bot command does not display any learning instances and does not return specific errors when and IQ Bot is configured in cluster mode

Symptom	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

Table 1. 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%\Configurationsand run the following command as an administrator `C:\Program Files (x86)\Automation Anywhere IQ Bot <version number> \Configurations\installandstartervices.bat`

Stalled Classifier

Table 1. 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)

Table 1. Designer becomes unresponsive while 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

Table 1. Installer is unable to create IQ Bot database tables

Symptoms	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

Table 1. 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

Table 1. 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 are not classified after migration of IQ Bot learning instance

Table 1. 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 initiate 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

Table 1. 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

Table 1. 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

Table 1. 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 check 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.
	Check the status of RabbitMQ installation Check whether RabbitMQ is installed by checking for a RabbitMQ server folder in `C:\Program Files` directory. • To check 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 check 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 check 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 from IQ Bot 5.3 on Control Room 10.7 to IQ Bot 6.0 on Control Room 11.3

Table 1. 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 are not getting uninstalled during an installation rollback

Table 1. 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

Table 1. Output folder: path change from local drive 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 on 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 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 change: 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

Table 1. 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

Table 1. 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.

IQ Bot installation FAQs

Find answers to the frequently asked questions related to IQ Bot.

1. Can IQ Bot databases be renamed?

   The IQ Bot database name is saved in multiple locations. We recommended not renaming it.

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, and handwriting plugins going to be ready for clients?

   Microsoft Azure Computer Vision OCR engine is scheduled for a version 6.6 release, as a beta feature. 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	• 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

	Staging	Production
Number of documents that can be processed in a single run	Multiple documents	Continuous processing
When to use	• 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?

   No.

9.
10. Does IQ Bot support tabular data extraction?

    Yes.

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

    Virtually unlimited.

12. Does IQ Bot support documents with multiple text colors?

    Yes, but only for darker shades of colors.

13. 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
14. 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.

15. 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).

16. 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.

17. 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.

18. Can I stop Document analysis or processing in-between?

    No.

19. 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.

20. 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.

21. Is it possible to export the extracted date in a specific format?

    No.

22. Can I specify the character separator for the CSV file?

    No.

23. 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.
24. 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.

25. 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 #.
26. 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.

27. Does IQ Bot support cursive type of fonts?

    No.

28. Is there a restriction to the number of characters for naming a Learning Instance?

    50 characters.

29. Does IQ Bot support processing of password-protected PDF files?

    No.

30. 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
31. 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.

32. 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.
33. 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 botcan 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 botis 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.

34. 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

35. 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.

36. 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.

37. 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 and/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 botis 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 wan 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.

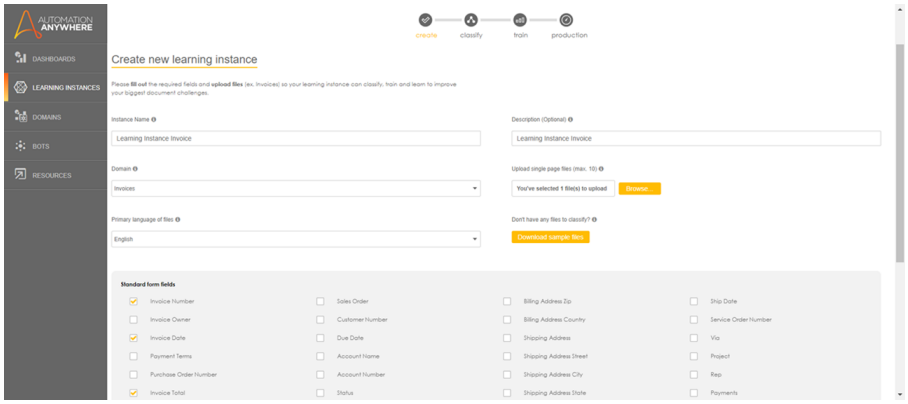
Creating a learning instance with English invoices

Create a learning instance to train your learning instance and to improve the accuracy of extracted data.

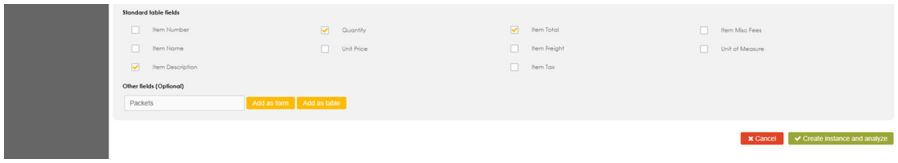
For example, learning instance created for different types of invoice documents for banks, insurance companies, and pharmacies. Based on the training provided to the learning instance and its documents, the accuracy of extracted data is improved.

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

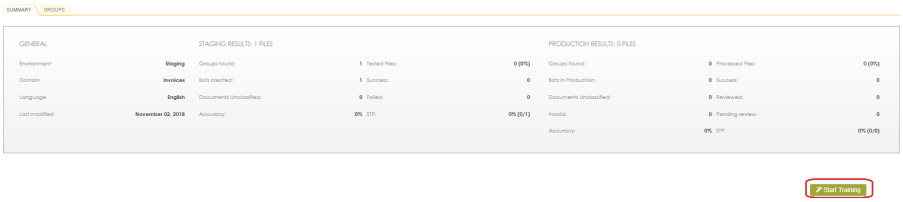
Train the groups created in your learning instance so that when you extract data from documents to a CSV file, extracted data is more accurate.

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.

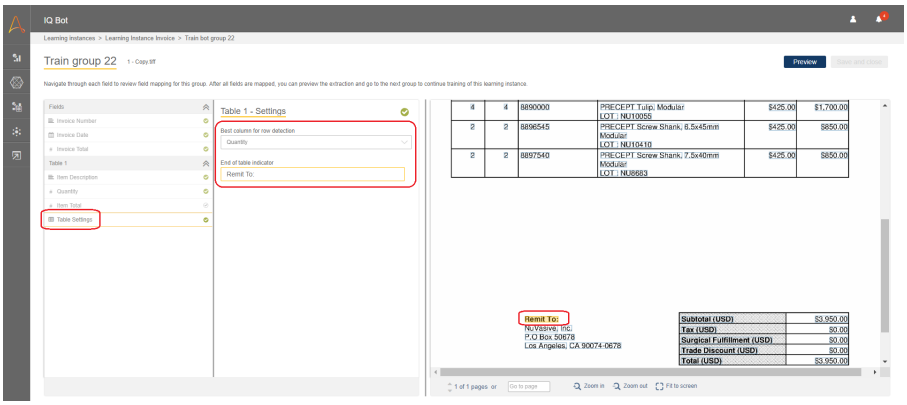
1. Click LEARNING INSTANCES from the left pane.
2. Click on the learning instance you created.
3. Click Start Training on the learning instances page.
   Note: Fields and corresponding values are mapped automatically. If they are not mapped automatically, then map the fields again.



4. Select a field name from the left pane.
5. Click on the corresponding label name for the field on the document. For example, click on Invoice Number. The value of invoice number is populated.
   Note: The value of only auto-mapped fields is populated automatically.
6. Repeat steps 2 and 3 for each form and table field to map the fields again.
7. Click on the 

icon next to the field name from the left pane and drag and click on the correct label name on the document to correct incorrect field mappings. Similarly, map the value of the field by clicking on the 

icon .
8. Click on Table Settings in the left pane.
9. Select the End of Table Indicator text box in the left pane.



10. Select the last label or any label after the end of your table on the document to mark the end of the table. The lable is populated in the text box.
    Note: You can enter mutiple lables in the End of table indicator field in this format, for example, Subtotal | Tax (USD) along with the | pipe symbol to separate the labels. If your document has a note immediately following the table, you can enter the note in the End of table indicator field.

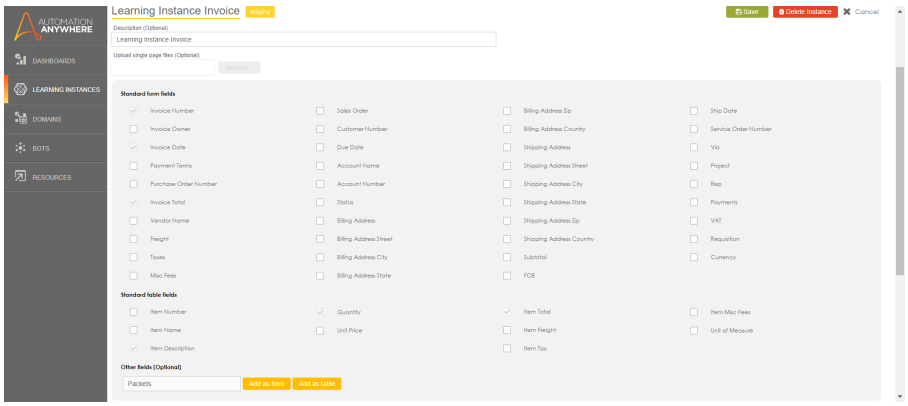
A group is now trained and IQ Bot brings the next group in line to train. Train all the groups in your learning instance.

Adding a new table field

When your document has new fields, you might need to define new table fields to your learning instance.

Procedure

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 wan 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.

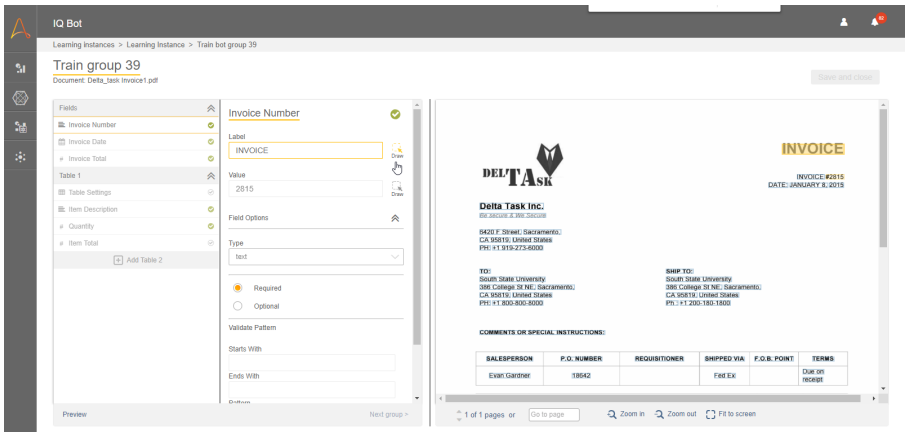
   The CSV file is downloaded with the data extracted from the document.

Useful tips

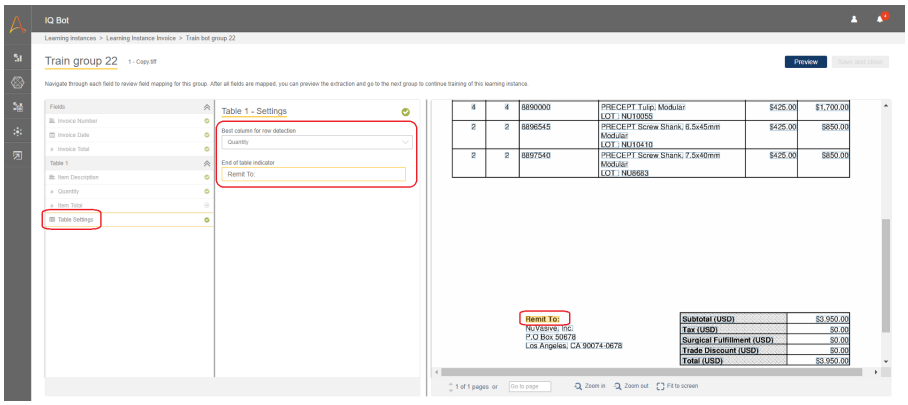
Find useful information that will assist you during your participation in the IQ Bot trials in this topic.

Correcting incorrect field mappings

Click on the Draw icon next to the field name from the left pane and drag and click on the correct label name on the document to correct incorrect field mappings. Similarly, map and correct the value of the field by clicking on the Draw icon.



Make sure to 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 while 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. However, while 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 (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; while 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 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 but 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 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 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, 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 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, 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 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.

Prerequisites

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. Click the Browse button and upload documents for training.
5. 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.
6. 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.
7. Select common table fields and additional table fields, as required.
8. Next, click the Create Learning Instance button.
9. 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.

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.

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.

Create a TaskBot to upload documents to IQ Bot

Follow the steps to process files in batches in RPA:

1. In the Automation Anywhere Enterprise client window, click File > New, to display the Automate dialog box.
2. Click on Workbench to display the window.
3. From the Commands panel select the loop command (Each File In A Folder) and drag-and-drop it to the Task Actions List panel.
4. The loop dialog box displays.
5. Enter folder name (Production document folder) and click Save.
6. Inside this loop command, from the Commands panel, select the IQ Bot command and move it to the Task Actions List panel via drag-and-drop.
7. The IQ Bot Upload dialog box displays.
8. In the IQ Bot Upload dialog box, do any one of the following:
    - Name: Select the learning instance.
    - File Path: Click the browse button to upload multiple documents using the following variables:
        a) $CurrentDirectory$ - This system variable will identify current directory (selected in the loop command).
        b) $FileName$.$Extension$ - These system variables will get file names and extensions from the current directory.

    Note: See example below.

    For Example:
    a) Start Loop Each File In Folder C:\IQBotSampleDocs\Bank Statements.
    b) Comment: Please enter your commands to loop. Use $filename$.$extension$ variable for each file name in the loop.
    c) IQ Bot Upload: from $CurrentDirectory$\$FileName$.$Extension$ using Learning Instance bb85e7ec-3815-4721-8493-79d8d89be669.
    d) End loop.
9. Click Save to add the command to the Task Actions List panel.

Note: For the Community Edition, you do not have access to the local folder. To download extraction results, follow instructions given below.

Download extraction results

Follow the steps to run a TaskBot to download extracted results

1. Right click on My Tasks in the Automation Anywhere Enterprise client window and choose Open Folder.
2. Follow the link: https://s3-us-west-1.amazonaws.com/iqbot-trial/Download_IQ_Bot_Extraction_Results.atmx to download a TaskBot and copy the file to the opened folder.
3. A new task appears in the My Tasks list.
4. Choose this task and click Run.
5. Enter the following information:
    - Server URL and credentials (you can find them in a registration email message).
    - Name of the learning instance (the one that was used during document upload).
6. The TaskBot opens a folder with the extraction results.

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

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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?

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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
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