Dropbox Connector Bot - AppPerfect Corporation

Bot Overview

- Unit Operations: Performs Unit Operations to Create, Delete, Rename, Copy & Move operations on Dropbox Items.
- Bulk/Batch Operations: Performs Bulk Operations to Create, Delete, Rename, Copy & Move operations on Dropbox Items.
- Uploads & downloads Dropbox items. Also downloads Files/Folder as Zip file to local system.
- Searches & lists files/folders in Dropbox directories.
- Creates public & private (using member email) sharable links. Also, lists and revoke already created shareable links.
- Gets Account information & space usage.
- Saves file from web URL to user's Dropbox space of Dropbox items.
- Gets metadata of Dropbox Items.
- JSON Utilities:
  - Converts JSON array/object to string (throws an exception in case invalid JSON is provided).
  - Get JSON Type, JSON Array Size, JSON Object/Array Value using key.
  - Converts CSV to JSON Array.

Pre-Requisites

- Automation Anywhere Enterprise v11.3.3 or above.
- A Dropbox Account.

Installation

- Download the Dropbox Connector Bot provided by AppPerfect Corporation from Automation Anywhere Bot Store. (https://botstore.automationanywhere.com)
- Double click on <Bot Name>.msi and follow the installation instructions below.

   For first time users, the "Bot Store" folder is created under <AA Directory>/My Tasks (on your local disk).

- ***Installer creates the following folder structure with content under the <AA Directory>***

   <AA Directory>
   - My Tasks
     - Bot Store

       o DropboxConnectorBot-AppPerfectCorporation

         - My tasks
           - Dropbox Connector Bot.atmx

         - Error Folder
           - Log (Folder)
             o Input Error Logs Month-Day-Year.txt
           - Snapshots (Folder)

- o Error Snap Month-Day-Year HourMinuteSecond.png

    - ▪ Input Folder
        - o Input.csv

    - ▪ Output Folder
        - o Output.csv
- ▪ My Metabots
    - o Dropbox Connector Bot.mbot

How to Configure the Bot:

Use the following information to configure your bot parameters:

Parameter Name	Type	Direction	Additional Info
Dropbox Auth Access Token(vAuthAccessToken)	String	Input	Provide the Access Token required for dropbox authentication. Create Credential Vault variable "Dropbox Auth Access Token" which has an attribute called "vAuthAccessToken". *Information about Credential Vault and 'How to generate Access Token' is provided at the end of the document.*
vOperation	String	Input	Provide operation type as described in subsequent tables.
vResponse	String	Output	JSON object is returned.
vErrorFolder	String	Input	This is error folder inside bot folder which contains Logs and Snapshots folder. By default, Logs and Snapshots folders will be created in this folder. If you need Logs and Snapshots to be saved at different location, then you can provide the folder location here.
vLogFolder	String	Input	This folder contains Log file in case of error. By default, error logs will be created in this folder. If you need error logs to be saved at different location, then you can provide the logs folder location here.
vSnapshotFolder	String	Input	This folder contains Screenshot in case of error. By default, error screenshots will be saved in this folder. If you need screenshots to be saved at different location, then you can provide the screenshots folder location here.
vInputFolder	String	Input	This is Input folder inside bot folder which contains Input files. By default, input files are stored in this folder. If you need input files to be stored at different location, then you can provide the input folder location here.

vOutputFolder	String	Input	This is Output folder inside bot folder which contains Output files. By default, output files are stored in this folder. If you need output files to be stored at different location, then you can provide the output folder location here.

For **CreateBoxItem** Operation configure following additional parameters:

Creates a Dropbox item at specified path.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory to be created. For Eg. If you want to create a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz

For **DeleteBoxItem** Operation configure following additional parameters:

Moves the Dropbox item from specified path to Trash.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item (file/folder) to be moved to Trash. For Eg. If you want to move a directory "xyz" from the home directory of your Dropbox space to Trash, then the value of vPath would be: /xyz If you want to move a file "a.pdf" from "xyz" directory of your Dropbox space to Trash, then the value of vPath would be: /xyz/a.pdf

For **PermanentlyDeleteBoxItem** Operation configure following additional parameters:

Deletes the Dropbox item permanently at specified path.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item (file/folder) to be deleted. For Eg. If you want to permanently delete a directory "xyz" from the home directory of your Dropbox space, then the value of vPath would be: /xyz If you want to permanently delete a file "a.pdf" from "xyz" directory of your Dropbox space, then the value of vPath would be: /xyz/a.pdf

For **RenameBoxItem** Operation configure following additional parameters:

Renames the Dropbox item at specified path from current name to new name.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item (file/folder) to be renamed. For Eg. If you want to rename a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: / If you want to rename a file "a.pdf" in "xyz" directory of your Dropbox space, then the value of vPath would be: /xyz
vCurrentName	String	Input	Provide the current name of the Dropbox item (file/folder) to be renamed. For Eg. If you want to rename a directory "xyz" in the home directory of your Dropbox space, then the value of vCurrentName would be: xyz If you want to rename a file "a.pdf" in "xyz" directory of your Dropbox space, then the value of vCurrentName would be: a.pdf
vNewName	String	Input	Provide the new name for the Dropbox item (file/folder). For Eg. If you want to rename a directory "xyz" in the home directory of your Dropbox space to "xyzNew", then the value of vNewName would be: xyzNew If you want to rename a file "a.pdf" in "xyz" directory of your Dropbox space to "aNew.pdf", then the value of vNewName would be: aNew.pdf

For **CopyBoxItem** Operation configure following additional parameters:

Copies the Dropbox item from source path to destination path.

Parameter Name	Type	Direction	Additional Info
vSourcePath	String	Input	Provide the complete path of the Dropbox item (file/folder) to be copied. For Eg. If you want to copy a directory "xyz" from the home directory of your Dropbox space, then the value of vSourcePath would be: /xyz If you want to copy a file "a.pdf" from "xyz" directory of your Dropbox space, then the value of vSourcePath would be: /xyz/a.pdf

vDestinationPath	String	Input	Provide the complete path where the Dropbox item (file/folder) from source path needs to be copied. For Eg. If you want to copy a directory "xyz" to another directory "dir1" in home directory of your dropbox space, then the value of vDestinationPath would be: /dir1/xyz

If you want to copy a file "a.pdf" to "dir1" directory in home directory of your Dropbox space, then the value of vDestinationPath would be: /dir1/a.pdf |

For **MoveBoxItem** Operation configure following additional parameters:

Moves the Dropbox item from source path to destination path.

Parameter Name	Type	Direction	Additional Info
vSourcePath	String	Input	Provide the complete path of the Dropbox item (file/folder) to be moved. For Eg. If you want to move a directory "xyz" from the home directory of your Dropbox space, then the value of vSourcePath would be: /xyz

If you want to move a file "a.pdf" from "xyz" directory of your Dropbox space, then the value of vSourcePath would be: /xyz/a.pdf |
| vDestinationPath | String | Input | Provide the complete path where the Dropbox item (file/folder) from source path needs to be moved. For Eg. If you want to move a directory "xyz" to another directory "dir1" in home directory of your dropbox space, then the value of vDestinationPath would be: /dir1

If you want to move a file "a.pdf" to "dir1" directory in home directory of your Dropbox space, then the value of vDestinationPath would be: /dir1 |

For **SearchBoxItem** Operation configure following additional parameters:

Searches the dropbox items matching given query at a specified location.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory in which you want to search.

For Eg. If you want to search in a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz |
| vQuery | String | Input | Provide the pattern you are looking for in the Dropbox items. For Eg. car |

For **ListBoxItems** Operation configure following additional parameters:

Lists all Dropbox items at specified path.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory of which you want to list the contents. For Eg. If you want to list all contents of a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz
vRecursive	Boolean	Input	Provide "true" if you want to list out all the contents of child directories and "false" otherwise.

For **GetMetadata** Operation configure following additional parameters:

Gets metadata of the Dropbox item at specified path.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory of which you want to get the metadata. For Eg. If you want to get metadata of a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz

For **SaveUrl** Operation configure following additional parameters:

Saves the file specified by its URL at your Dropbox space at specified path.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory where you want to save the file. For Eg. If you want to save file at a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz
vUrl	String	Input	Provide the URL of the file. For Eg. http://www.example.com/file.pdf

For **UploadBoxItem** Operation configure following additional parameters:

Uploads a file from your local system to your Dropbox space.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory where you want to save the file. For Eg. If you want to save file at a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz
vUploadPath	String	Input	Provide the path of the file at your local system. For Eg. C:\Users\Administrator\Desktop\a.pdf

For **DownloadBoxItem** Operation configure following additional parameters:

Downloads a file to your local system from your Dropbox space.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox file which you want to download. For Eg. If you want to download a file "a.pdf" at a directory "xyz" in the home directory of your Dropbox space, then the value of vPath would be: /xyz/a.pdf
vDownloadPath	String	Input	Provide the complete path of the system directory where you want to download the file. Eg. C:\Users\Administrator\Desktop

For **DownloadBoxItemZip** Operation configure following additional parameters:

Downloads a Dropbox item to your local system as a zip file.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item which you want to download as a zip file. For Eg. If you want to download a directory "xyz" present in the home directory of your Dropbox space, then the value of vPath would be: /xyz
vDownloadPath	String	Input	Provide the complete path of the system directory where you want to download the file. For Eg. C:\Users\Administrator\Desktop

For **CreateSharableLink** Operation configure following additional parameters:

Creates a public sharable link of a Dropbox item.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item of which you want to get the sharable link. For Eg. If you want to get a sharable link for the directory "xyz" present in the home directory of your Dropbox space, then the value of vPath would be: /xyz

For **CreateSharableLinkToMembers** Operation configure following additional parameters:

Creates a sharable link of a Dropbox item for specific members.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox item of which you want to get the sharable link. For Eg. If you want to get a sharable link for the directory "xyz" present in the home directory of your Dropbox space, then the value of vPath would be: /xyz
vMembersList	String	Input	Provide a Comma Separated list of emails for whom you want to grant access. For Eg. abc@example.com,xyz@eg.com

For **ListSharableLink** Operation configure following additional parameters:

Lists all the sharable links for Dropbox items at a specified location.

Parameter Name	Type	Direction	Additional Info
vPath	String	Input	Provide the complete path of the Dropbox directory for which you want to list the sharable links. For Eg. If you want to list all sharable links in the directory "xyz" present in the home directory of your Dropbox space, then the value of vPath would be: /xyz

For **RevokeSharableLink** Operation configure following additional parameters:

Revokes the specified link.

Parameter Name	Type	Direction	Additional Info
vUrl	String	Input	Provide the URL of the file for which you want to revoke the link. For Eg. http://www.example.com/file.pdf

For **CreateBoxItemBatch** Operation configure following additional parameters:

Creates Dropbox items in bulk at specified paths.

Parameter Name	Type	Direction	Additional Info
vInputFilePath	String	Input	Provide the complete path of the CSV or Excel file containing the paths of the Dropbox directories to be created. For Eg. C:\Users\Administrator\Desktop\input.csv CSV file format: path /dir1/dir2 /dir1/dir3/dir4
vOutputCSVFilePath	String	Input	Provide the complete path of the CSV output file in which you want to save the response of the operation. The operation returns the completion status for each path in the input CSV file. For Eg. C:\Users\Administrator\Desktop\output.csv

For **DeleteBoxItemBatch** Operation configure following additional parameters:

Deletes Dropbox items in bulk at specified paths.

Parameter Name	Type	Direction	Additional Info
vInputFilePath	String	Input	Provide the complete path of the CSV or Excel file containing the paths of the Dropbox directories to be deleted. For Eg. C:\Users\Administrator\Desktop\input.csv CSV file format: path /dir1/dir2 /dir1/dir3/dir4
vTimeout	Integer	Input	Provide the operation timeout in seconds. For Eg. 500
vOutputCSVFilePath	String	Input	Provide the complete path of the CSV output file in which you want to save the response of the operation. The operation returns the completion status for each path in the input CSV file. For Eg. C:\Users\Administrator\Desktop\output.csv

For **CopyBatch** Operation configure following additional parameters:

Copies the Dropbox items in bulk from source path to destination path.

Parameter Name	Type	Direction	Additional Info
vInputFilePath	String	Input	Provide the complete path of the CSV or Excel file containing the information regarding the operation. For Eg. C:\Users\Administrator\Desktop\input.csv

			CSV file format: sourcePath,destinationPath /abc.py,/dir1/abc.py /xyz.mp4,/dir2/xyz.mp4
vTimeout	Integer	Input	Provide the operation timeout in seconds. For Eg. 500
vOutputCSVFilePath	String	Input	Provide the complete path of the CSV output file in which you want to save the response of the operation. The operation returns the completion status for each path in the input CSV file. For Eg. C:\Users\Administrator\Desktop\output.csv

For **MoveBatch** Operation configure following additional parameters:

Moves the Dropbox items in bulk from source path to destination path.

Parameter Name	Type	Direction	Additional Info
vInputFilePath	String	Input	Provide the complete path of the CSV or Excel file containing the information regarding the operation. For Eg. C:\Users\Administrator\Desktop\input.csv CSV file format: sourcePath,destinationPath /abc.py,/dir1/abc.py /xyz.mp4,/dir2/xyz.mp4
vTimeout	Integer	Input	Provide the operation timeout in seconds. For Eg. 500
vOutputCSVFilePath	String	Input	Provide the complete path of the CSV output file in which you want to save the response of the operation. The operation returns the completion status for each path in the input CSV file. For Eg. C:\Users\Administrator\Desktop\output.csv

For **RenameBatch** Operation configure following additional parameters:

Renames the Dropbox items in bulk from current name to new name.

Parameter Name	Type	Direction	Additional Info
vInputFilePath	String	Input	Provide the complete path of the CSV or Excel file containing the information regarding the operation. For Eg. C:\Users\Administrator\Desktop\input.csv CSV file format: sourcePath,destinationPath /abc.py,abcNew.py /xyz.mp4,/xyzNew.mp4
vTimeout	Integer	Input	Provide the operation timeout in seconds. For Eg. 500

vOutputCSVFilePath	String	Input	Provide the complete path of the CSV output file in which you want to save the response of the operation. The operation returns the completion status for each path in the input CSV file. For Eg. C:\Users\Administrator\Desktop\output.csv

GetMyAccountInfo Operation:

Returns the current user's Full Account information who is generating the access token.

SpaceUsage Operation:

Returns the space allocated & space usage in Bytes by the current user account.

For **CsvToJsonArray** Operation configure following additional parameters:

Converts CSV string to JSON Array Response.

Parameter Name	Type	Direction	Additional Info
vCsv	String	Input	Provide comma separated string to be converted into JSON Array String. For Eg. source1,source2,source3

For **GetJsonArraySize** Operation configure following additional parameters:

Returns size of provided JSON Array.

Parameter Name	Type	Direction	Additional Info

vJson	String	Input	Provide valid JSON Array Structure.
			For Eg.
			[
			  {
			    "user": "user1"
			  },
			  {
			    "user": "user2"
			  }
			]

For **GetJsonKeyValue** Operation configure following additional parameters:

Returns value of specified key in the given JSON structure.

Parameter Name	Type	Direction	Additional Info

vJson	String	Input	Provide valid JSON Array Structure.
			For Eg.
			{
			  "user": "user1",
			  "domain": "domain1.com"
			}

vKey	String	Input	Provide valid key present in vJson. For Eg. Considering above vJson example, value of vKey can be: user

For **JsonGetType** Operation configure following additional parameters:

Returns type of JSON structure if valid JSON structure is provided, throws Exception otherwise.

Parameter Name	Type	Direction	Additional Info
vJson	String	Input	Provide valid JSON Object/Array Structure. For Eg. { "user": "user1", "domain": "domain1.com" }

For **JsonStringify** Operation configure following additional parameters:

Returns String Response of valid JSON Structure, throws Exception otherwise.

Parameter Name	Type	Direction	Additional Info
vJson	String	Input	Provide valid JSON Object/Array Structure. For Eg. { "user": "user1", "domain": "domain1.com" }

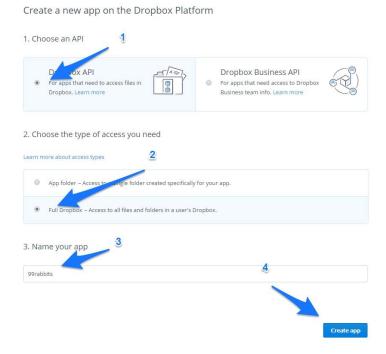**Error Handling**

- Each Bot folder contains the below hierarchy.

    o Error Folder
        ▪ Logs
            • Error Logs Month-Day-Year.txt: In case of any error, this file logs error message along with time stamp.
        ▪ Snapshots:
            • Error Snap Month-Day-Year HourMinuteSecond.png: In case of any error, this file captures screenshot of error with time stamp.
- Task Status of bot is set to failed in case of error.

Steps to Get Access Token

- Create an app in your Dropbox account.
    o Go to https://www.dropbox.com/developers/apps/create
    o Authorize, if you weren't.
    o Choose Dropbox API on the first step.
    o Choose Full Dropbox access on the second.

- o Give your app a name. That name will become a folder in your Dropbox account.
- o Push 'Create app' button.

Create a new app on the Dropbox Platform

- Generate access token.
  - o You'll be presented with your app's settings. Scroll down to 'OAuth 2' block and hit 'Generate' button near 'Generated access token' text.
  - o After the token is generated, you'll see a string of letters and numbers. This is your Access Token. This token never expires.

Important points to consider:

- It is possible for user having admin privileges to read and save the privileged files (open and write file functions), so user of the bot should not have admin access.

- Credential Vault uses multiple encryptions to store sensitive information (vAuthAccessToken). These variables are used for various purposes in task bots. In response to a potential leak or compromise, Credential Vault credentials must be changed/rotated periodically.

- https://docs.automationanywhere.com/bundle/enterprise-v11.3/page/enterprise/topics/security-architecture/secure-credential-store-credential-vault-cv.html

- For information regarding how to input your Access Code, please refer the following link-
  https://botstore.automationanywhere.com/inputting-your-access-code/

Bot Insight Details
To know how to use Automation Anywhere Bot Insight to track bot process data from for analytic analysis, please refer: https://docs.automationanywhere.com/bundle/enterprise-v11.3/page/enterprise/topics/bot-insight/user/bot-insight-overview.html

Troubleshooting & Support

Please visit our Support Portal for any assistance on Bot functionality or Feature.

Automation Anywhere provides a Product Documentation portal that can be accessed for more information about AA's products and guidance on building bots and Digital Workers.

The "Build" section of the portal includes these sections:

- Getting Started - information on building bots recommended practices (including use of the Credential Vault)
- Build Advanced Bots - details on MetaBots and the approach to integrating code into them
- Build Digital Workers - high-level architecture