



A2019 Regular Expression Package

Readme

Version 1.0
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1. Introduction

This document contains all essential information for the user to make full use of this A2019 Regular Expression package. It includes a description of the functions and capabilities and step-by-step procedures for setup & configuration of the Bot.

1.1 Overview

Use the A2019 Regular Expression Package to identify the data based on a search pattern. Regular expressions can be used to perform all types of text search and text replace operations.

1.2 Use cases

The key use cases for this package include:

- Password pattern matching
- Validating Email pattern
- Character replacements
- Date, phone number and credit card number format validation
- Empty string validation

2. Requirements & Prerequisites

2.1 System Requirements

Below are the minimum system requirements for running bots as an Enterprise A2019 (Cloud deployed) or Community Edition user on your local machine.

Hardware Requirements

Device	Processor	RAM	Storage (Free Space)	Network
Machine	Intel Core i5 2.6 GHz	4 GB minimum 8 GB recommended	32 GB	1 GbE
Bot Creator and Bot Runner	No additions to the machine requirements	No additions to the machine requirements	Add 100 through 150 KB per Automation Anywhere script Add 40 through 50 GB per long-term project	No additions to the machine requirements

Browser Requirements

The user interface for Automation Anywhere Enterprise is through a browser. Login to your device then login to Enterprise Control Room through a browser.

Browser	Browser Version	Automation Anywhere plug-in version ²	Supported bot functions by Bot agent version		
			2.0.2	1.0.2	1.0.1
Google Chrome ¹	57 or later	11 or 12	2.0.2	1.0.2	1.0.1
Microsoft Internet Explorer	11	N/A	None	Debugger only	All except Credential Vault

(1) Google Chrome re-verification

CAUTION: Google Chrome requires re-verification of permissions when the Automation Anywhere Google Chrome extension (Version 11.3.3 or later) is updated. If prompted, click **Enable this item** in the Google Chrome message. Alternatively, re-enable the extension through [chrome web store](#). Similarly, if you are deploying your Bot Runners from a master image, accept the permission from within that image.

(2) Google Chrome plug-in versions

A2019 supports Chrome plug-in version 11. If you have other versions installed, you might not be able to record tasks using the **Record** feature or **Capture** action. To resolve this issue, do the following:

1. Rename the automation.chrome.agent registry key to automation.chrome.agent.old. The registry key is available at: Computer\HKEY_CURRENT_USER\Software\Google\Chrome\NativeMessagingHosts
2. Disable all other Google Chrome plug-in versions you have installed, except for version 11.

2.2 Prerequisites

Automation Anywhere Enterprise A2019 setup to run in your machine.

3. Getting Started

3.1 Quick Start

3.1.1 Setup

- Install the package from Bot Store into your Control Room
- Verify that the package named REGEX Tools has been enabled in the Bots - Packages menu of the Control Room.
- Navigate to Regular Expression Tools – AutomationAnywhere in the Bot Store folder to examine the installed sample bot.

3.1.2 Configuration and Use

This package consists of 4 Actions.

- Extract All Regex Matches
- Extract a Regex Match
- Get Number of Matches
- Replace based on Regex

Input Variables				
Variable Name	Type	Mandatory	Purpose	Example Input
IMatchingOutput	List	Yes	This variable is needed for the action - Extract All Matches . This variable will store the list of dictionary.	
dList	Dictionary	Yes	This variable is needed for the action - Extract All Matches . This variable will store the dictionary values within the list IMatchingOutput.	
nMatchCount	Number	Yes	This variable is needed for the action - Get Number of Matches . This variable will store the number of times a specific text pattern occurs in the given text.	

Output Variables				
Variable Name	Type	Mandatory	Purpose	Example Output
prompt-assignment	String	NA	The resulting output from the Action - Replace based on Regex .	hello Smith, your application is approved

Use case scenario: Let's consider the following text 'Paris is the capital and largest city of France' to understand how different actions works.

In the above text, we want to extract the words starting with a capital number. For this criteria, the regular expression is **(([A-Z])\w+)**

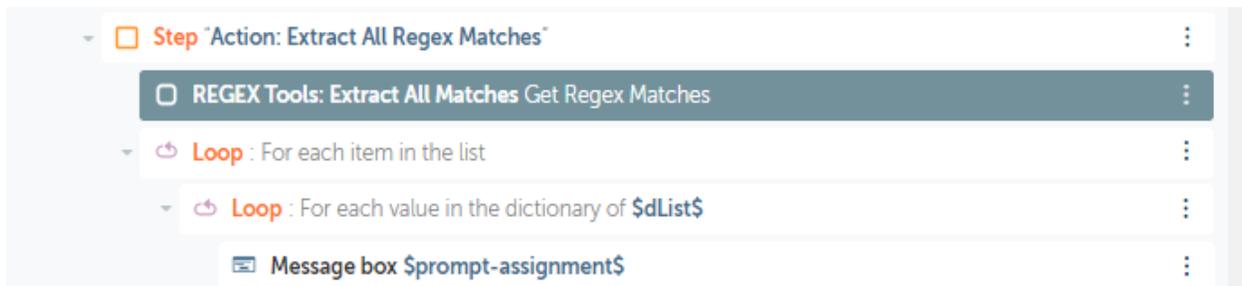
Extract All Regex Matches: This action can be used to extract all matches for a specific pattern.

In this action, output is stored in a list of dictionaries with 4 keys:

- match – contains the matching text
- start – contains the starting position of the text
- end - contains the ending position of the text
- position - contains the occurrence number of the text

Since the output is stored in a list of dictionary, 2 loops are required to get the output.

Here is the bot code for your reference:



```
Step "Action: Extract All Regex Matches"
  REGEX Tools: Extract All Matches Get Regex Matches
  Loop : For each item in the list
    Loop : For each value in the dictionary of $dList$
      Message box $prompt-assignment$
```

Store the output in the list variable 'IMatchingOutput'

REGEX Tools: Extract All Matches

Extract All Regex Matches

Regex Pattern with Matches

” ([A-Z])\w+ (x)

Input Text

” Paris is the capital and largest city of France (x)

List of Dictionaries (with 4 keys where n is the nth match: 'match', 'start', 'end', 'position')

IMatchingOutput - List (x)

Loop through the list and assign each value to a dictionary variable dList

Loop

Repeats the actions in a loop until a break

Loop Type

Iterator

Iterator

For each item in the list ▼

iterate list

list

|MatchingOutput - List ▼ (x) ₊

For

All items in the list

Range

From index (optional)

#

To index (optional)

#

Assign the current value to variable

dList - Dictionary of Strings ▼ (x) ₊

Loop through the dictionary variable to get the value matching the keys.

Loop

Repeats the actions in a loop until a break

Loop Type

Iterator

Iterator

For each value in the dictionary ▼

iterate values

Dictionary variable

dList - Dictionary ▼ (x) ₊

Assign the current value to variable

prompt-assignment - String ▼ (x) ₊

While

Display the output in a message box.

Message box

Displays a message box

Enter the message box window title

Automation Anywhere Enterprise Client (x)

Enter the message to display

\$prompt-assignment\$ (x)

Scrollbar after lines

30 (x)

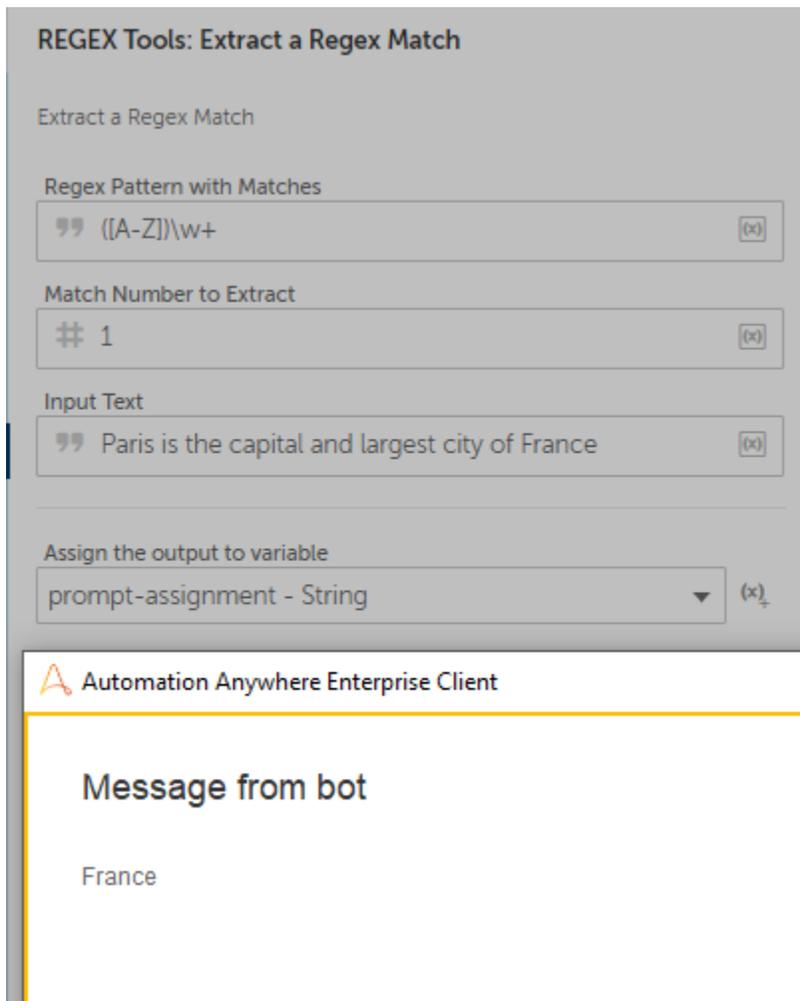
Close message box after

Seconds

#

Extract a Regex Match: This action can be used to extract nth match for a specific pattern where n is the user entered number corresponding to the required data.

Lets extract the 2nd word matching the regular expression **([A-Z])\w+** in the text **'Paris is the capital and largest city of France'**. As the index starts from 0, enter the value 1 in the field 'Match Number to Extract'.



REGEX Tools: Extract a Regex Match

Extract a Regex Match

Regex Pattern with Matches
([A-Z])\w+ (x)

Match Number to Extract
1 (x)

Input Text
Paris is the capital and largest city of France (x)

Assign the output to variable
prompt-assignment - String (x)

 Automation Anywhere Enterprise Client

Message from bot

France

Get Number of Matches: This action can be used to extract the number of times, a specific pattern occurs in the given text.

In the text **'Paris is the capital and largest city of France'**, there are 2 words starting with Capital letters which is the output stored in a number variable **'nMatchCount'** as seen in the screenshot below.



REGEX Tools: Get Number of Matches

Get Number of Matches

Regex Pattern with Matches

☞ ([A-Z])\w+ (x)

Input Text

☞ Paris is the capital and largest city of France (x)

Number of Regex Matches

nMatchCount - Number (x)

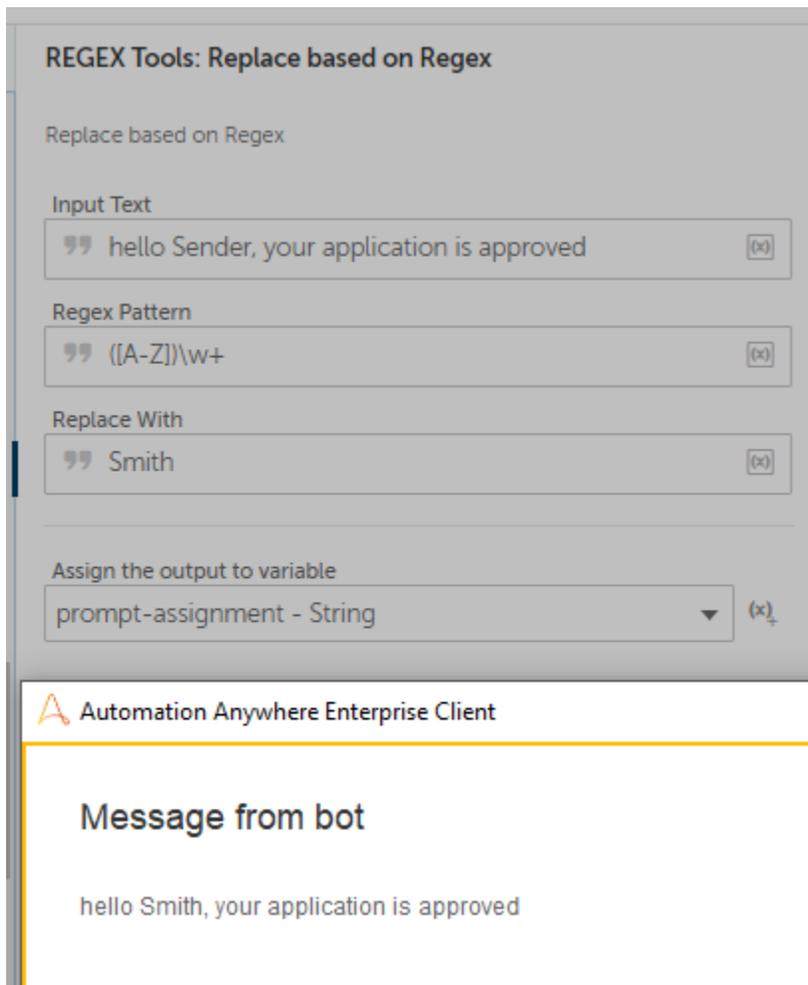
 Automation Anywhere Enterprise Client

Message from bot

2

Replace based on Regex: This action can be used to replace text matching a specific pattern.

To show case the usage of this action, let's consider that we want to replace the word 'Sender' with 'Smith' in the text '**hello Sender, your application is approved**'. Use the regular expression `([A-Z])\w+` to identify the words starting with capital letters followed by small letters.



REGEX Tools: Replace based on Regex

Replace based on Regex

Input Text
" hello Sender, your application is approved (x)

Regex Pattern
" ([A-Z])\w+ (x)

Replace With
" Smith (x)

Assign the output to variable
prompt-assignment - String (x)

 Automation Anywhere Enterprise Client

Message from bot

hello Smith, your application is approved

4. Support & FAQs

4.1 Support

Free packages are not officially supported. You can get access to Community Support through the following channels:

- You can get access to Community Support, connecting with other Automation Anywhere customers and developers on [APeople](#) – the [Bot Building Forum](#), the [Bot Store Support Forum](#), or the [Developers Everywhere Group](#).
- Automation Anywhere also provides a [Product Documentation portal](#) which can be accessed for more information about our products and guidance on [Enterprise A2019](#).

4.2 FAQs

Q: Can I make changes to this package?

A: Absolutely. Free packages are for you to make use of, customize, and/or include in your builds as you see fit. Steps to [build this package](#) is published in Developer portal along with the source code link.

For questions relating to Enterprise A2019: See the [Enterprise A2019 FAQs](#).

Appendix A: Record of Changes

No.	Version Number	Date of Change	Author	Notes
1	1.0.0.0	12/2/2020	Arjun S Meda	Initial release of package

Appendix B: References

No.	Topic	Reference Link
1	Overview of Enterprise A2019	Click here
2	Guidance: Building basic A2019 bots	Click here
3	Guidance: Building A2019 action packages	Click here
4	APeople Community Forum	Click here
5	Automation Anywhere University	Click here