

pandas II

This function is one of Plugins Operation. You can find the movie in [ARGOS RPA+ video tutorial](#).

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pandas II

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This is the second release in our pandas plugin series. It will give you more flexibility and more agility as to the pre-process sequence of your data. Data-Scientists can try their cleansing and filtering in tools like Jupyter Notebook and apply it the flow immediately to this plugin for super quick and easy distribution and deployment in the field.

Primary Features

This plugin runs python statement(s) on pandas with one (1) dataframe.

- [https://en.wikipedia.org/wiki/Pandas_\(software\)](https://en.wikipedia.org/wiki/Pandas_(software))
- https://pandas.pydata.org/pandas-docs/stable/user_guide/10min.html

Prerequisite

This plugin requires Python and Regular Expression skills.

 **Please note** that the pandas solution is a large software using numerous Python machine learning sub-modules. The bot will take more than just a few minutes to download them to be ready. But this is just for the "first run". As to the second run on, the local VENV will be used to avoid downloading unless new pandas II version has been selected to replace what was in the bot originally.

And, **YES** --- if no pre-processing is performed, this plugin can act as **a file format converter**. Again, you will face a long first run download time because of the reason described above.

Update 2021.03.11

You only need the BODY part of your pandas statements to drive the pandas-II and -III plugins.

The pandas-II and -III plugins have integrated the importing, reading, and the saving parts, you only need the body part of your statements. For example, when your pandas statements look like below you only need one line in the pandas-II and -III plugins.

For pandas-II

```
# import modules
import numpy as np
import pandas as pd
```

This pat is not needed.

```
# read data frame and save into df
df = pd.read_csv('in_file.csv')
```

```
# your scripts
df['BMI'] = df['Kilograms'] / ((df ['Centimeters'] / 100.0)*(df ['Centimeters'] / 100.0))
```

Only here

```
# save the result data frame
df.to_excel('out_file.xlsx')
```

This pat is not needed.

For pandas-III

```
# import modules
import numpy as np
import pandas as pd
```

```
# read data frames and save into dfs
dfs = list()
```

This pat is not needed.

```
dfs.append (pd.read_csv('in_file1.csv')) # dfs[0]
dfs.append (pd.read_csv('in_file2.csv')) # dfs[1]
```

```
# your script
df = dfs[0].merge(dfs[1], on='sku', how='left')
```

Only here

```
# save the result data frame
df.to_excel('out_file.xlsx')
```

This pat is not needed.

Update 2021.02.22

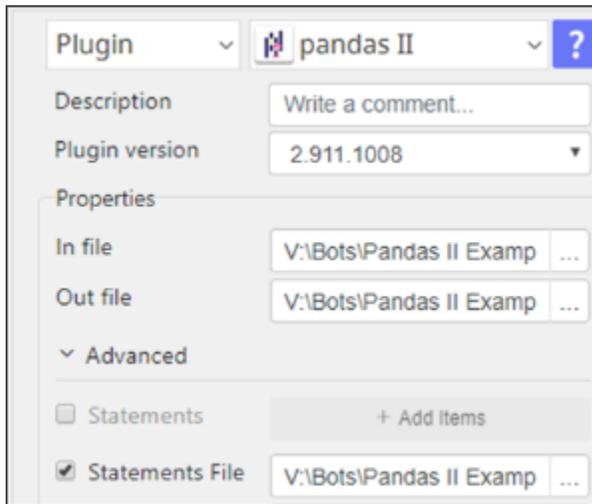
Sample Statements and Use of “df” and “dfs” variables

1. You must use “df” and “dfs” as variables for data-frames

- As variable for the dataframes with the Python statements in pandas II and III plugins, it is required to use "df" and "dfs" to represent dataframes (all in small cases).
- As for pandas III, the multiple dataframes ("dfs") will take [n] as index (it is zero based as the first set of dataframe becomes dfs[0]) as shown in examples below.

2. For pandas II Statements

- The "In file" will be the data frame stored at "df" Python variable
- All pandas functionality is working with "df" data frame including Reshaping at statements File
- Processed results of statement's execution will continue to be stored in the same "df" variable and eventually be the "Out file"



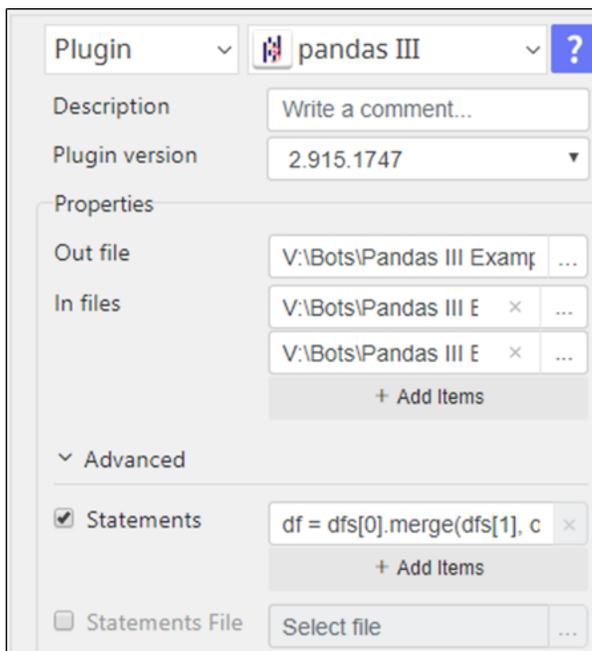
The screenshot shows the configuration for the 'pandas II' plugin. The 'Plugin' dropdown is set to 'pandas II'. The 'Description' field contains 'Write a comment...'. The 'Plugin version' is '2.911.1008'. Under the 'Properties' section, 'In file' and 'Out file' are both set to 'V:\Bots\Pandas II Examp'. The 'Advanced' section has 'Statements' unchecked and 'Statements File' checked, with the path 'V:\Bots\Pandas II Examp'.

3. pandas II Statements Example

- `df['BMI'] = df['Kilograms'] / ((df ['Centimeters'] / 100.0)*(df ['Centimeters'] / 100.0))`
- `df = df.sort_values('BMI', ascending=False)`
- `df = df.sort_values('BMI', ascending=False).groupby('Gender').head(5)`

4. pandas III Statements

- "In files" will be a data frame stored at "dfs[0]", "dfs[1]",... Python variable (zero base index)
- All pandas functionality is working with "dfs[n]" data frames including merge
- Processed results of statement's execution will continue to be stored in the same "df" variable and eventually be the "Out file"

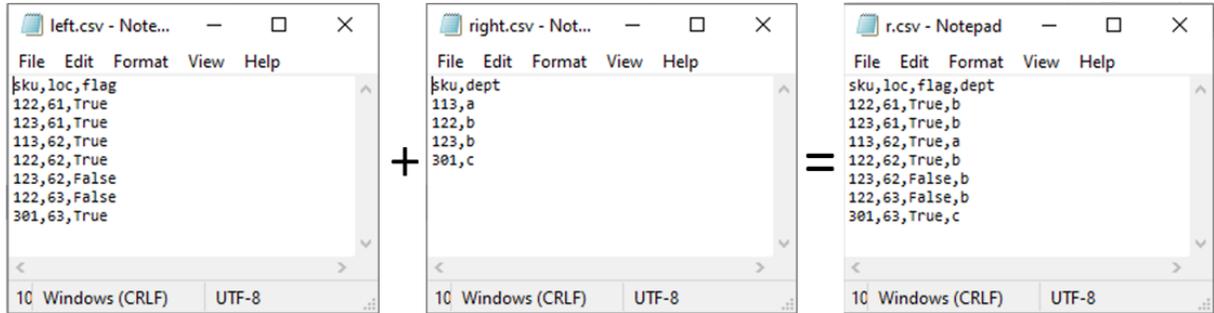


The screenshot shows the configuration for the 'pandas III' plugin. The 'Plugin' dropdown is set to 'pandas III'. The 'Description' field contains 'Write a comment...'. The 'Plugin version' is '2.915.1747'. Under the 'Properties' section, 'Out file' is 'V:\Bots\Pandas III Examp'. 'In files' contains two entries: 'V:\Bots\Pandas III E' and 'V:\Bots\Pandas III E'. The 'Advanced' section has 'Statements' checked with the code 'df = dfs[0].merge(dfs[1], c' and 'Statements File' unchecked with the text 'Select file'.

5. pandas III Statements Example

- `df = dfs[0].merge(dfs[1], on='sku', how='left')`

Above Python represents the process illustrated below (just like vlookup feature in Excel)



Input, Output, Features, and Parameters.

Required Input

1. Input File: One data file (dataframe).
Supported input formats are **.xlsm, .xls, xlsx, .csv, .tsv, and .json**
2. Output File: One data file.
Supported input formats are **.xlsm, .xls, xlsx, .csv, .tsv, and .json**

Optional Input

3. Enter a **Python statement**, or multiple statements. Also a text file that contains a list of statements can be used as input.
4. When input file multiple **sheets**, you can select which sheet to be processed.
5. You can designate which row you can use as **header (variable)** for your processing.
6. You can specify a column to be used as the **index** of the dataframe.
7. You can specify which column(s) to be or not to be processed.
8. You can determine specific pandas **datatypes** for your column.
9. You can determine what character to use to **separate your data** (default is comma).
10. You can specify **encoding** technology of the input file (default is UTF-8).
11. You can select to either **show or hide the index** column in your output file.

How to set parameters

pandas-II plugin parameters are 100% compatible to pandas read_excel specifications

Please refer the parameters on the right in the pandas document above.

- Sheet Name sheet_name
- Header Row header
- Index Col index_cols
- Use Col usecols
- Data Type dtypes

The screenshot shows the configuration interface for the 'pandas II' plugin. It includes fields for 'In file' and 'Out file', an 'Advanced' section with checkboxes for 'Statements', 'Statements File', 'Sheet Name', 'Header Row', 'Index Col', 'Use Cols', 'Data Type', 'CSV Sep', 'Encoding', and 'Show Index'. A 'Return value' section is at the bottom. Yellow callout boxes provide the following explanations:

- Input file in .xls .xlsx .xlsm .csv .tsv and .json.** (points to the 'In file' field)
- Output file (no need to exist) in .xls .xlsx .xlsm .csv .tsv and .json.** (points to the 'Out file' field)
- One Python statement or multiple python statements.** (points to the 'Statements' field)
- You can use a text file that contains a series of Python statements as well.** (points to the 'Statements File' field)
- Header row default is 0 meaning the top row. You can change it here..** (points to the 'Header Row' field)
- If index column needs to be specified, use 0 base index here.** (points to the 'Index Col' field)
- Refer to pandas data type document.** (points to the 'Data Type' field)
- Data separation character can be changed here.** (points to the 'CSV Sep' field)
- You can decide either to show or hide the index column.** (points to the 'Show Index' checkbox)

Additional text in the interface includes: 'Description: write a comment.....', 'Plugin version: 2.911.1008', a link to 'Learn about Return value', and a link to 'Contact author of this plugin'.

Text from Image

All Plugins
<ul style="list-style-type: none">• AD LDAP• Adv Send Email• Arithmetic Op• Attach Image• AWS S3• AWS Textra Rekog• Bot Collabo• Chatwork GetMessage• Chatwork Notification• Clipboard• Codat API• Convert CharSet• Convert Image• Convert Image II• Create Newfile• CSV2XLSX• Data Plot I• Detect CharSet• Dialog Calendar• Dialog Error

- Dialog File Selection
- Dialog Forms
- Dialog Info
- Dialog Password
- Dialog Question
- Dialog Text Entry
- Dialog Text Info
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- Drag and Drop
- Dynamic Python
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- Email Read Mon
- Env Check
- Env Var
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- Excel AdvIII
- Excel Copy Paste
- Excel Formula
- Excel Macro
- Excel Newfile
- Excel Simple Read
- Excel Simple Write
- Excel Update
- Fairy Devices mimi AI
- File Conv
- File Folder Exists
- File Folder Op
- File Status
- Folder Monitor
- Folder Structure
- Google Calendar
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- HTML Extract
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- IBM Speech to Text
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- JSON Select
- JSON to from CSV
- LINE Notify
- MongoDB
- MS Azure Text Analytics
- MS Word Extract
- NAVER OCR
- Newuser-SFDC
- PANDAS I
- pandas II
- pandas III
- PANDAS profiling
- Parsehub
- Password Generate
- PDF2Doc
- PDF Miner
- PDF SplitMerge
- PowerShell
- Print 2 Image
- Python Selenium
- QR Generate
- QR Read
- Regression
- Rename File
- REST API
- Rossum
- Scrapy Basic
- Screen Recording START
- Screen Recording STOP

- Screen Snipping
- Simple SFDC
- Slack
- Speed Test
- SQL
- SSH Command
- SSH Copy
- String Manipulation
- Sys Info
- Telegram
- Tesseract
- Text Read
- Text Write
- Time Diff
- Time Stamp
- Web Extract
- Windows Op
- Work Calendar
- XML Extract
- Xtracta Get Doc
- Xtracta Tracking
- Xtracta Upload
- ZipUnzip