How can I convert an index to a datetime in Pandas?

Authored by

stats writer

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Converting an index to a datetime in Pandas is a simple process that allows for easy manipulation and analysis of time-series data. This can be achieved by using the "to_datetime" function, which converts the index values to a datetime format. This function also allows for customization of the date and time format, making it a versatile tool for handling different types of data. With the converted datetime index, tasks such as selecting specific time periods or resampling the data can be easily performed, making it a valuable tool for data analysis.

Pandas: Convert Index to Datetime

You can use the following syntax to convert an index column of a pandas DataFrame to a datetime format:

df.index = pd.to_datetime(df.index)

The following example shows how to use this syntax in practice.

Example: Convert Index Column to Datetime in Pandas

Suppose we have the following pandas DataFrame that contains information about product sales at some store:

import pandas as pd

#create DataFrame
df = pd.DataFrame({'time': ,
'product': ,

'sales': })

#set 'time' column as index
df = df.set_index('time')

#view DataFrame
print(df)

product sales
time
4-15-2022 10:15 A 12
5-19-2022 7:14 B 25
8-01-2022 1:14 C 23
6-14-2022 9:45 D 18
10-24-2022 2:58 E 14
12-13-2022 11:03 F 10

Now suppose we attempt to create a new column that contains the hour of the time in the index column:

#attempt to create new column that contains hour of index column
df = df.index.hour

AttributeError: 'Index' object has no attribute 'hour'

We receive an error because the index column is not currently in a datetime format so it doesn't contain an 'hour' attribute.

To avoid this error, we can use the pandas to_datetime() function to convert the index column to a datetime format:

```
#convert index column to datetime format
df.index = pd.to_datetime(df.index)

#create new column that contains hour of index column
df = df.index.hour#view updated DataFrame
print(df)

product sales hour
time
2022-04-15 10:15:00 A 12 10
2022-05-19 07:14:00 B 25 7
2022-08-01 01:14:00 C 23 1
2022-06-14 09:45:00 D 18 9
2022-10-24 02:58:00 E 14 2
2022-12-13 11:03:00 F 10 11
```

By using the to_datetime() function, we're able to

convert the index column to a datetime format.

Thus, we're able to successfully create a new column called hour that contains the hour of the time in the index column without receiving any error.

Note: You can find the complete documentation for the pandas to_datetime() function .

The following tutorials explain how to perform other common operations in pandas: