In [1]:
```
import pandas as pd
import numpy as np
from pandas_datareader import data as web
import matplotlib.pyplot as plt
```

In [38]:
```
# import fund data before covid from web

tickers = ['0P0000XUZ6.BO']
icici1 = pd.DataFrame()
for i in tickers:
    icici1[i] = web.DataReader(i,'yahoo', start = '2018-1-1', end = '2019-12-30')['A
```

In [39]:
```
icici1.describe()
```

Out[39]:

	0P0000XUZ6.BO
count	486.000000
mean	59.514877
std	3.642229
min	49.049999
25%	57.317501
50%	60.514999
75%	62.047500
max	65.470001

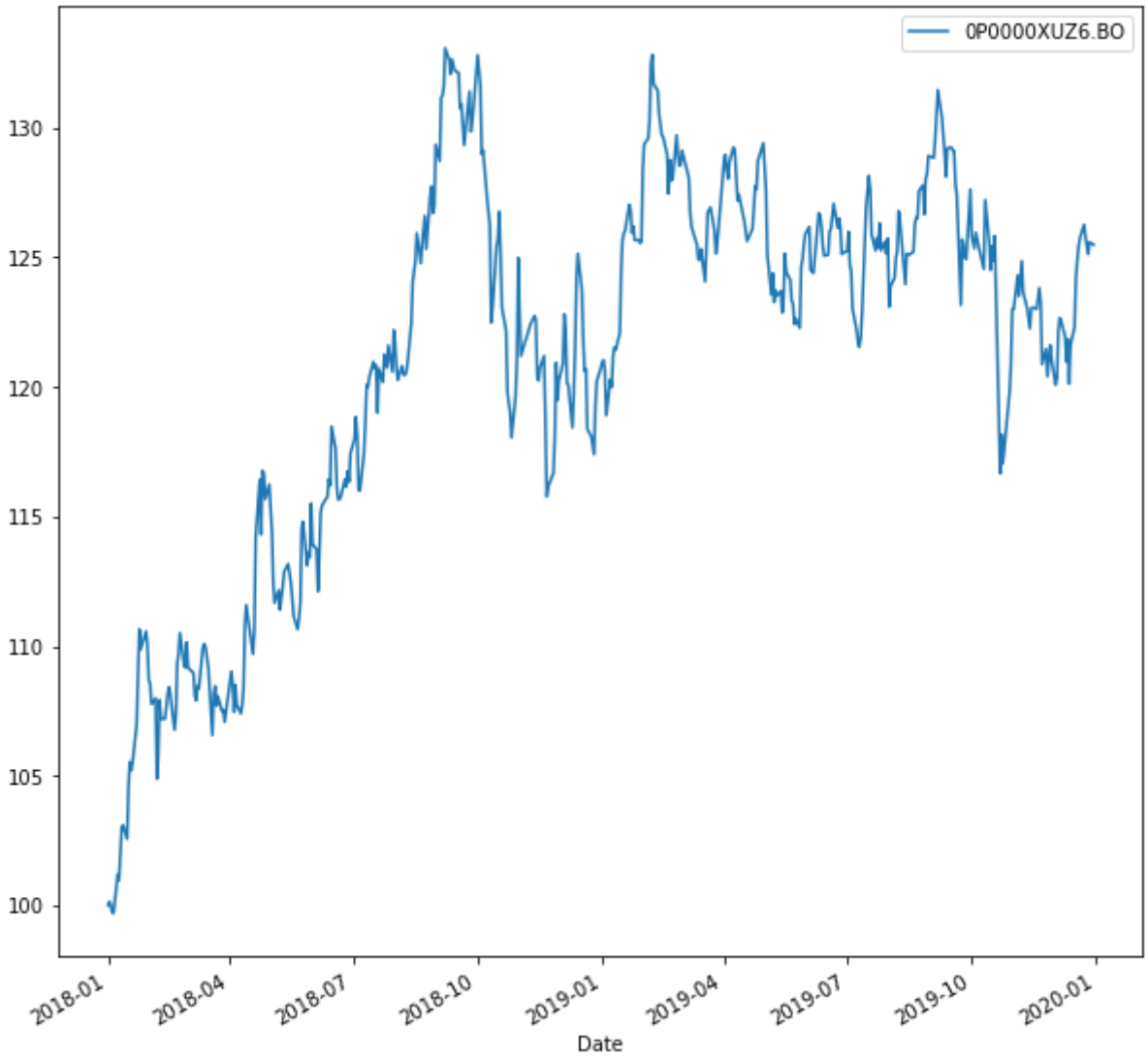
In [40]:
```
# normalize to 100

icici1.iloc[0]
```

Out[40]:
```
0P0000XUZ6.BO    49.200001
Name: 2018-01-01 00:00:00, dtype: float64
```

In [41]:
```
(icici1/icici1.iloc[0]*100).plot(figsize= (10,10))
```

Out[41]:
```
<AxesSubplot:xlabel='Date'>
```



In [64]:
```
# importing fund data during covid from web
tickers = ['0P0000XUZ6.BO']
icici2 =pd.DataFrame()
for j in tickers:
    icici2[j] = web.DataReader(j,'yahoo', start = '2020-1-1', end = '2021-12-30')['A


tickers = ['0P0000XUZ6.BO']
icici1 = pd.DataFrame()
for i in tickers:
    icici1[i] = web.DataReader(i,'yahoo', start = '2018-1-1', end = '2019-12-30')['A
```

In [88]:
```
icici2.desc()
```

Out[88]:

	0P0000XUZ6.BO
count	496.000000
mean	106.018327
std	41.862041
min	42.750000
25%	65.242500
50%	105.090000

	0P0000XUZ6.BO
75%	138.292503
max	186.309998

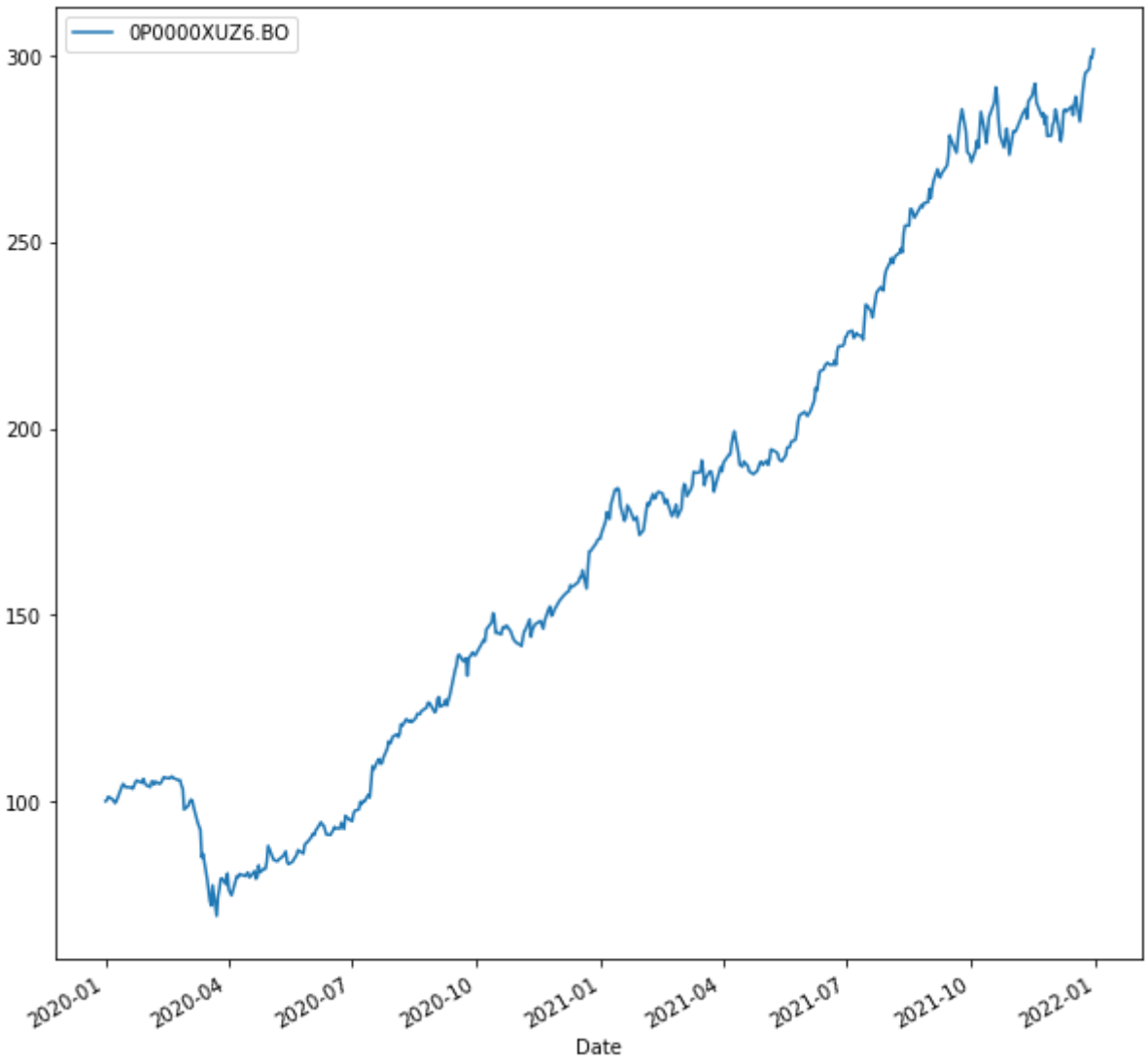
In [66]:
```
# normalize to 100

icici2.iloc[0]
```

Out[66]:
```
0P0000XUZ6.BO    61.759998
Name: 2020-01-01 00:00:00, dtype: float64
```

In [67]:
```
(icici2/icici2.iloc[0]*100).plot(figsize=(10,10))
```

Out[67]:
```
<AxesSubplot:xlabel='Date'>
```

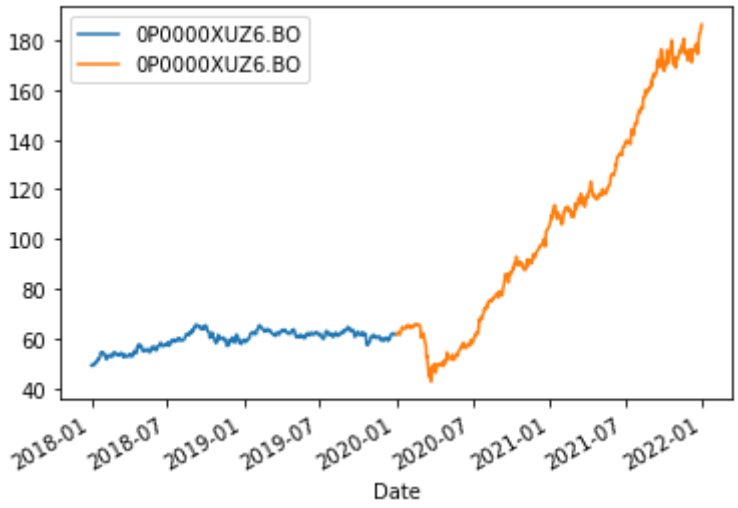


In [68]:
```
# comparing data before and during covid

ax = icici1.plot()

icici2.plot(ax=ax)
```

Out[68]:
```
<AxesSubplot:xlabel='Date'>
```



In [69]:
```
icici1_risk = (icici1/icici1.shift(1))-1
icici1_risk.head(2)
```

Out[69]:

Date	0P0000XUZ6.BO
2018-01-01	NaN
2018-01-02	0.001423

In [70]:
```
icici1_ret = icici1_risk.mean() *250
icici1_ret
```

Out[70]:
```
0P0000XUZ6.BO    0.130141
dtype: float64
```

In [71]:
```
final_ret1 = round(icici1_ret,4)*100
final_ret1
```

Out[71]:
```
0P0000XUZ6.BO    13.01
dtype: float64
```

In [72]:
```
icici_risk = icici1_risk.std() *250**0.5
icici_risk
```

Out[72]:
```
0P0000XUZ6.BO    0.161564
dtype: float64
```

In [73]:
```
final_risk1 =(round(icici1_risk,4)*100)
final_risk1.head()
```

Out[73]:

Date	0P0000XUZ6.BO
2018-01-01	NaN
2018-01-02	0.14
2018-01-03	-0.16
2018-01-04	-0.26

Date	0P0000XUZ6.BO
2018-01-05	-0.02

In [74]:
```
final_risk1 =(round(icici_risk,4)*100)
final_risk1
```

Out[74]:
```
0P0000XUZ6.BO    16.16
dtype: float64
```

In [75]:
```
j = pd.DataFrame({'Returns': final_ret1,'Risk': final_risk1})
```

In [76]:
```
j
```

Out[76]:

	Returns	Risk
0P0000XUZ6.BO	13.01	16.16

In [77]:
```
icici2_risk = (icici2/icici2.shift(1))-1
icici2_risk.head(2)
```

Out[77]:

Date	0P0000XUZ6.BO
2020-01-01	NaN
2020-01-02	0.002429

In [78]:
```
icici2_ret = icici2_risk.mean() *250
icici2_ret
```

Out[78]:
```
0P0000XUZ6.BO    0.589839
dtype: float64
```

In [79]:
```
final_ret2 = round(icici2_ret,4)*100
final_ret2
```

Out[79]:
```
0P0000XUZ6.BO    58.98
dtype: float64
```

In [80]:
```
icici_risk = icici2_risk.std() *250**0.5
icici_risk
```

Out[80]:
```
0P0000XUZ6.BO    0.2505
dtype: float64
```

In [92]:
```
final_risk2 =(round(icici_risk,4)*100)
final_risk2
```

Out[92]:
```
0P0000XUZ6.BO    25.05
dtype: float64
```

In [93]:
```
i = pd.DataFrame({'Returns': final_ret2,'Risk': final_risk2})
i
```

Out[93]:

	Returns	Risk
0P0000XUZ6.BO	58.98	25.05

In [97]:
```
j.append(i)
```

Out[97]:

	Returns	Risk
0P0000XUZ6.BO	13.01	16.16
0P0000XUZ6.BO	58.98	25.05

In [ ]:
```

```