In [ ]:
```
# Name :- Sarthak Pagar
# Roll No. :- 40
# Class :- TE(IT)
# Practical 6B :- Visualize the data using Python libraries matplotlib, seab
```

In [22]:
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [24]:
```
df2=pd.read_excel('airquality_data.xlsx')
```

In [25]:
```
df2.head()
```

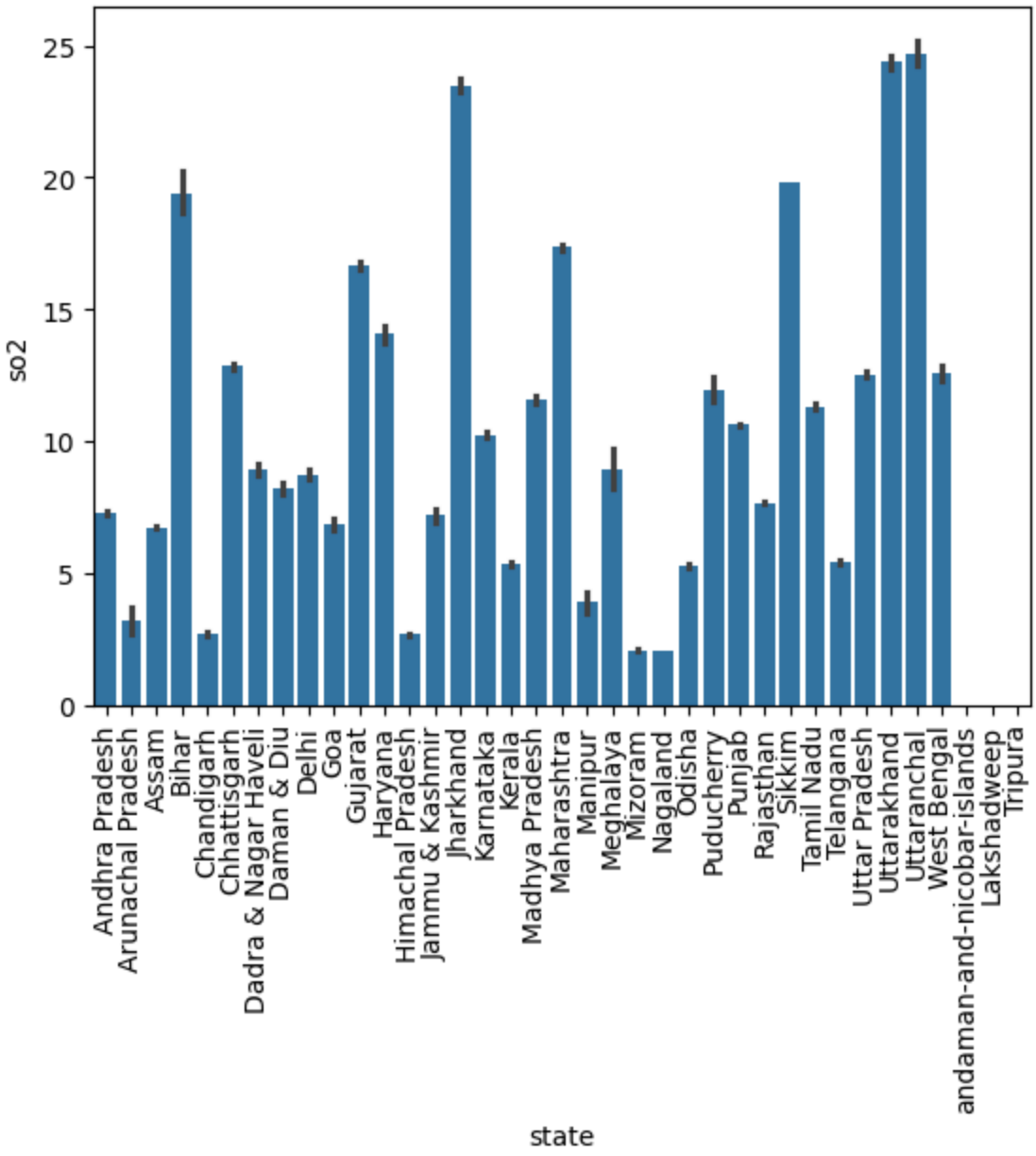
Out[25]:

	stn_code	sampling_date	state	location	agency	type	so2	no2
0	150	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	4.8	17.4
1	151	February - M021990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	3.1	7.0
2	152	February - M021990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.2	28.5
3	150	March - M031990	Andhra Pradesh	Hyderabad	NaN	Residential, Rural and other Areas	6.3	14.7
4	151	March - M031990	Andhra Pradesh	Hyderabad	NaN	Industrial Area	4.7	7.5

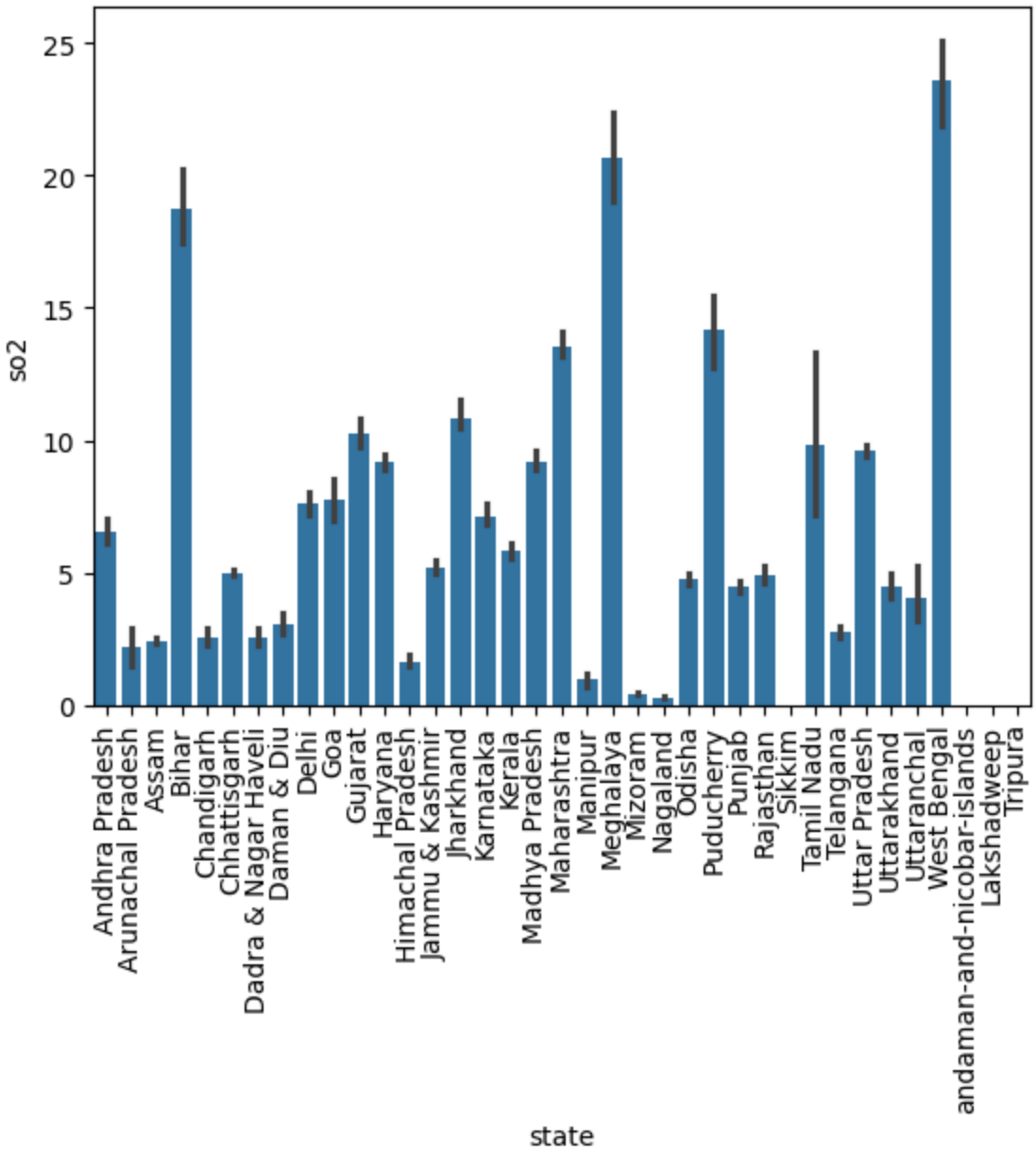
In [26]:
```
df2.columns
```

Out[26]:
```
Index(['stn_code', 'sampling_date', 'state', 'location', 'agency', 'type',
       'so2', 'no2', 'rspm', 'spm', 'location_monitoring_station', 'pm2_5',
       'date'],
      dtype='object')
```

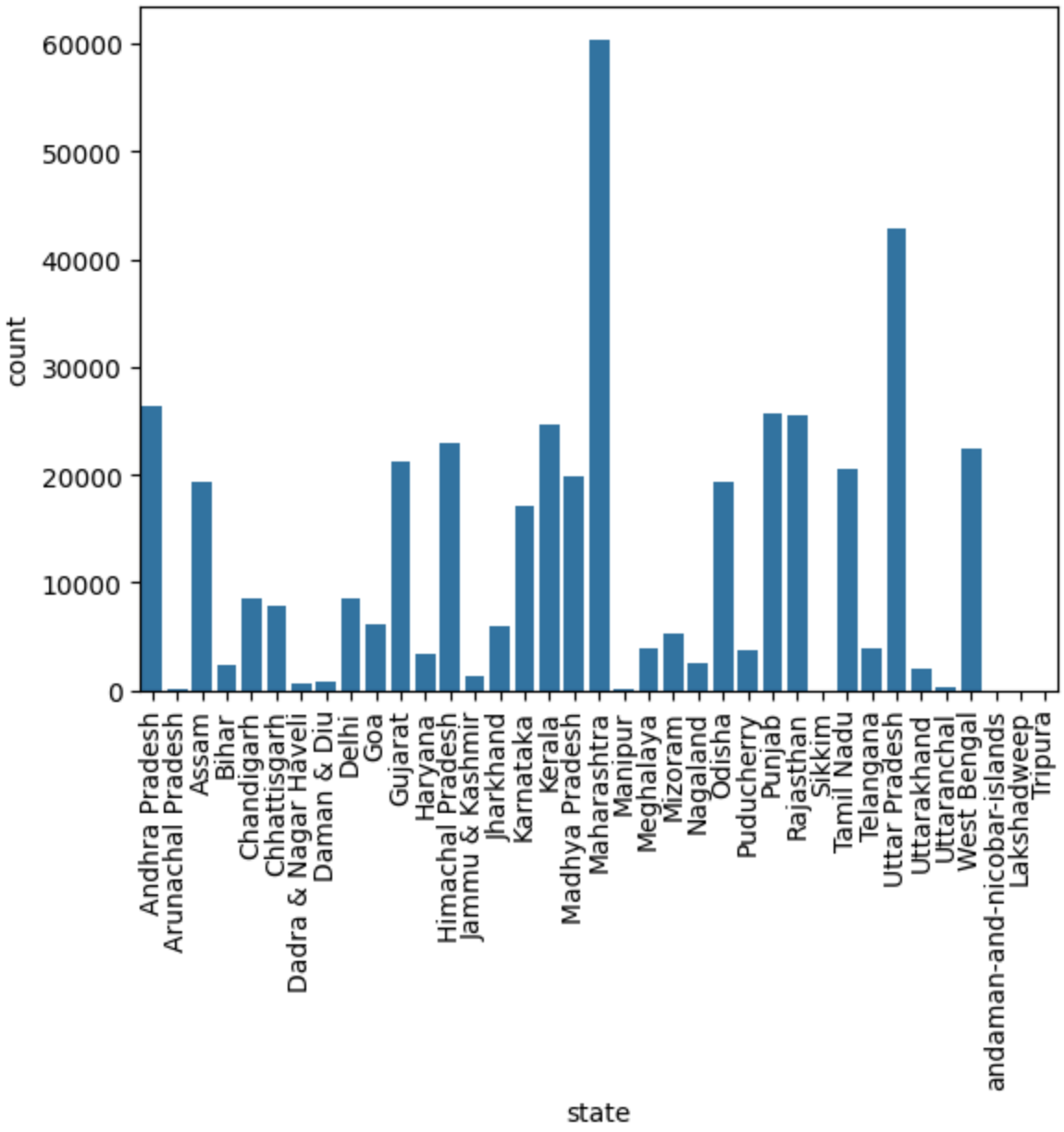
In [27]:
```
sns.barplot(x='state',y='so2',data=df2)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```



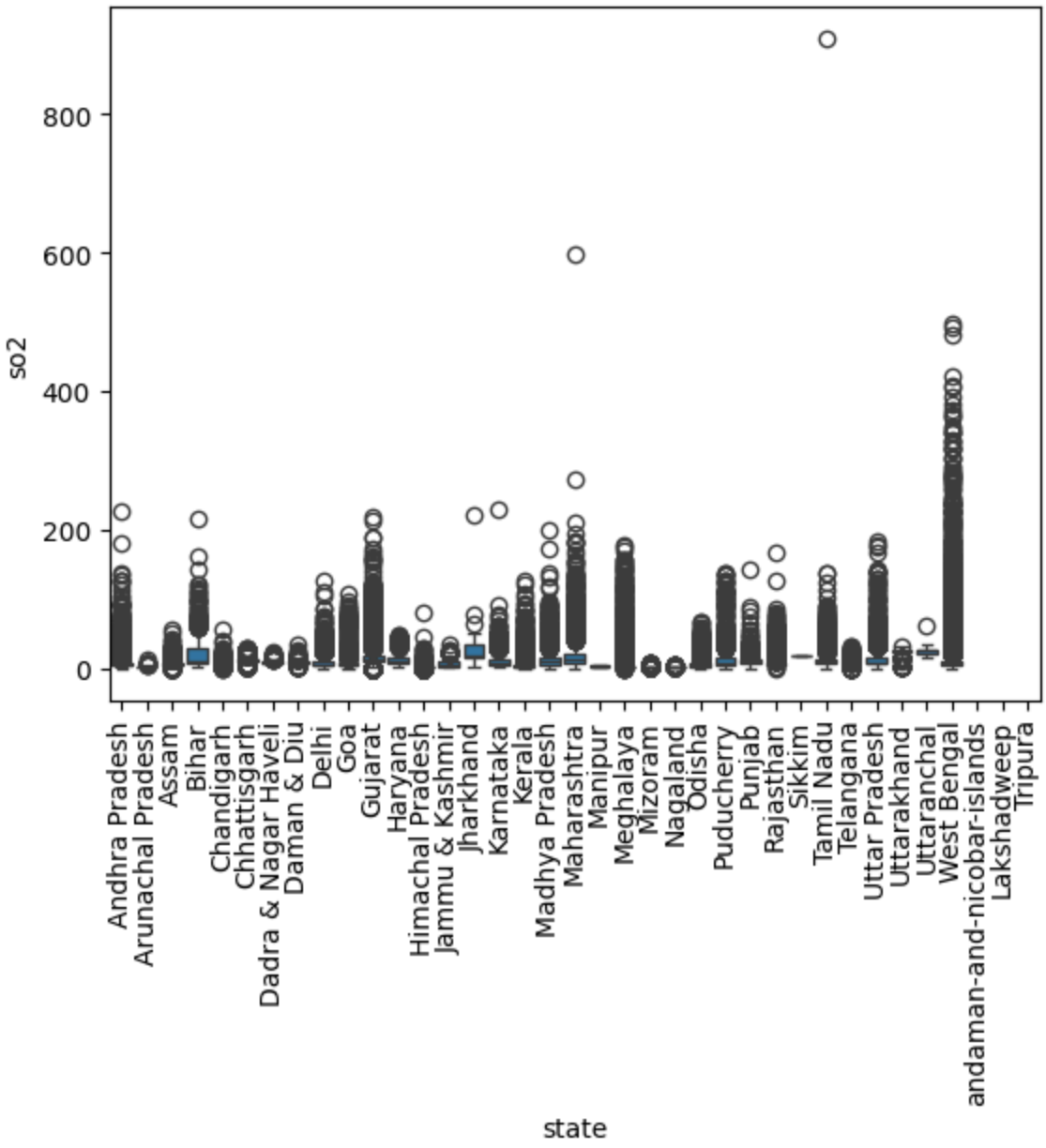
In [28]:
```
sns.barplot(x='state',y='so2',data=df2,estimator=np.std)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```



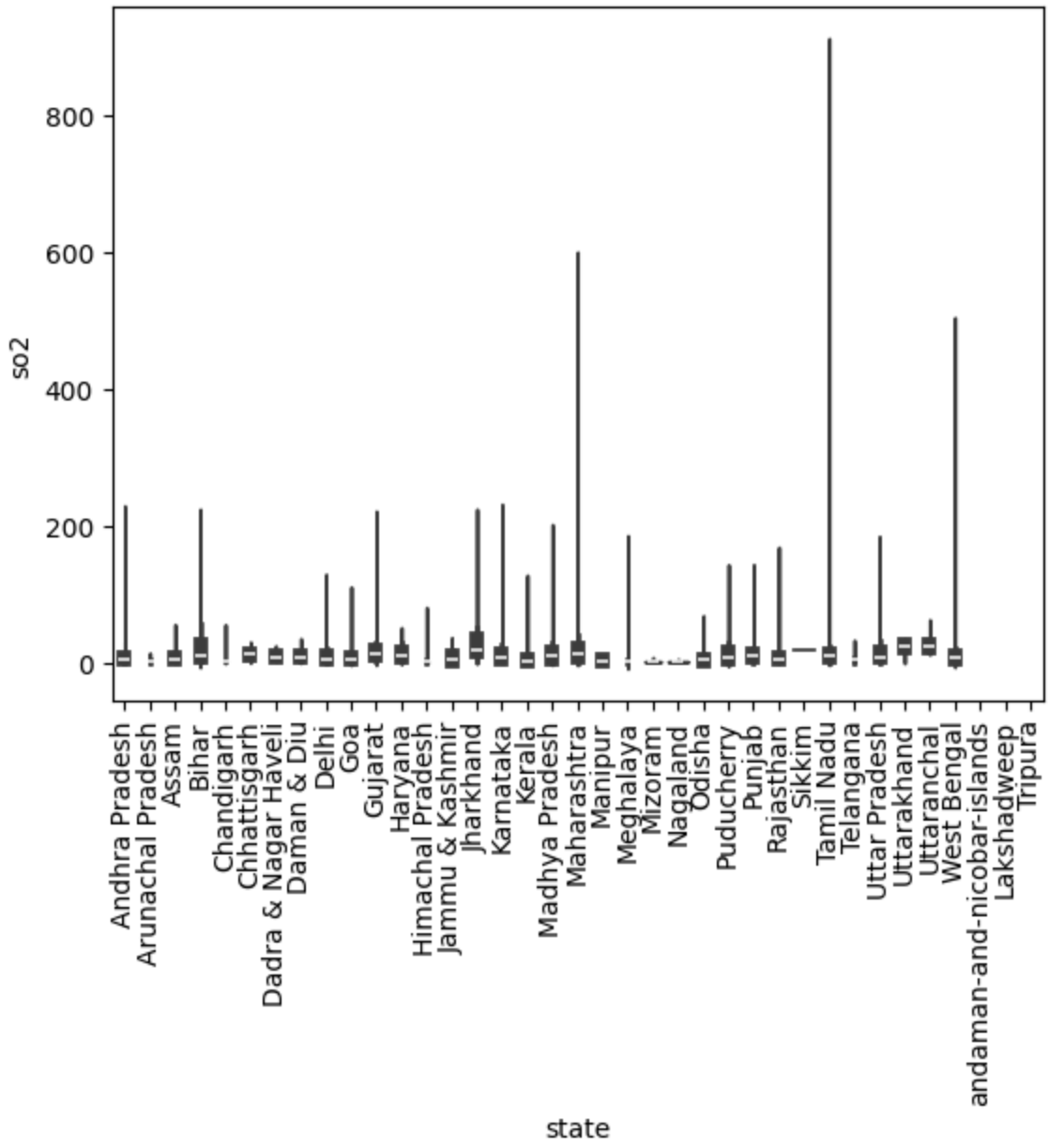
In [29]:
```
# Count Plot
sns.countplot(x='state',data=df2)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```



In [30]:
```
# Box Plot
sns.boxplot(x='state',y='so2',data=df2)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```



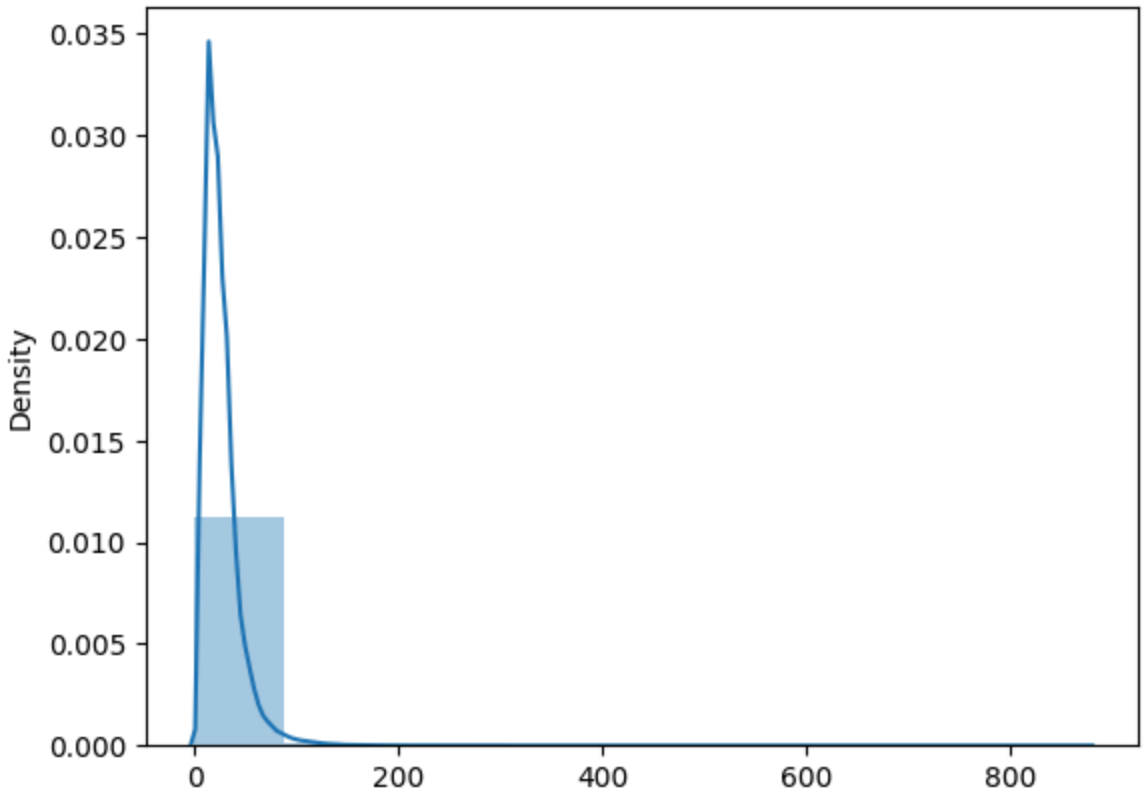
In [31]:
```
# Violin Plot
sns.violinplot(x='state',y='so2',data=df2)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```



In [32]:
```
sns.distplot(x=df2['no2'],bins=10)
```

```
C:\Users\sspag\AppData\Local\Temp\ipykernel_4868\2581341771.py:1: UserWarnin
g:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(x=df2['no2'],bins=10)
```

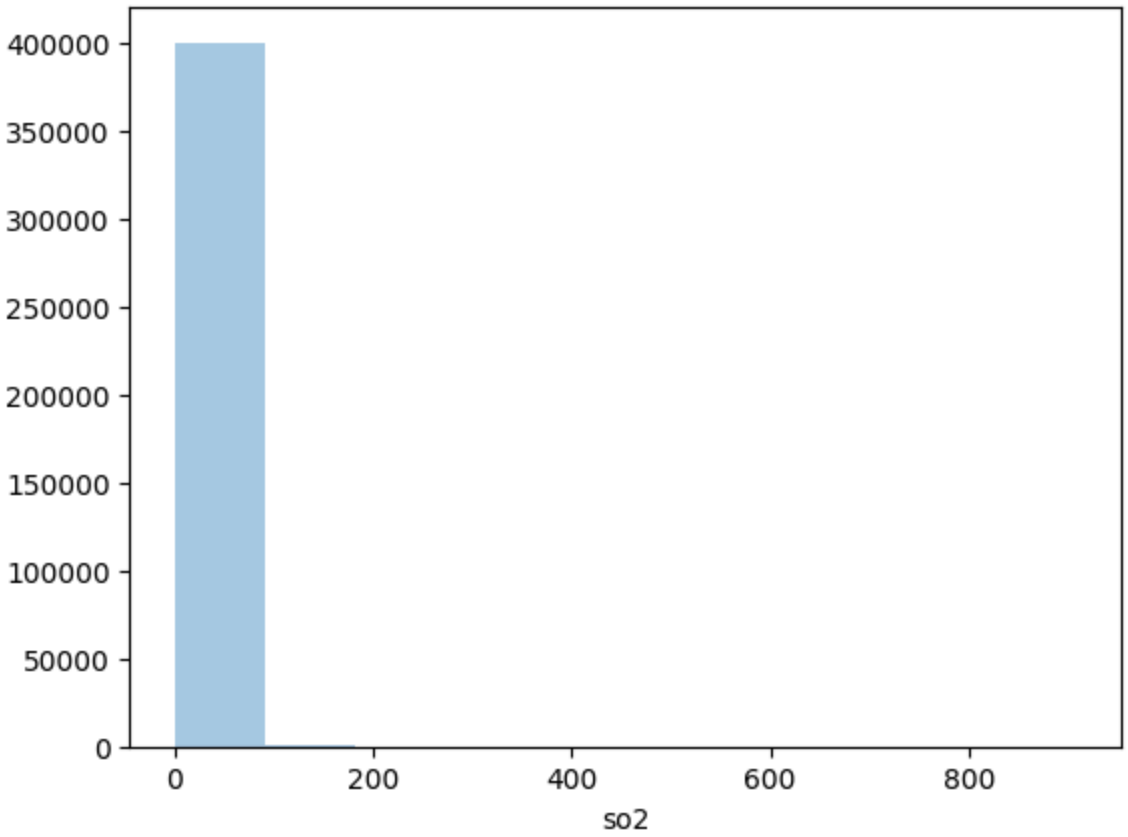
Out[32]:
```
<Axes: ylabel='Density'>
```



In [33]:
```
sns.distplot(df2['so2'],bins=10,kde=False)
```

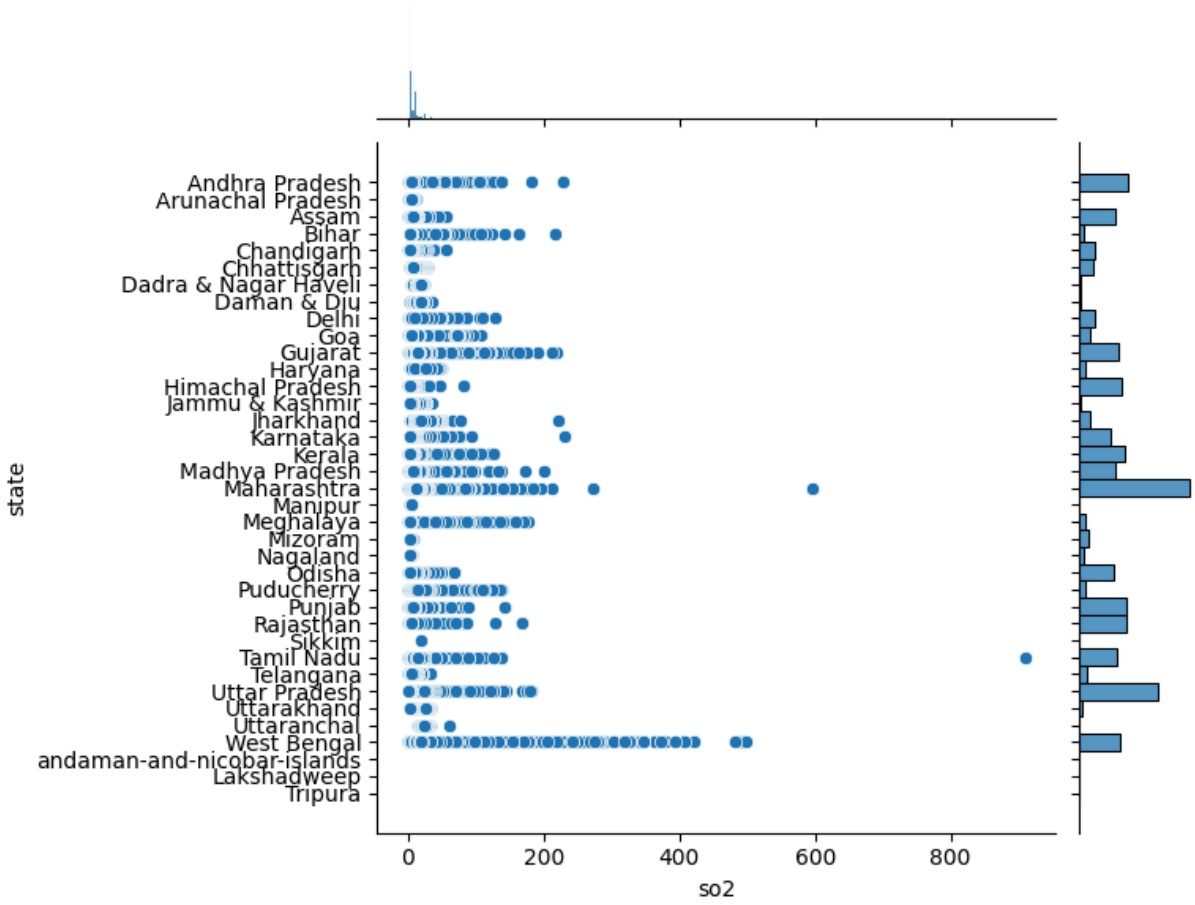
```
C:\Users\sspag\AppData\Local\Temp\ipykernel_4868\359740269.py:1: UserWarnin
g:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df2['so2'],bins=10,kde=False)
```

Out[33]:
```
<Axes: xlabel='so2'>
```



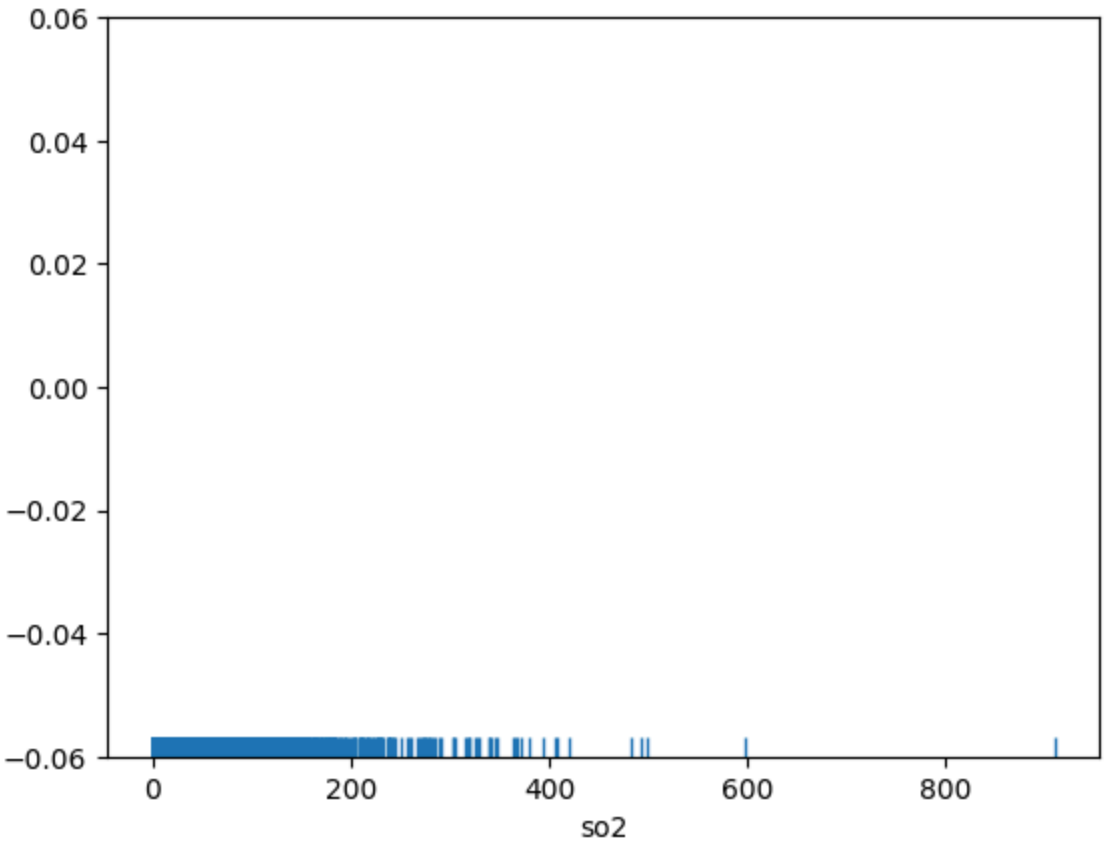
In [34]:
```
# For Plot 1
sns.jointplot(x=df2['so2'],y=df2['state'],kind='scatter')
```

Out[34]: <seaborn.axisgrid.JointGrid at 0x1fc146ed950>



In [35]:
```
sns.rugplot(df2['so2'])
```

Out[35]: <Axes: xlabel='so2'>



In [36]:
```
#  Strip Plot
sns.stripplot(y='so2',x='state',data=df2,jitter= False)

# Rotate x-axis labels for better visibility
plt.xticks(rotation=90)

# Show the plot
plt.show()
```