In [1]:
```
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
import seaborn as sns
import statistics
import scipy as sp
%matplotlib inline
import warnings
warnings.simplefilter(action="ignore", category=FutureWarning)
```

In [2]:
```
df=pd.read_excel('sales.xls')
df.head(5)
```

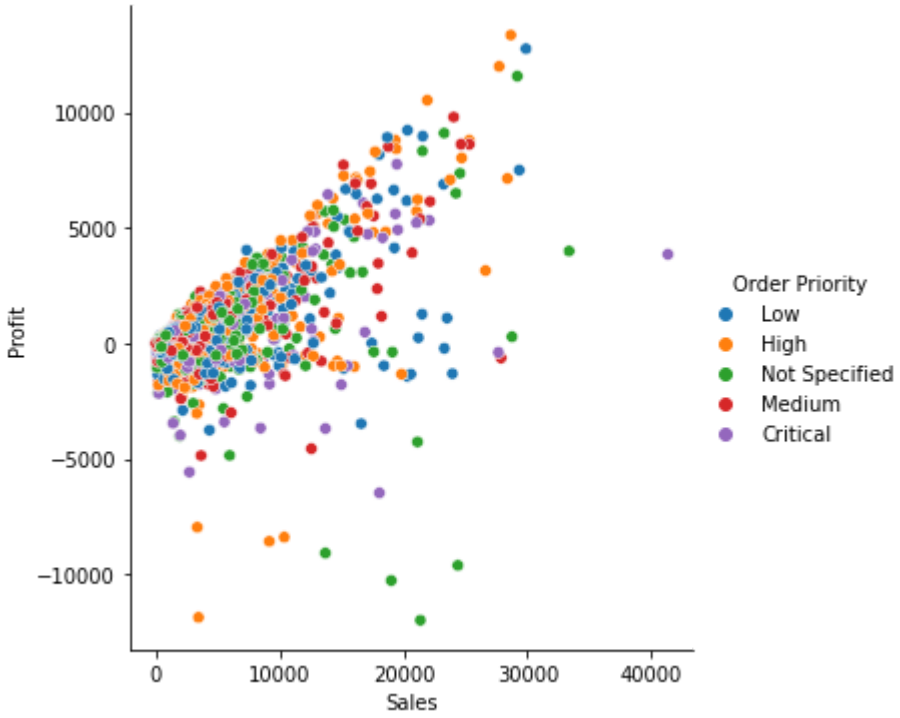
Out[2]:

	Row ID	Order ID	Order Date	Order Priority	Order Quantity	Sales	Discount	Ship Mode	Profit	Unit Price	...	M
0	1	3	2010-10-13	Low	6	261.5400	0.04	Regular Air	-213.2500	38.94	...	
1	49	293	2012-10-01	High	49	10123.0200	0.07	Delivery Truck	457.8100	208.16	...	
2	50	293	2012-10-01	High	27	244.5700	0.01	Regular Air	46.7075	8.69	...	
3	80	483	2011-07-10	High	30	4965.7595	0.08	Regular Air	1198.9710	195.99	...	
4	85	515	2010-08-28	Not Specified	19	394.2700	0.08	Regular Air	30.9400	21.78	...	

5 rows × 21 columns

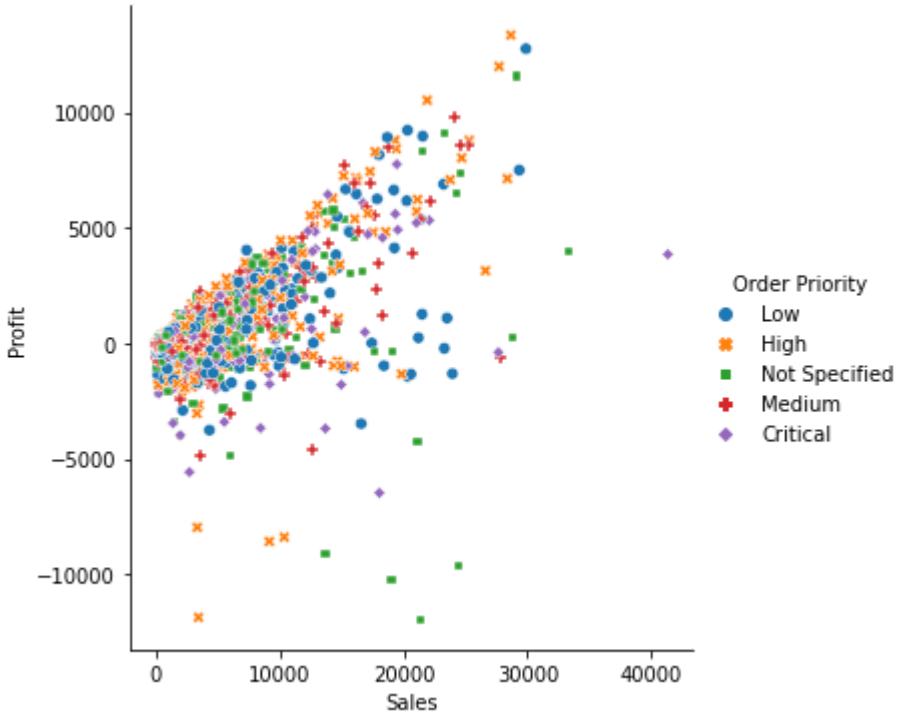
In [3]:
```
sns.relplot('Sales','Profit',data=df,hue='Order Priority')
```

Out[3]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7979d8b20>
```



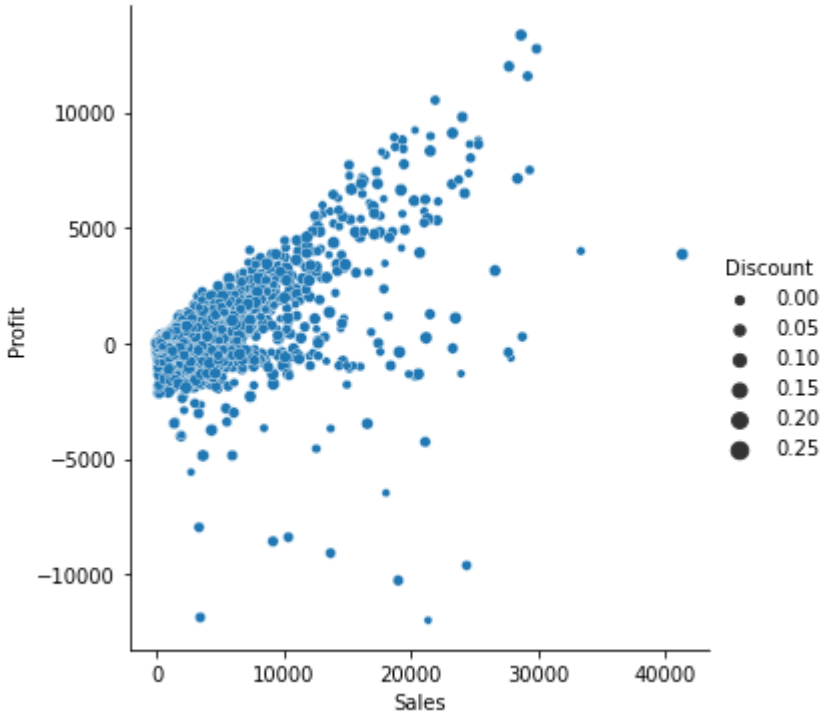
In [4]:
```
sns.relplot('Sales','Profit',data=df,hue='Order Priority',style='Order Priority
```

Out[4]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a212f0a0>
```



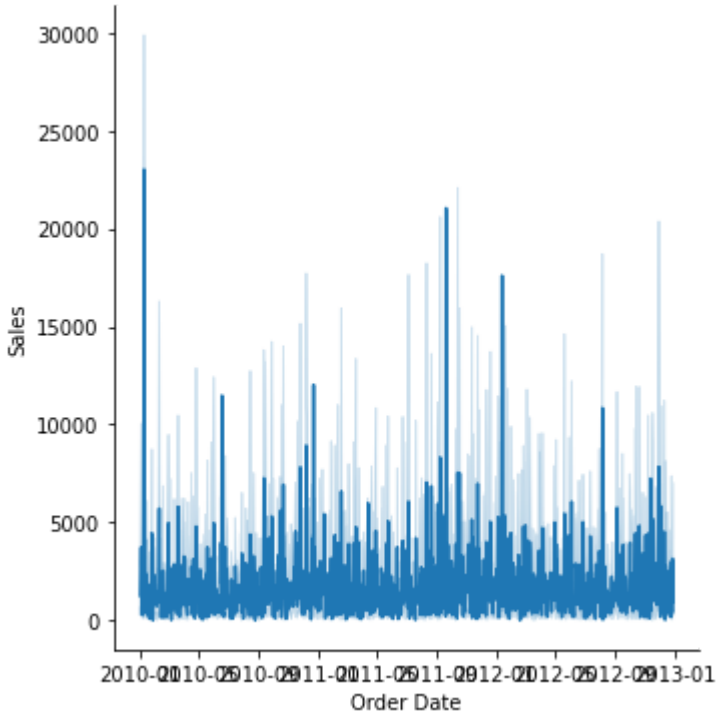
In [5]:
```
sns.relplot('Sales','Profit',data=df,size='Discount')
```

Out[5]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a2195100>
```



In [6]:
```
sns.relplot('Order Date','Sales',data=df,kind='line')
```

Out[6]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a21cdaf0>
```



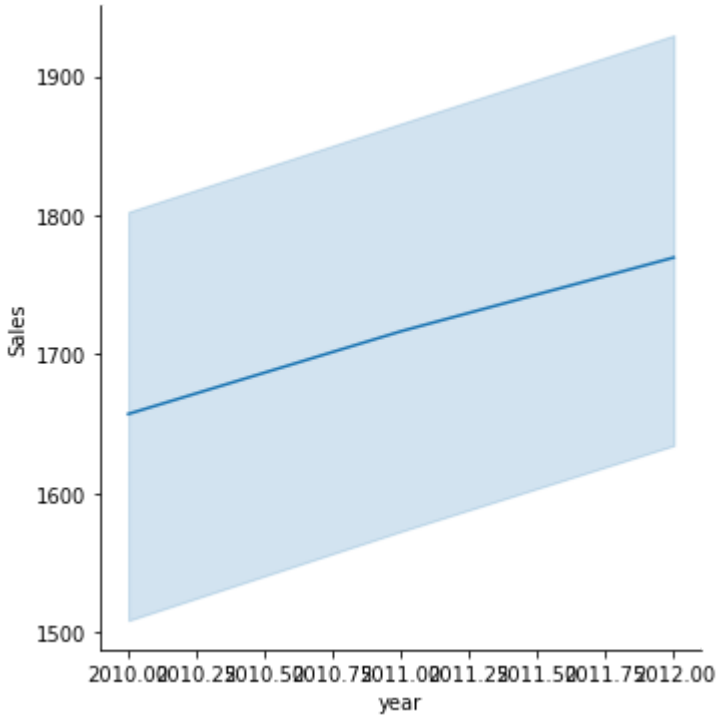
In [7]:
```
df['year']=df['Order Date'].dt.year
```

In [8]:
```
df.year.unique()
```

Out[8]:
```
array([2010, 2012, 2011], dtype=int64)
```

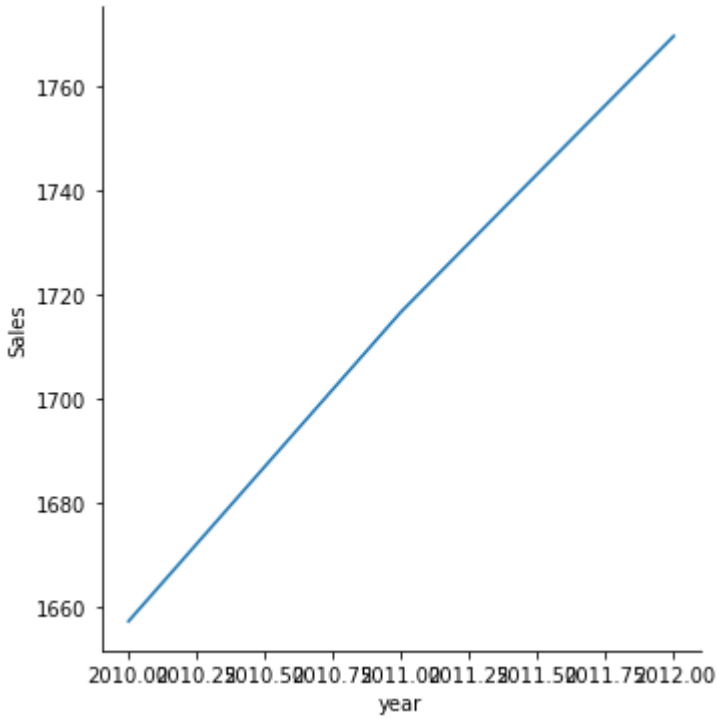
In [9]:
```
sns.relplot('year','Sales',data=df,kind='line')
```

Out[9]: <seaborn.axisgrid.FacetGrid at 0x1d7a21e3520>



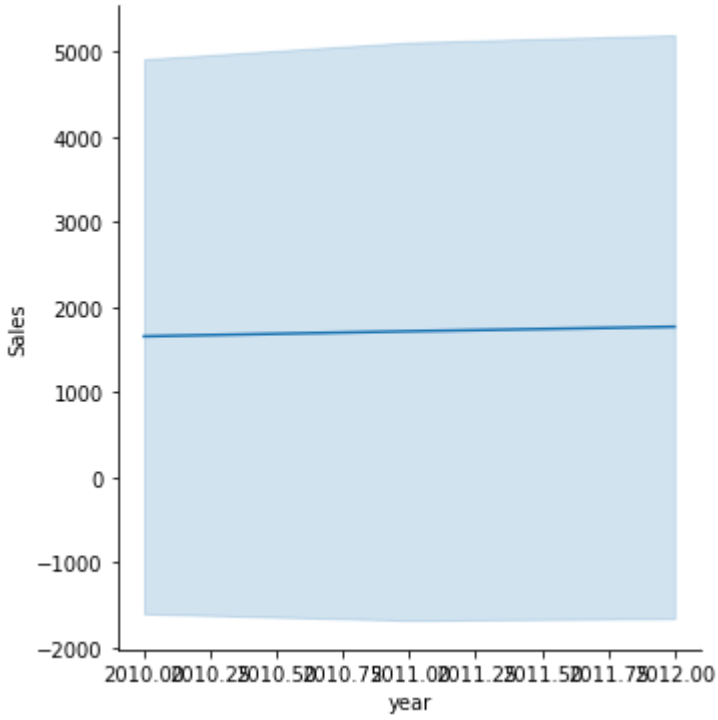
In [10]:
```
sns.relplot('year','Sales',data=df,kind='line',ci=None)
```

Out[10]: <seaborn.axisgrid.FacetGrid at 0x1d7a220c9a0>



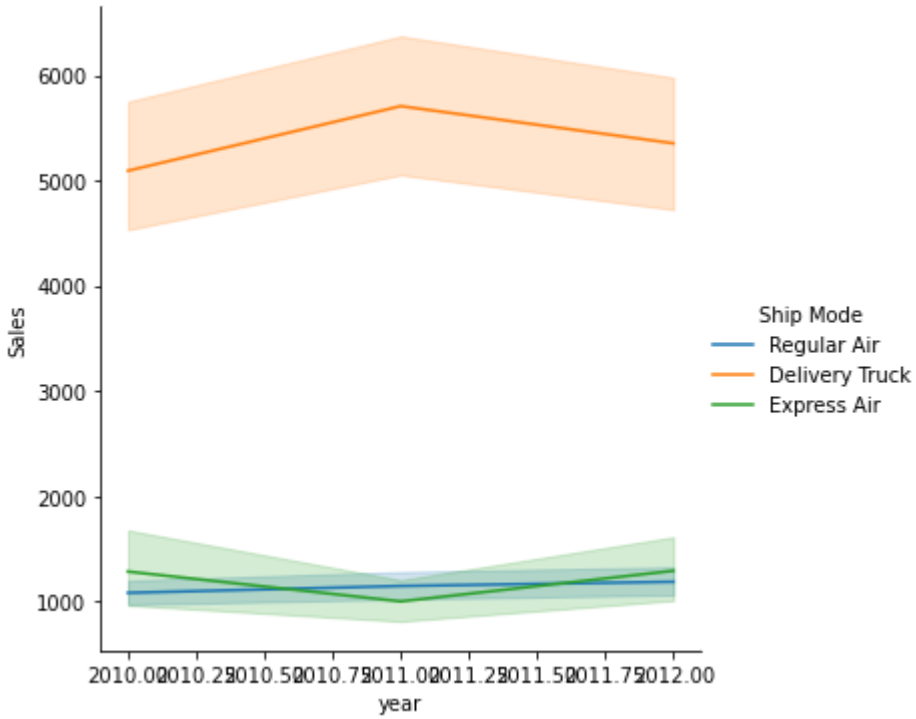
In [11]:
```
sns.relplot('year','Sales',data=df,kind='line',ci="sd")
```

Out[11]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a3af61c0>
```



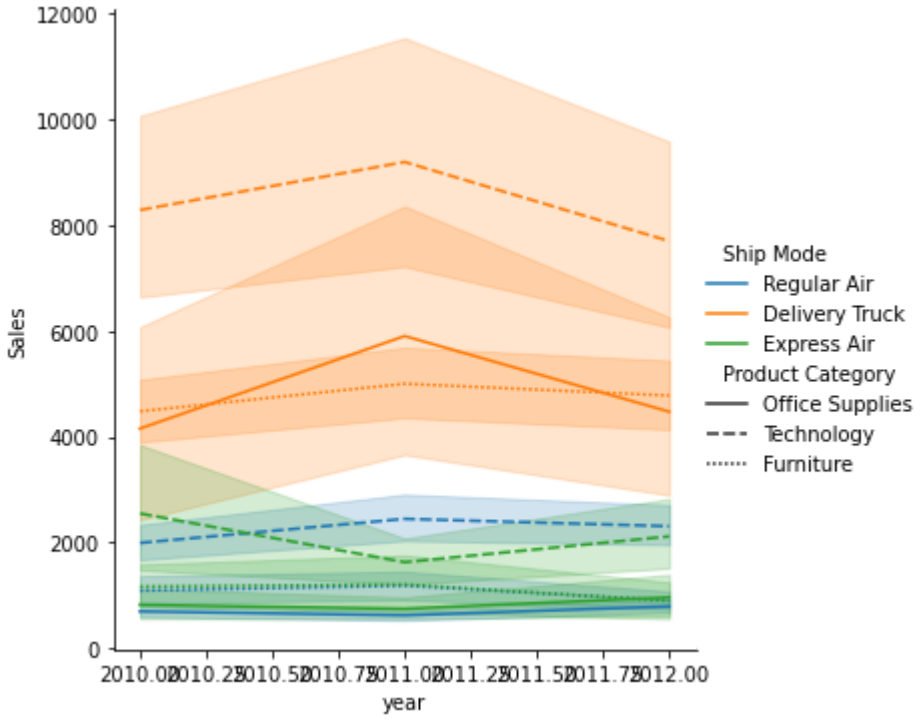
In [12]:
```
sns.relplot('year','Sales',data=df,kind='line',hue='Ship Mode')
```

Out[12]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a3b50b50>
```



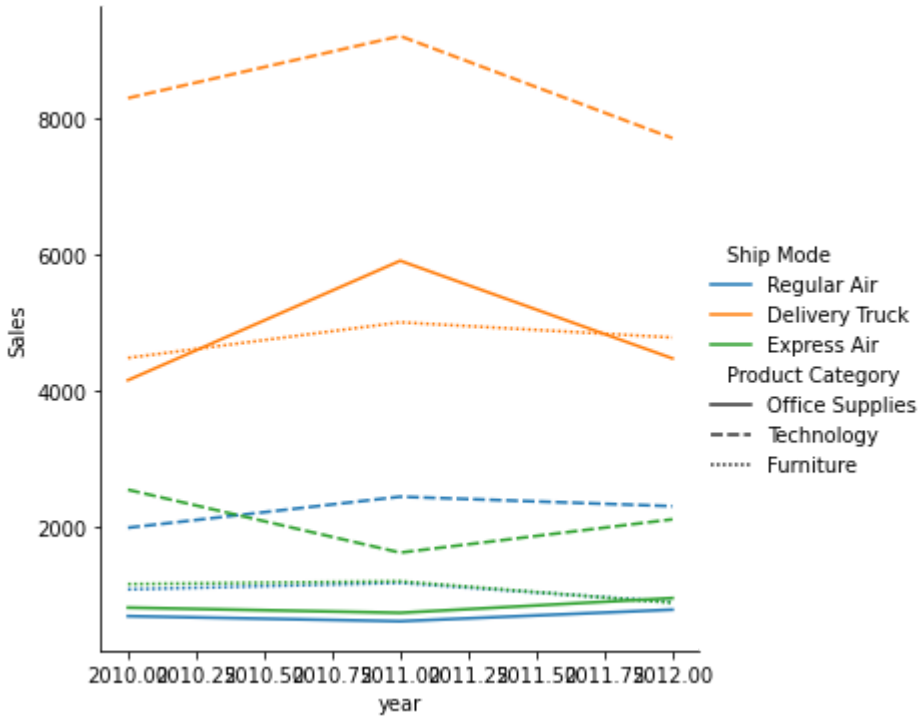
In [13]:
```
sns.relplot('year','Sales',data=df,kind='line',hue='Ship Mode',style="Product C
```

Out[13]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a3b506a0>
```



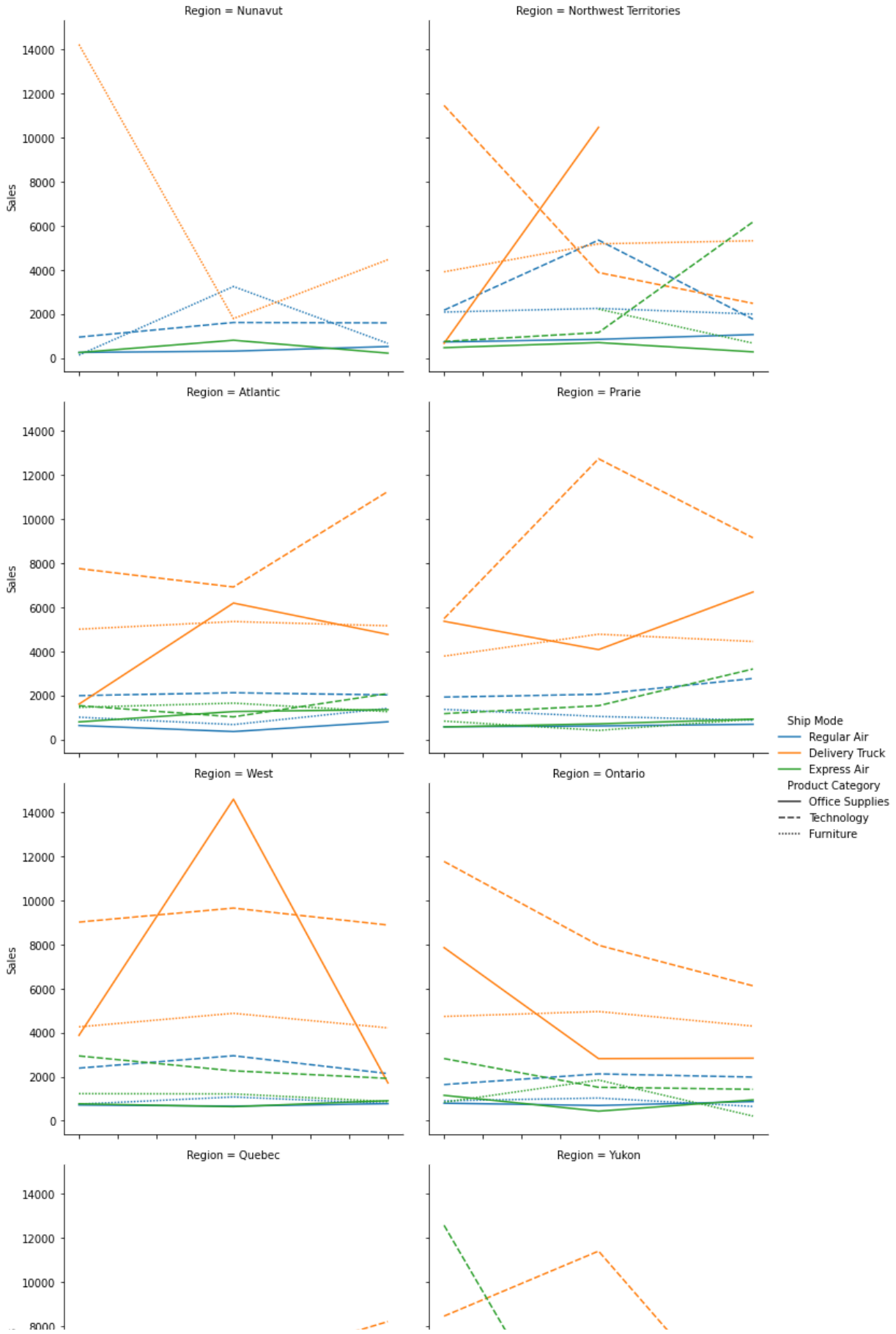
In [14]:
```
sns.relplot('year','Sales',data=df,kind='line',hue='Ship Mode',style="Product C
```

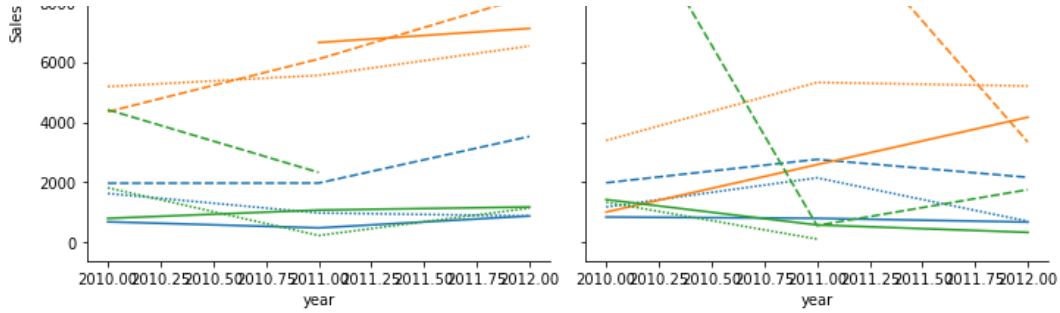
Out[14]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7a27ebb80>
```



In [15]:
```
sns.relplot('year','Sales',data=df,kind='line',hue='Ship Mode',style="Product C
```

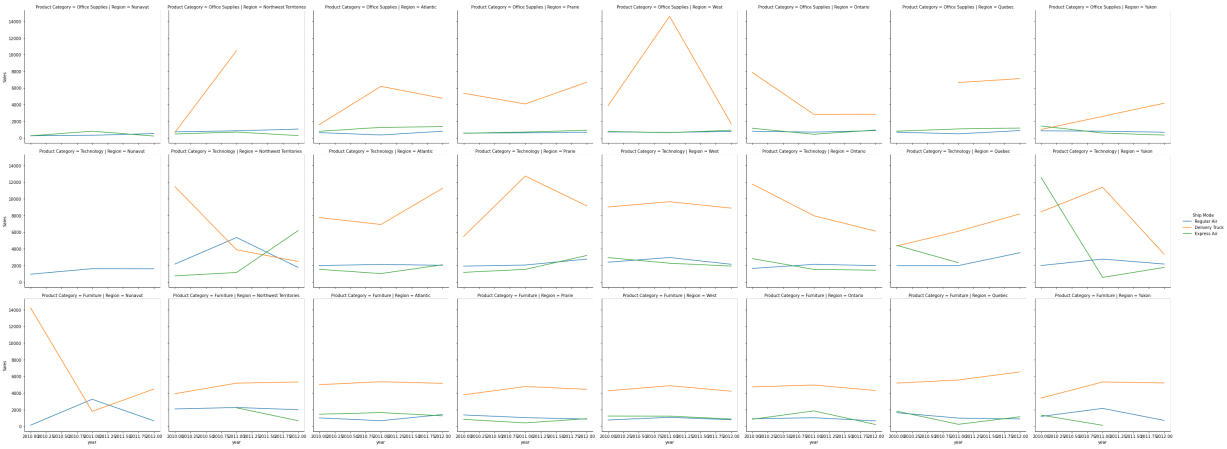
Out[15]: <seaborn.axisgrid.FacetGrid at 0x1d7a3a64790>





In [20]:
```
sns.relplot('year','Sales',data=df,kind='line',hue='Ship Mode',ci=None,col="Reg
```

Out[20]: <seaborn.axisgrid.FacetGrid at 0x1d7a2855b80>

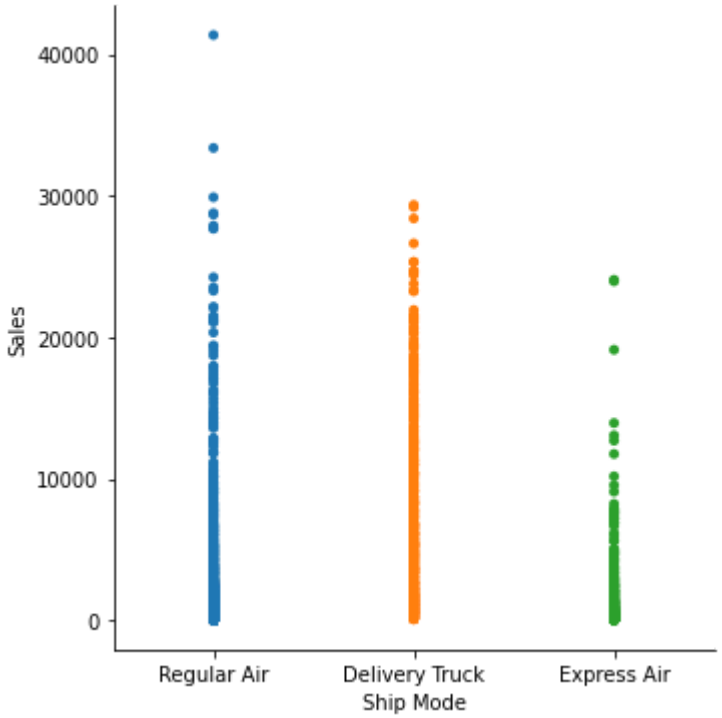


In [21]:
```
sns.catplot('Ship Mode','Sales',data=df)
```

Out[21]: <seaborn.axisgrid.FacetGrid at 0x1d7a3a64610>

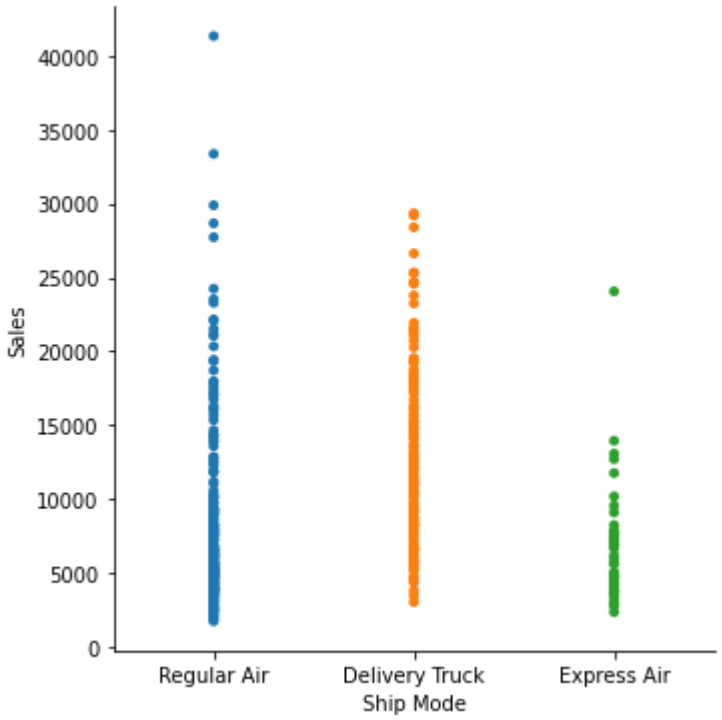
In [22]:
```
sns.catplot('Ship Mode','Sales',data=df,jitter=False)
```

Out[22]: <seaborn.axisgrid.FacetGrid at 0x1d7a6aacf70>



In [23]:
```
sns.catplot('Ship Mode','Sales',data=df.query("Profit > 1000"),jitter=False)
```

Out[23]: <seaborn.axisgrid.FacetGrid at 0x1d7a50c99a0>



In [27]:
```
sns.catplot('Ship Mode','Sales',data=df.query("Profit > 1000"),kind='swarm',s=3
```

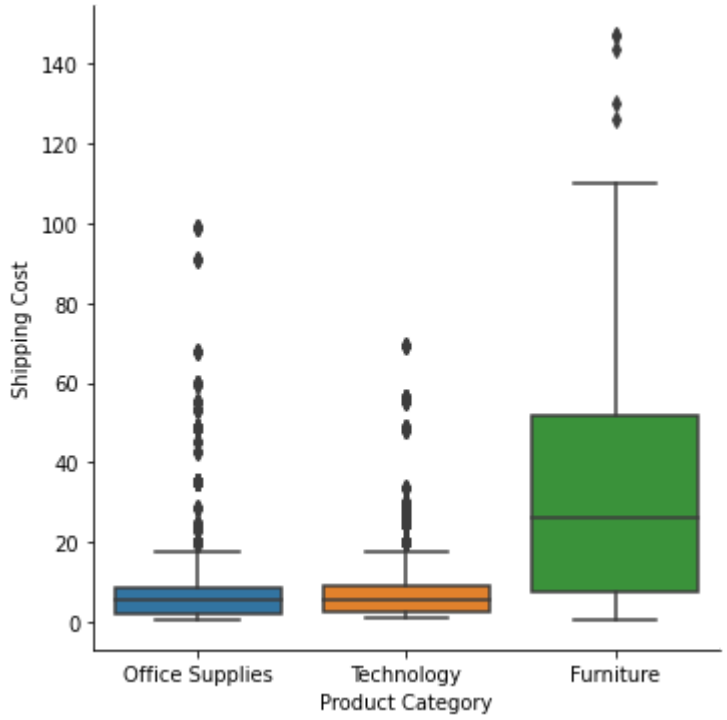
Out[27]: <seaborn.axisgrid.FacetGrid at 0x1d7aaa8d790>

In [28]:
```
sns.catplot('Ship Mode','Sales',data=df.query("Profit > 1000"),kind='strip',s=3
```

Out[28]: <seaborn.axisgrid.FacetGrid at 0x1d7aa917d90>

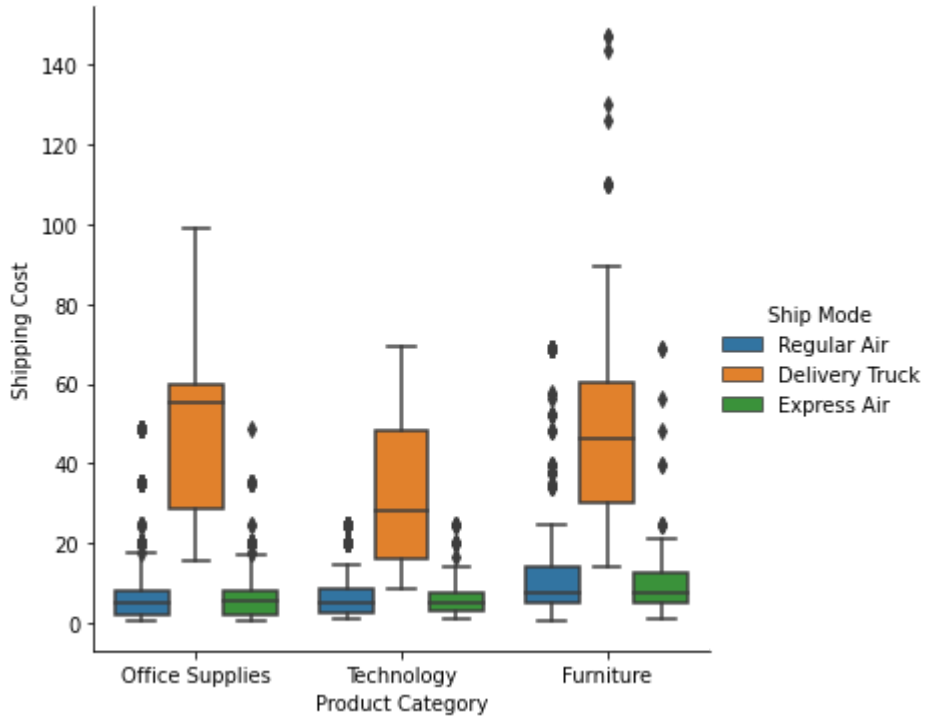
In [30]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='box')
```

Out[30]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7aaabea90>
```



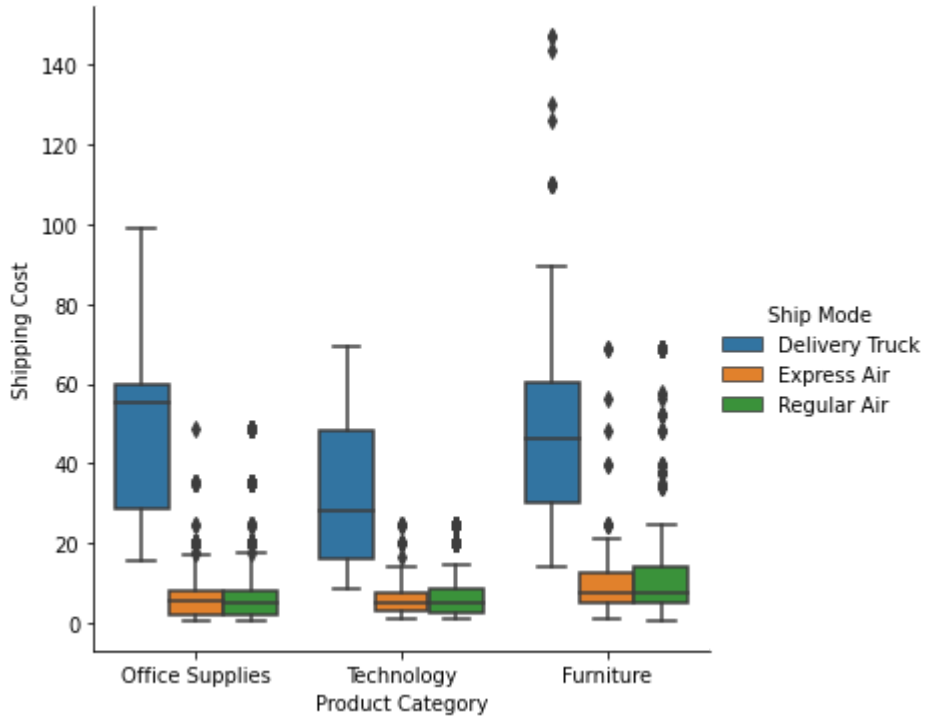
In [31]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='box',hue='Ship
```

Out[31]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7aac705b0>
```



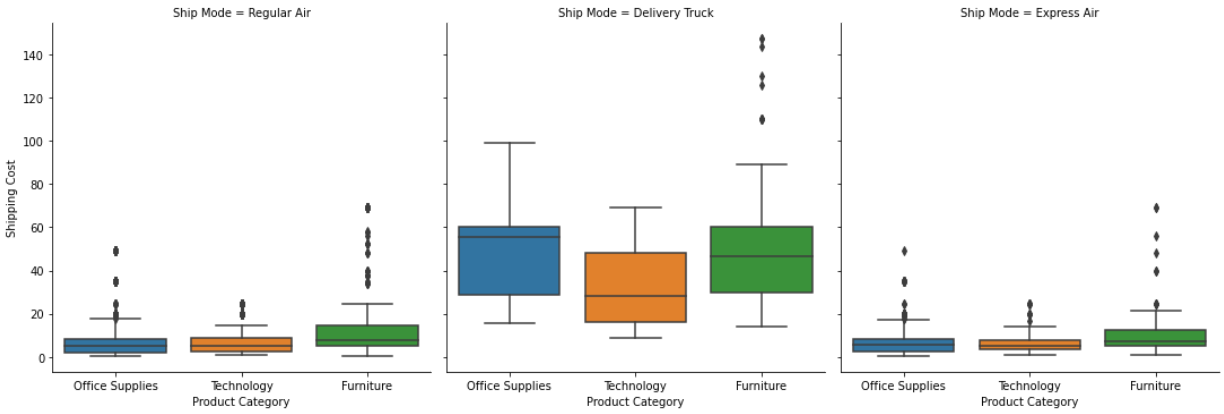
In [34]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='box',hue='Ship
```

Out[34]: <seaborn.axisgrid.FacetGrid at 0x1d7aac25e80>



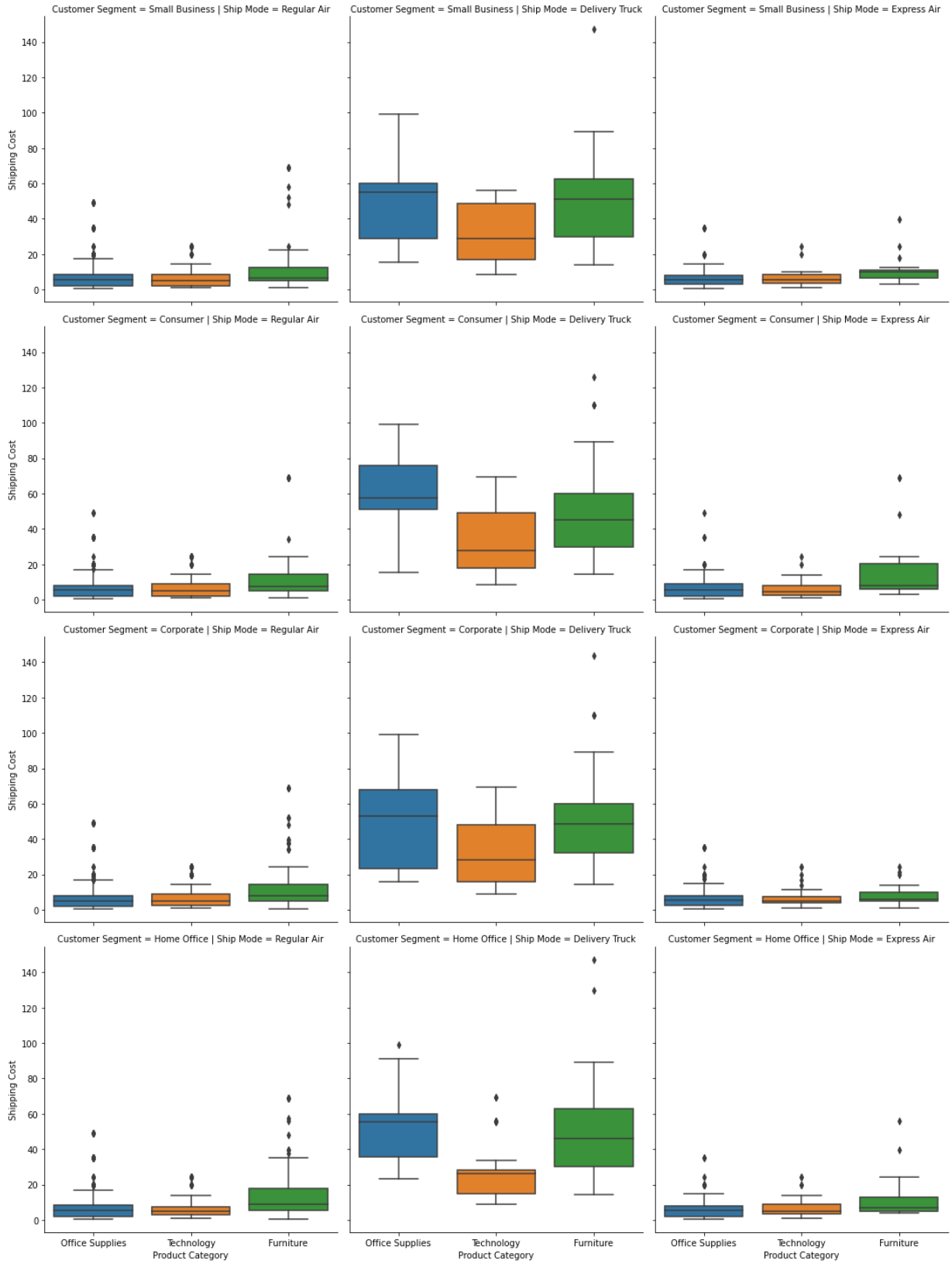
In [35]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='box',col='Ship
```

Out[35]: <seaborn.axisgrid.FacetGrid at 0x1d7a3afcdc0>



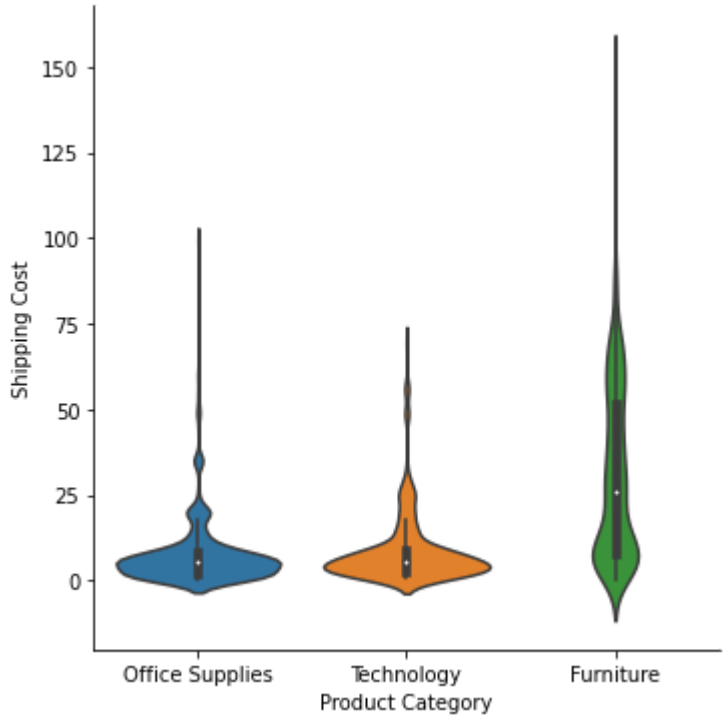
In [36]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='box',col='Ship
```

Out[36]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7aaa84cd0>
```



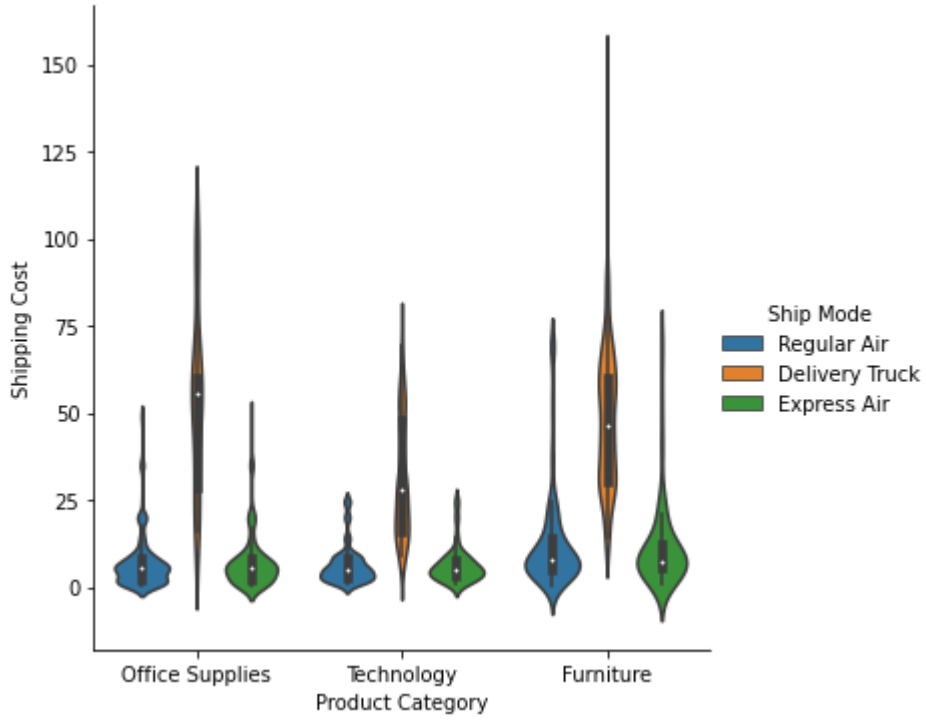
In [37]:
```
sns.catplot(x="Product Category",y="Shipping Cost",data=df,kind='violin')
```

Out[37]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7ab1b14c0>
```



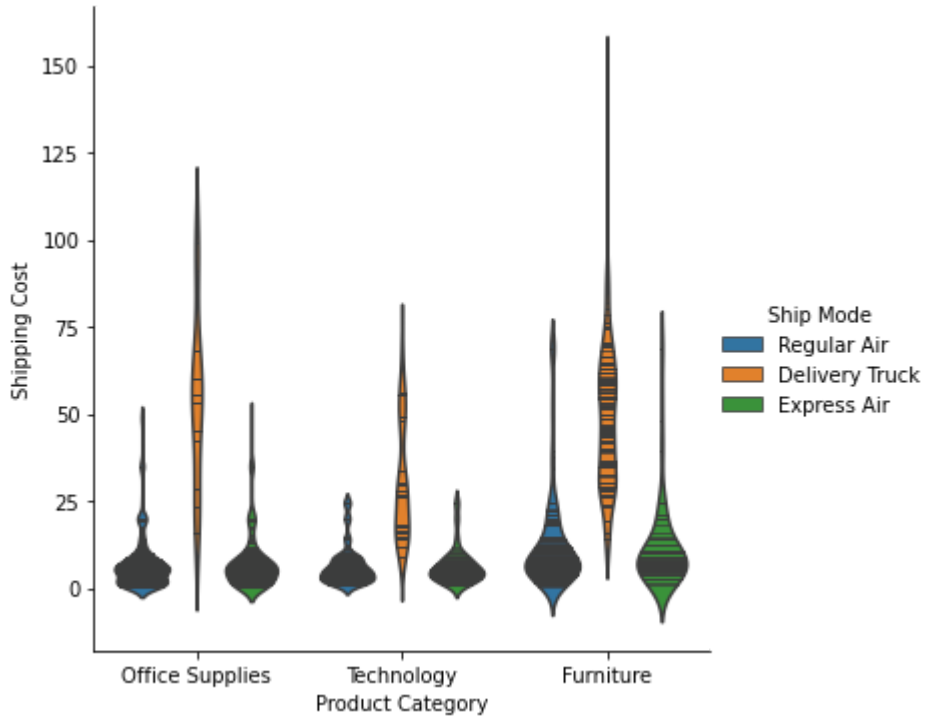
In [39]:
```
sns.catplot(x="Product Category",y="Shipping Cost",hue='Ship Mode',data=df,kind
```

Out[39]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7aacd5be0>
```



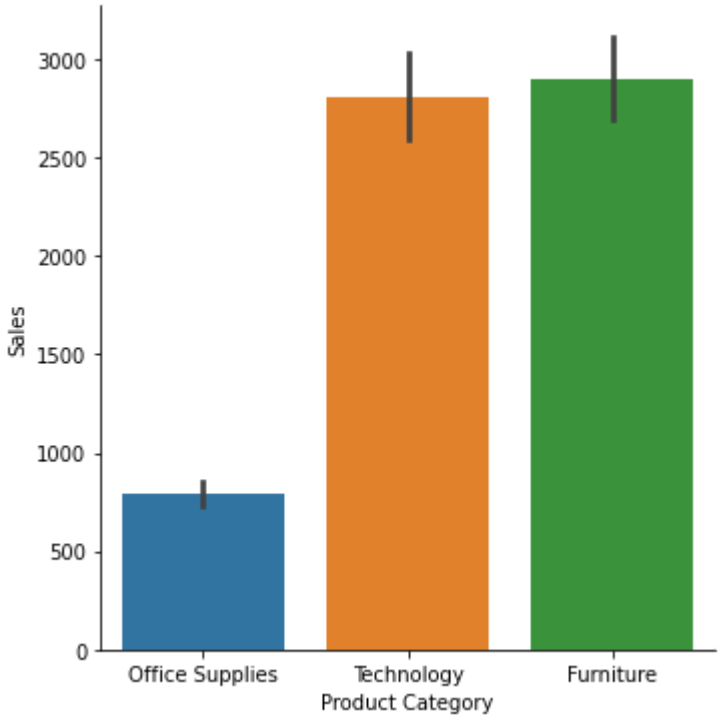
In [40]:
```
sns.catplot(x="Product Category",y="Shipping Cost",hue='Ship Mode',inner='stick
```

Out[40]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7ab4185e0>
```



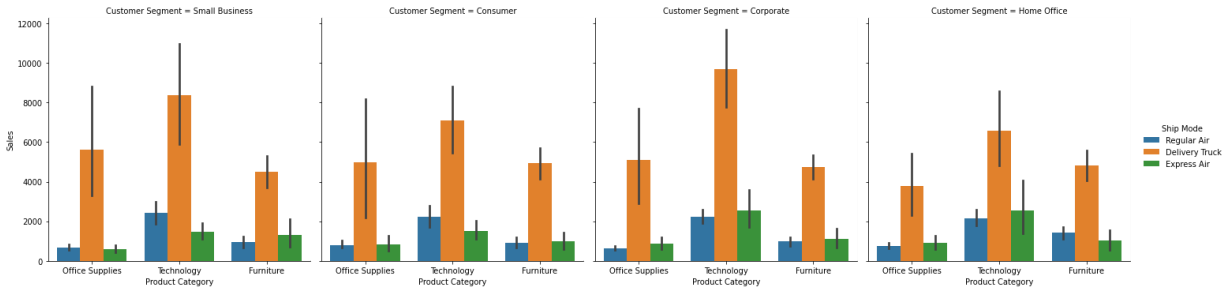
In [42]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='bar')
```

Out[42]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b7bebd90>
```



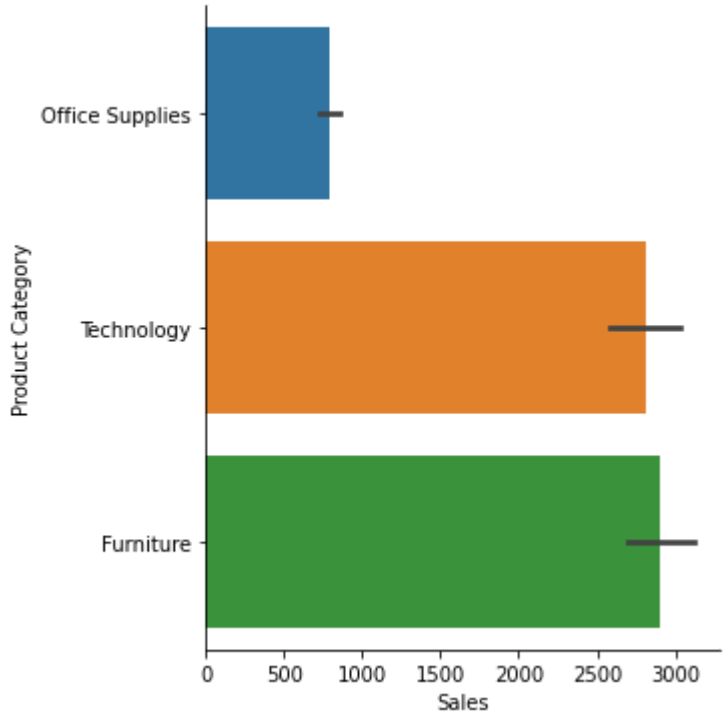
In [44]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='bar',hue='Ship Mode',c
```

Out[44]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b7923580>
```



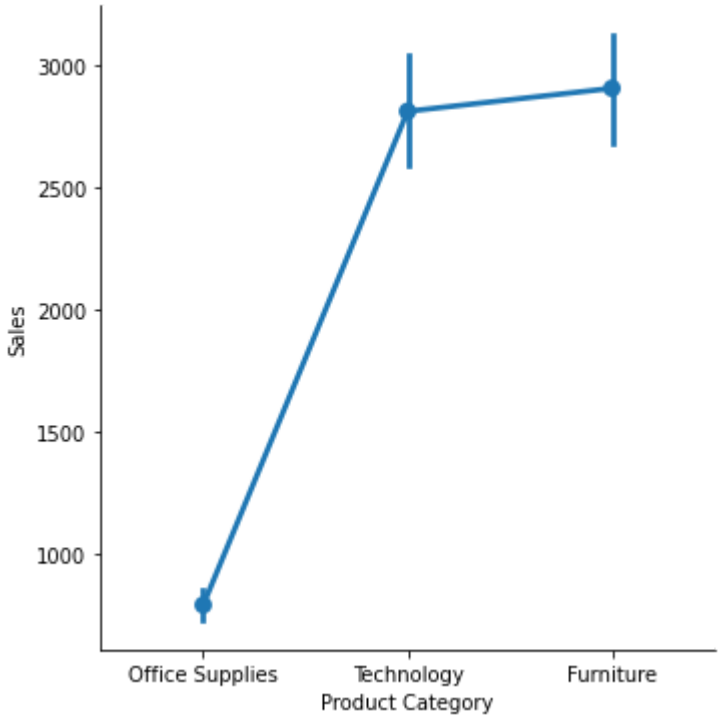
In [45]:
```
sns.catplot(y="Product Category",x="Sales",data=df,kind='bar')
```

Out[45]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b7ad0f70>
```



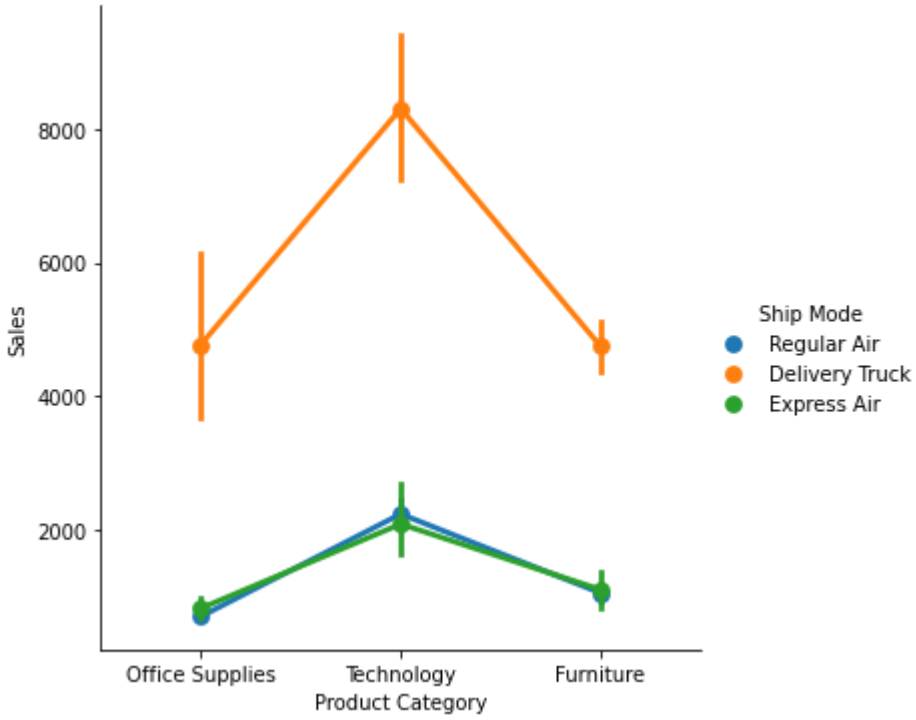
In [46]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='point')
```

Out[46]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b83e5430>
```



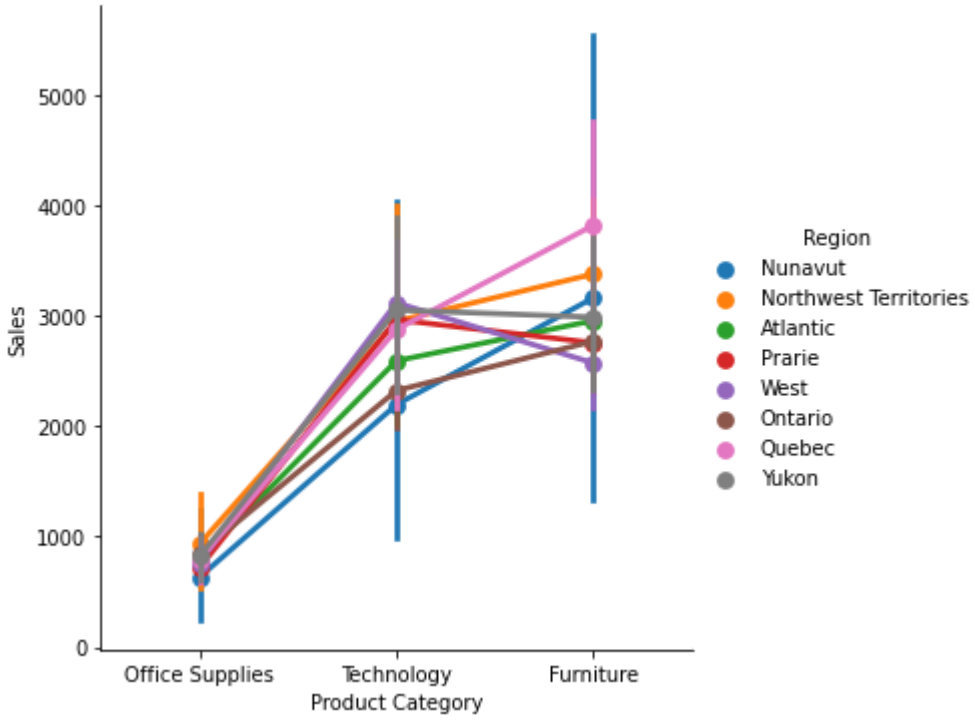
In [47]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='point',hue='Ship Mode'
```

Out[47]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b80b6b50>
```



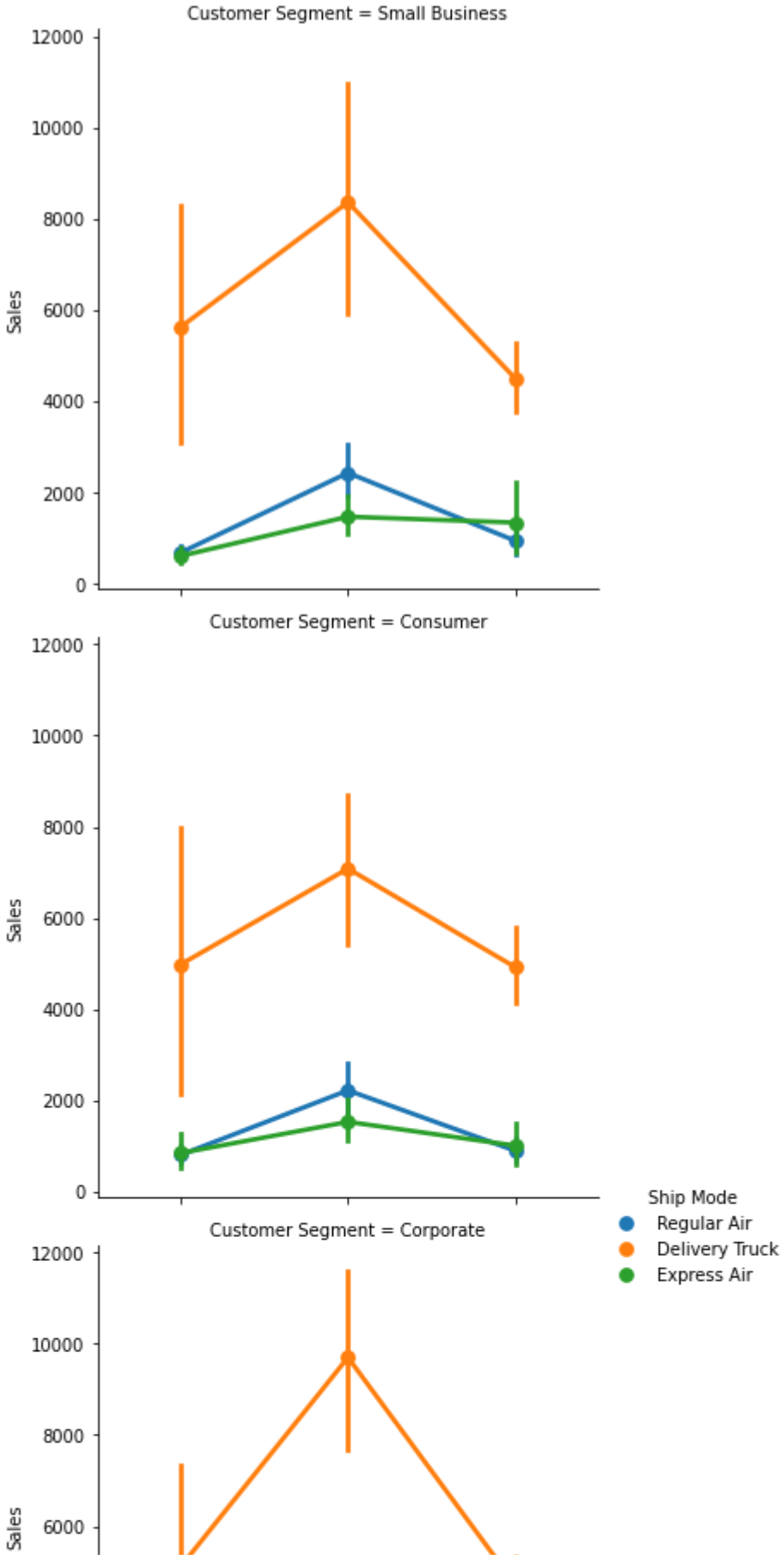
In [48]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='point',hue='Region')
```

Out[48]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7aadc5e80>
```



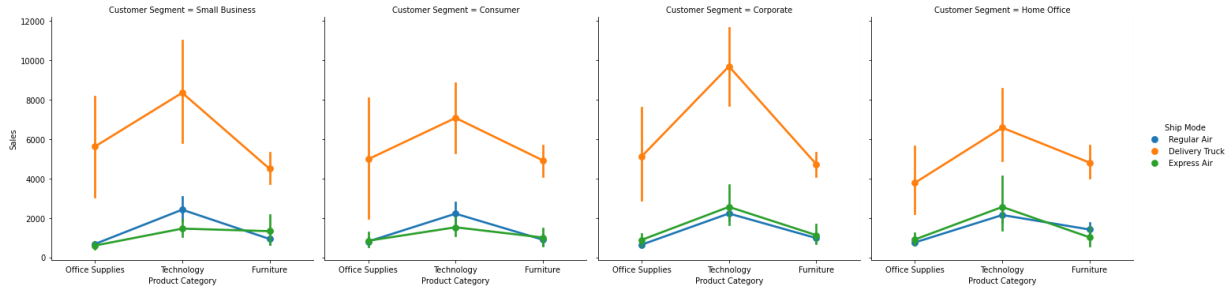
In [49]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='point',hue='Ship Mode'
```

Out[49]:
```
<seaborn.axisgrid.FacetGrid at 0x1d7b8558ac0>
```



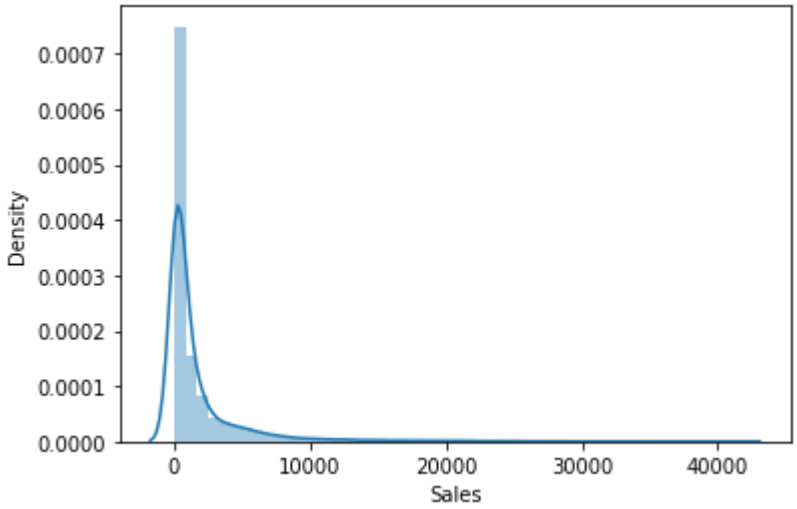
In [50]:
```
sns.catplot(x="Product Category",y="Sales",data=df,kind='point',hue='Ship Mode'
```

Out[50]: <seaborn.axisgrid.FacetGrid at 0x1d7b609ba30>



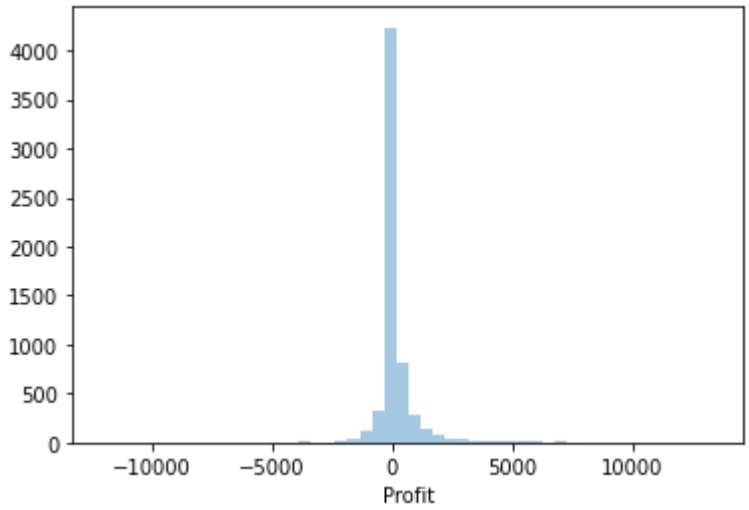
In [51]:
```
sns.distplot(df.Sales)
```

Out[51]: <AxesSubplot:xlabel='Sales', ylabel='Density'>



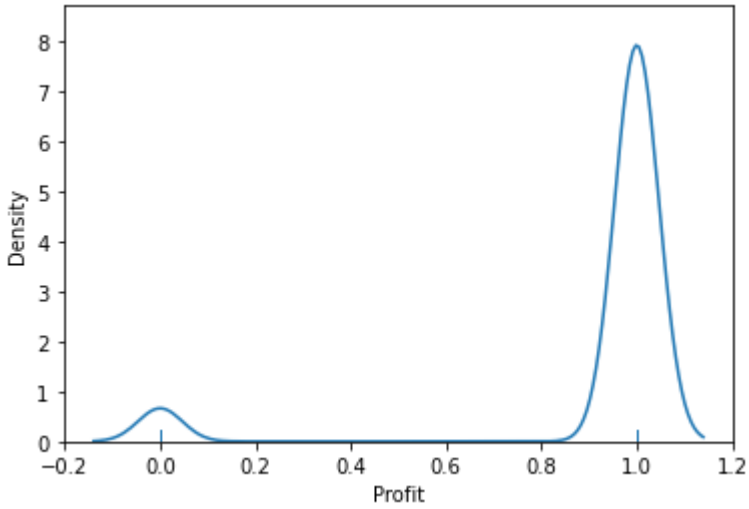
In [53]:
```
sns.distplot(df.Profit,kde=False)
```

Out[53]: <AxesSubplot:xlabel='Profit'>



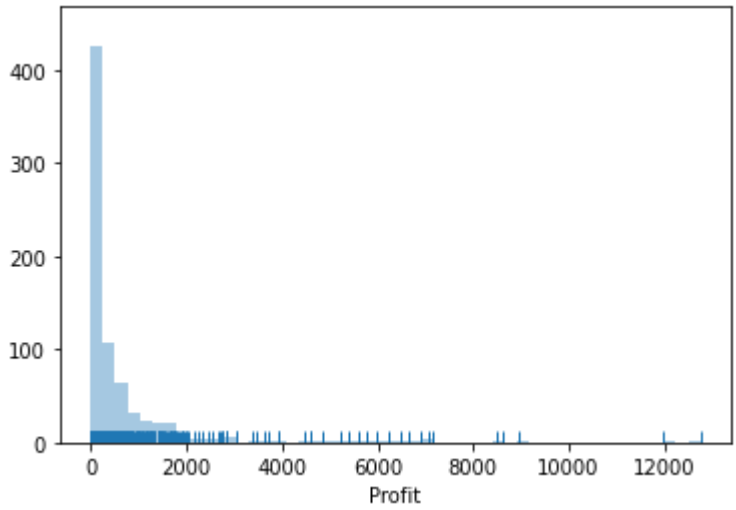
In [59]:
```
sns.distplot(df.Profit<1000,hist=False,rug=True)
```

Out[59]: <AxesSubplot:xlabel='Profit', ylabel='Density'>



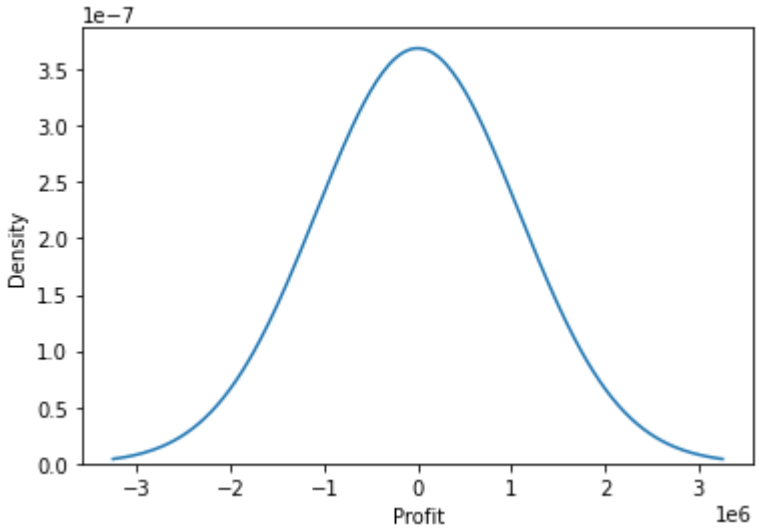
In [70]:
```
sns.distplot(df.Profit[(df.Region=="West")&(df.Profit>0)],kde=False,rug=True)
```

Out[70]: <AxesSubplot:xlabel='Profit'>



In [72]:
```
sns.kdeplot(df.Profit,bw=1000)
```

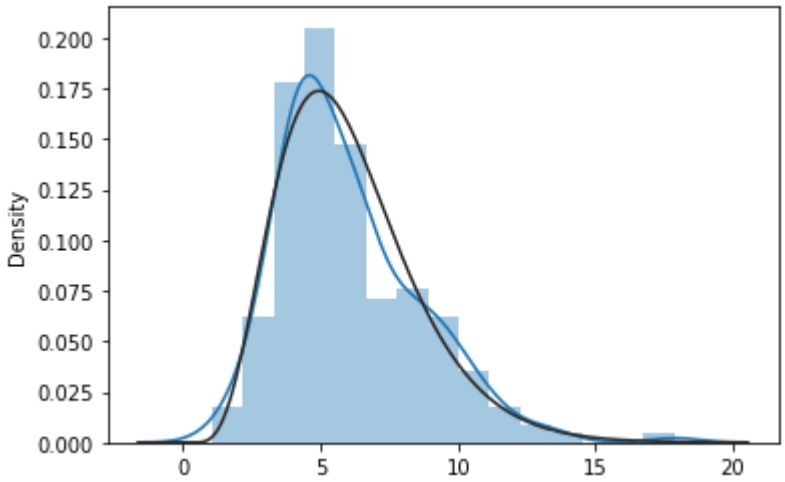
Out[72]:
```
<AxesSubplot:xlabel='Profit', ylabel='Density'>
```



In [82]:
```
from scipy import stats
a=np.random.gamma(6,size=200)
```

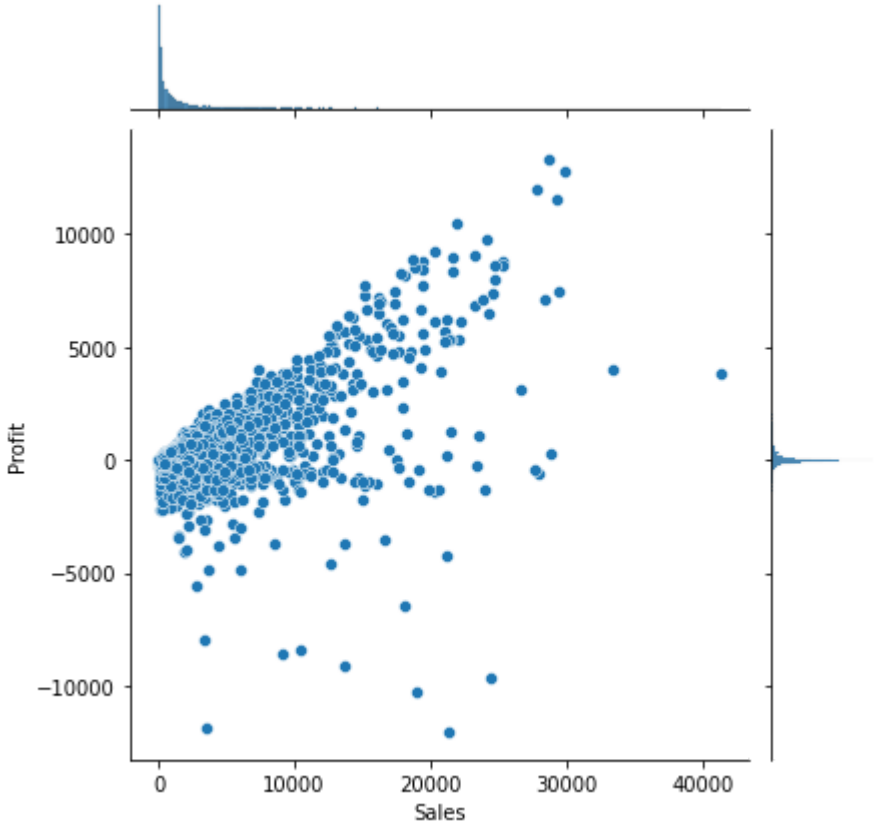
In [83]:
```
sns.distplot(a,fit=stats.gamma)
```

Out[83]:
```
<AxesSubplot:ylabel='Density'>
```



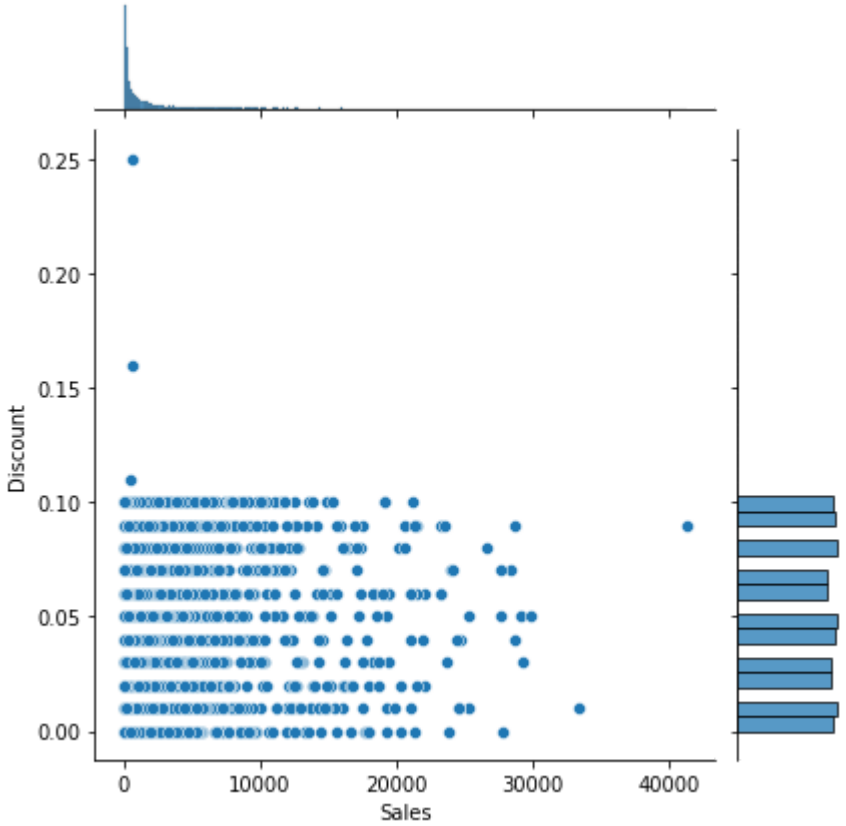
In [84]:
```
sns.jointplot("Sales","Profit",data=df)
```

Out[84]:
```
<seaborn.axisgrid.JointGrid at 0x1d7bd5e1f40>
```



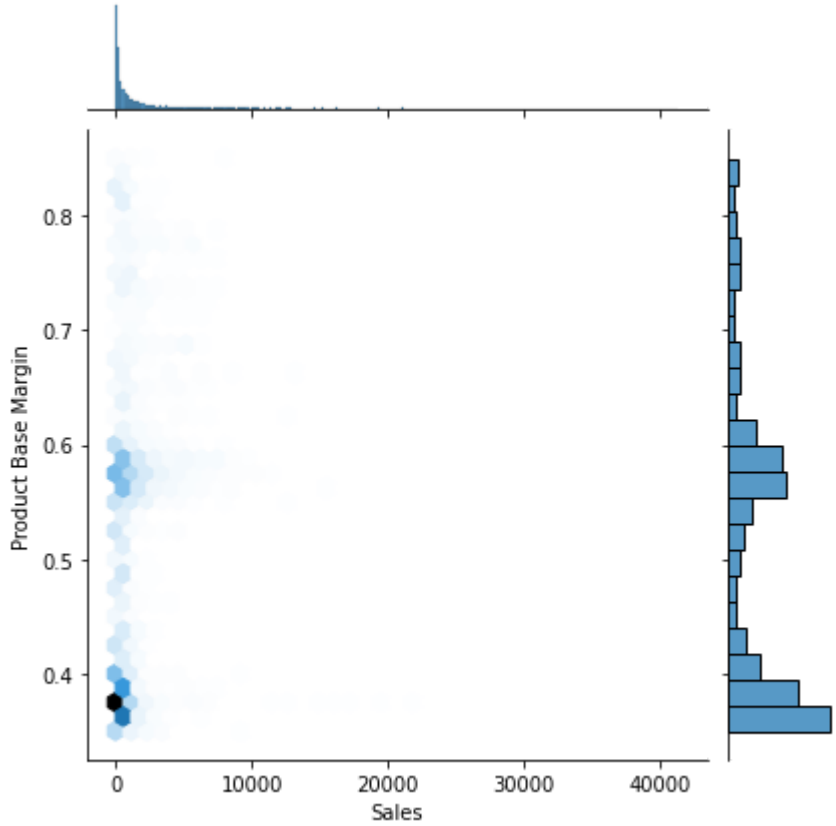
In [85]:
```
sns.jointplot("Sales","Discount",data=df)
```

Out[85]:
```
<seaborn.axisgrid.JointGrid at 0x1d7bd650cd0>
```



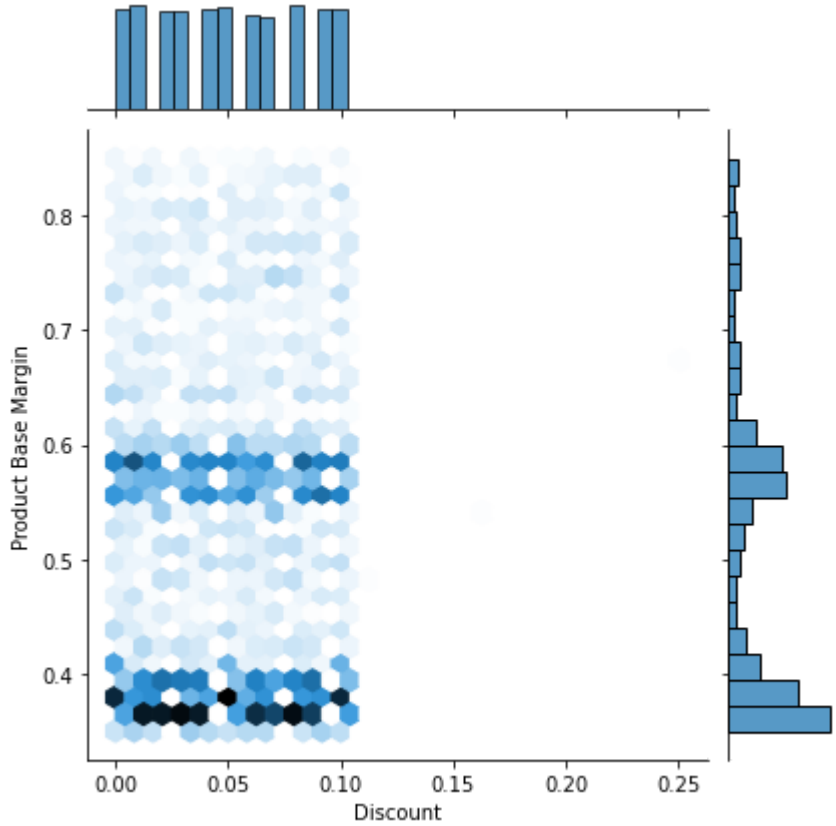
In [87]:
```
sns.jointplot("Sales","Product Base Margin",data=df,kind='hex')
```

Out[87]:
```
<seaborn.axisgrid.JointGrid at 0x1d7be4b6d90>
```



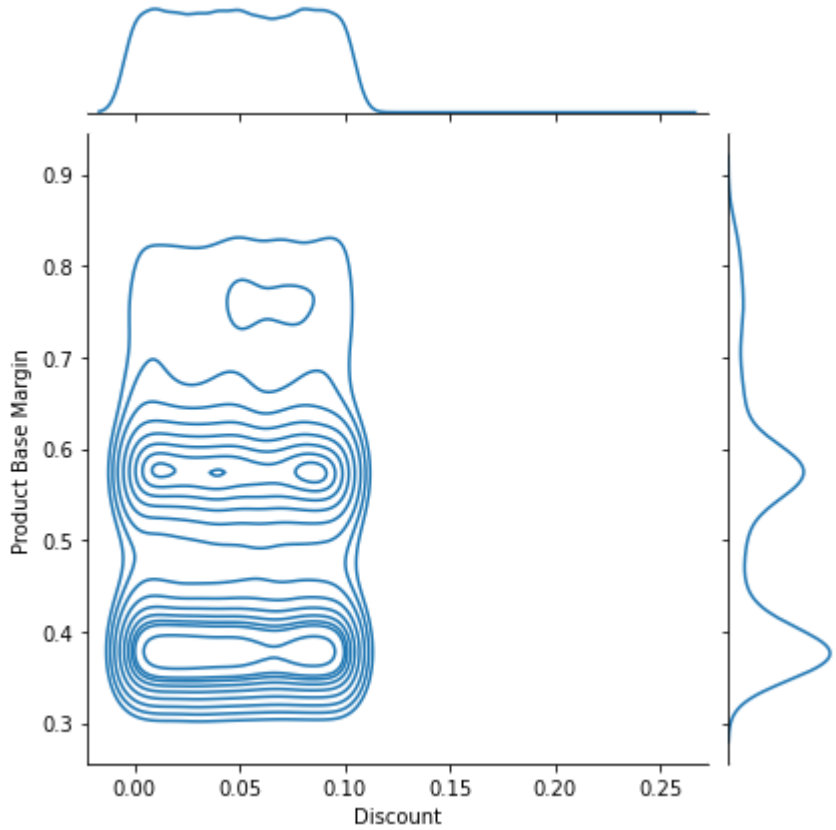
In [88]:
```
sns.jointplot("Discount","Product Base Margin",data=df,kind='hex')
```

Out[88]:
```
<seaborn.axisgrid.JointGrid at 0x1d7bebacc10>
```



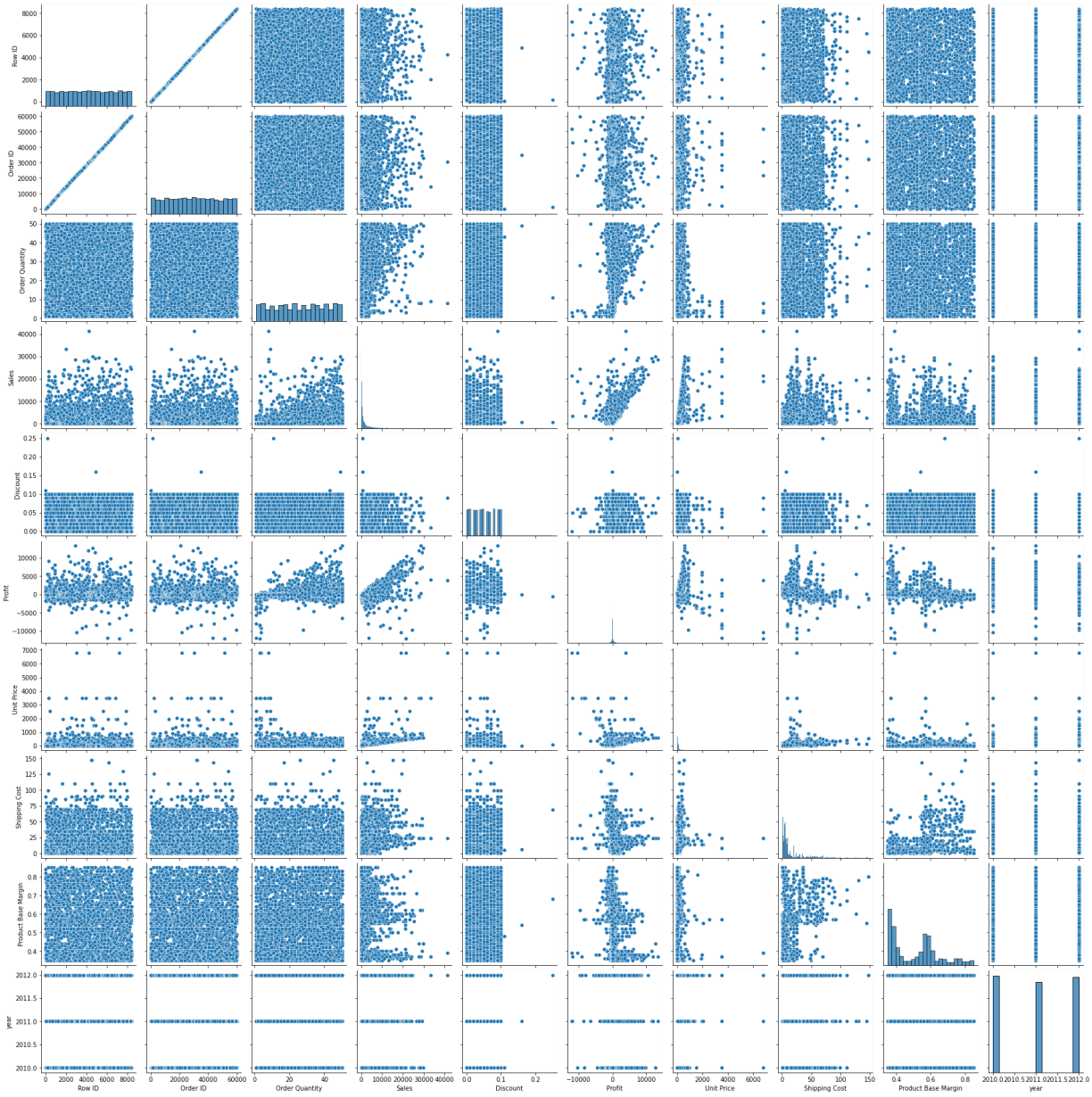
In [89]:
```
sns.jointplot("Discount","Product Base Margin",data=df,kind='kde')
```

Out[89]:
```
<seaborn.axisgrid.JointGrid at 0x1d7bec64430>
```



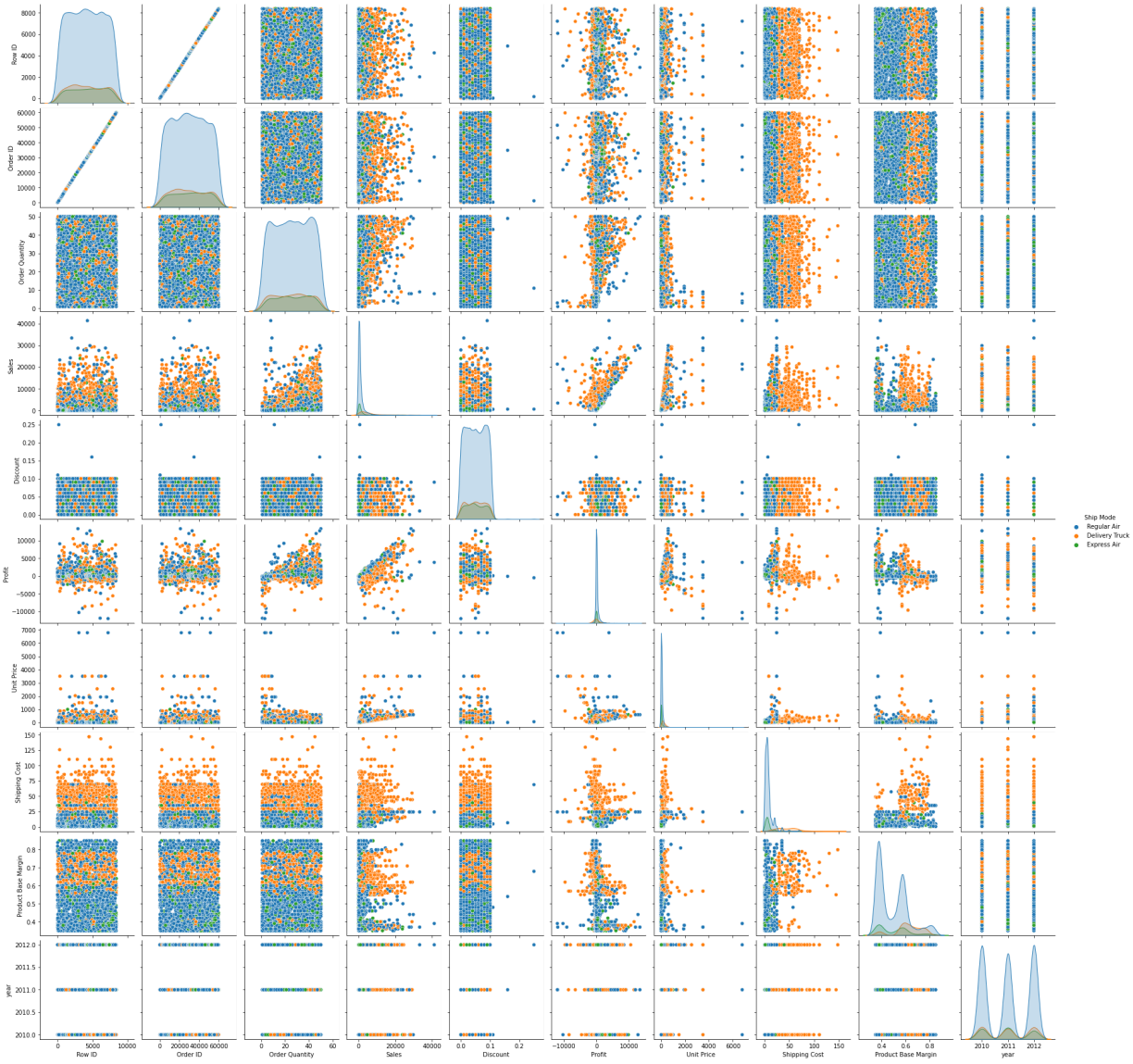
In [90]:
```
sns.pairplot(df)
```

Out[90]: <seaborn.axisgrid.PairGrid at 0x1d7bfdfefd0>



In [91]:
```
sns.pairplot(df,hue='Ship Mode')
```

Out[91]: <seaborn.axisgrid.PairGrid at 0x1d7c6094e80>



In [ ]:
```

```