In [5]:
```python
import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt

import warnings
warnings.filterwarnings(action='ignore')
```

In [6]:
```python
df=pd.read_csv(r"C:\Users\Shree\Downloads\iris.csv")
df
```

Out[6]:

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...	...	...	...	...	...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

150 rows × 5 columns

In [7]:
```python
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   sepal_length  150 non-null    float64
 1   sepal_width   150 non-null    float64
 2   petal_length  150 non-null    float64
 3   petal_width   150 non-null    float64
 4   species       150 non-null    object
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

In [8]:
```python
df.describe()
```

Out[8]:

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.054000	3.758667	1.198667
std	0.828066	0.433594	1.764420	0.763161
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000
max	7.900000	4.400000	6.900000	2.500000

In [9]:
```python
df.shape
```

Out[9]: (150, 5)

In [10]:
```python
df.isnull().sum()
```

Out[10]:
```
sepal_length    0
sepal_width     0
petal_length    0
petal_width     0
species         0
dtype: int64
```

In [11]:
```python
df.dtypes
```

Out[11]:
```
sepal_length    float64
sepal_width     float64
petal_length    float64
petal_width     float64
species          object
dtype: object
```
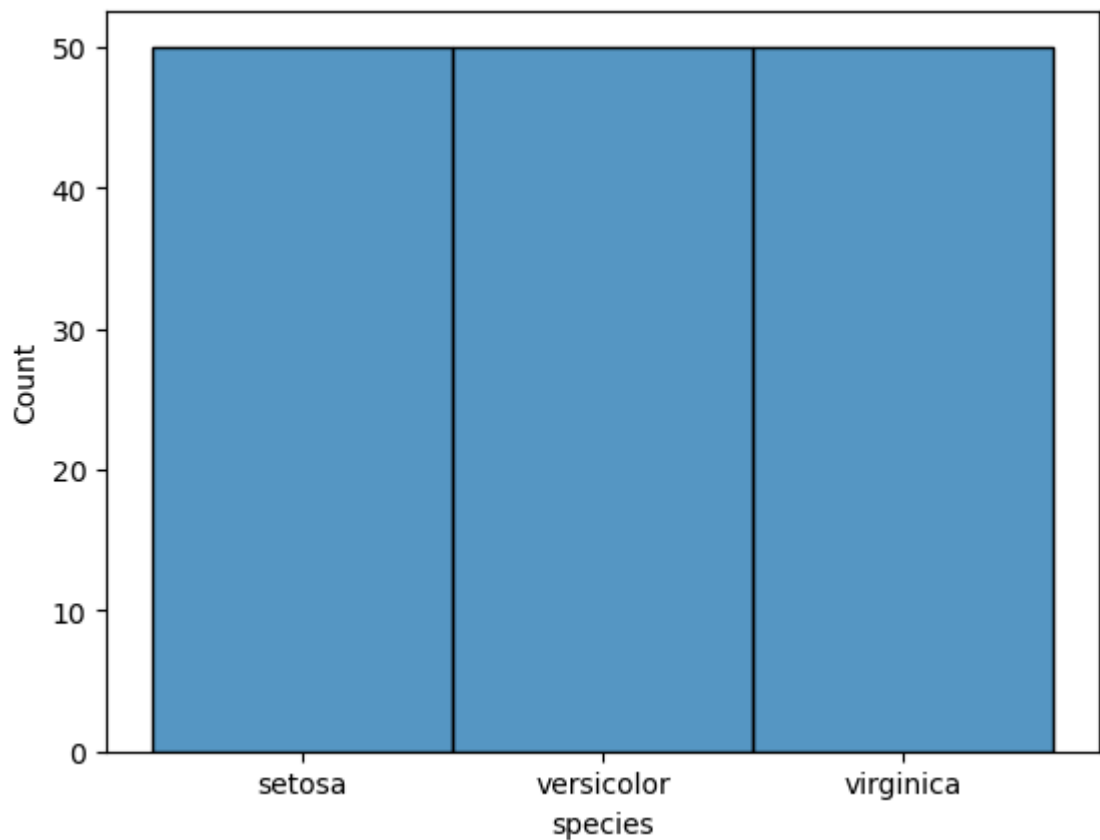
In [19]:
```python
import seaborn as sns
df['species'].value_counts()
```

Out[19]:
```
species
setosa        50
versicolor    50
virginica     50
Name: count, dtype: int64
```
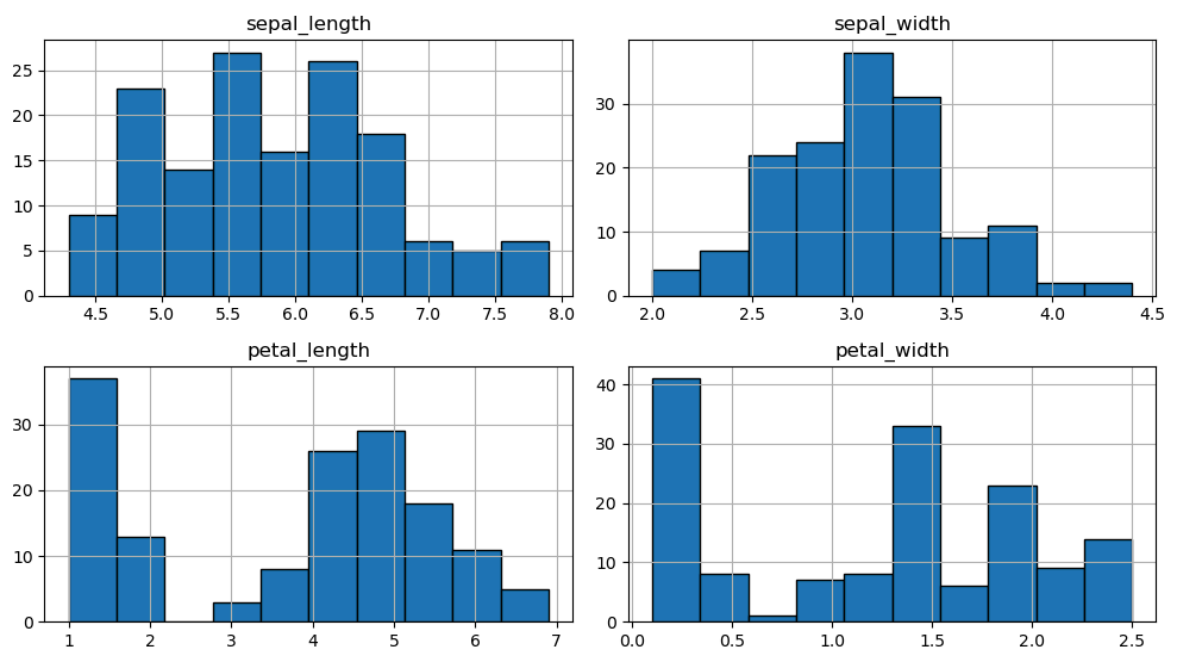
In [21]:
```python
sns.histplot(x='species',data=df)
```
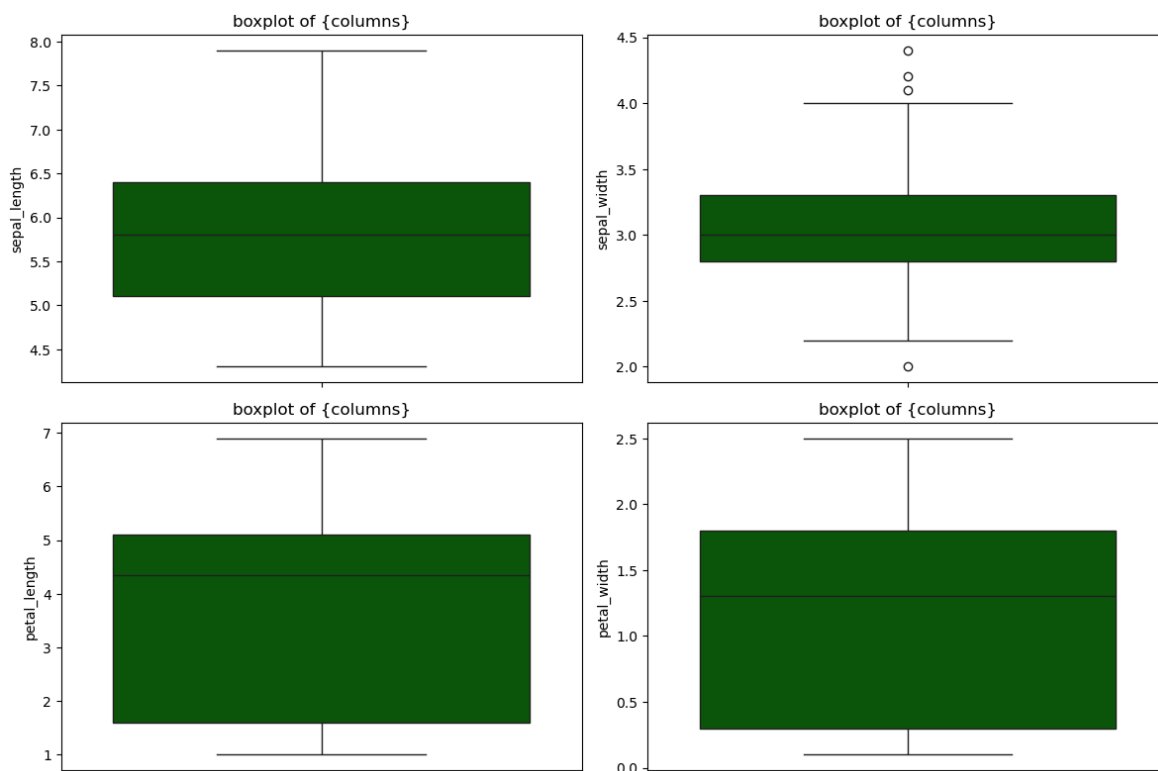
Out[21]: <Axes: xlabel='species', ylabel='Count'>

In [23]:
```python
df.hist(figsize=(10,6),edgecolor='black',grid='false')
plt.suptitle("Histogram of iris dataset features",fontsize=16)
plt.tight_layout()
plt.show()
```
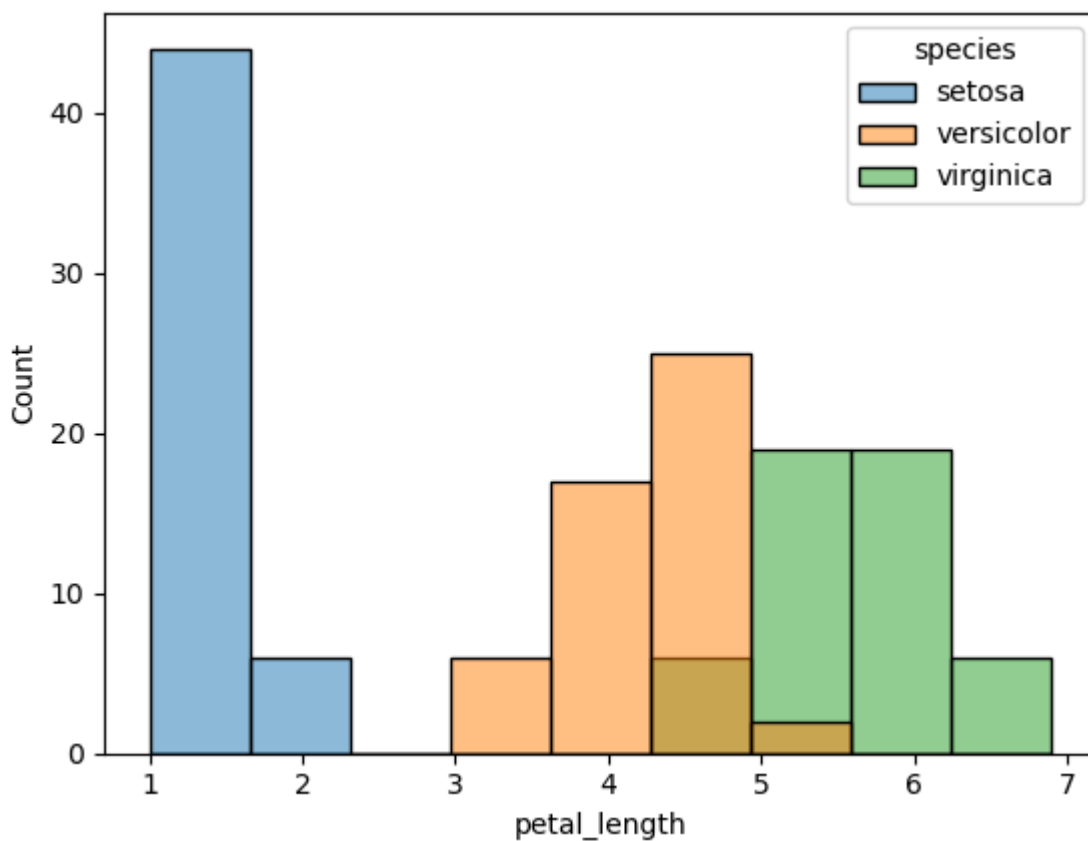

In [37]:
```python
plt.figure(figsize=(12,8))
for i,column in enumerate(df.columns[:-1],1):
    plt.subplot(2,2,i)
    sns.boxplot(y=df[column],color='darkgreen')
    plt.title("boxplot of {columns}")
```

```
plt.tight_layout()
plt.show()
```
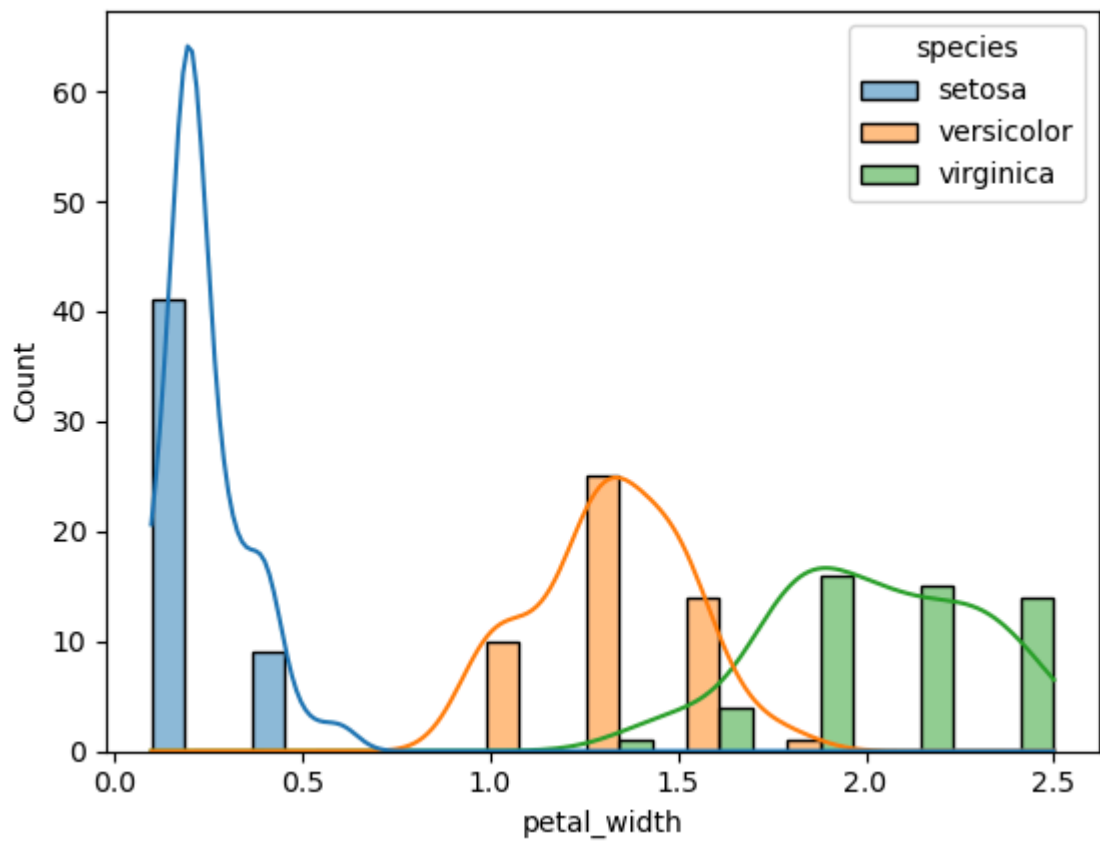

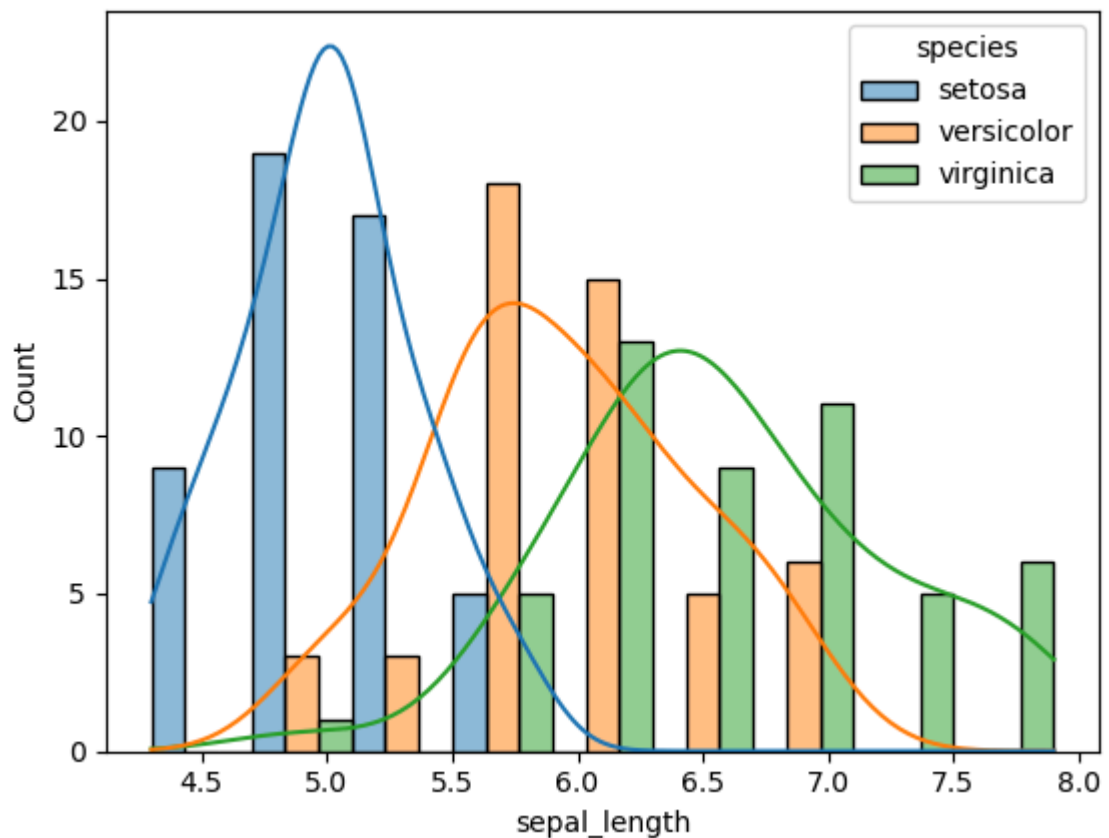In [39]: `sns.histplot(x='petal_length',hue='species',data=df)`

Out[39]: `<Axes: xlabel='petal_length', ylabel='Count'>`

In [45]: `sns.histplot(x='petal_width',hue='species',kde=True,multiple='dodge',data=df)`

Out[45]: `<Axes: xlabel='petal_width', ylabel='Count'>`
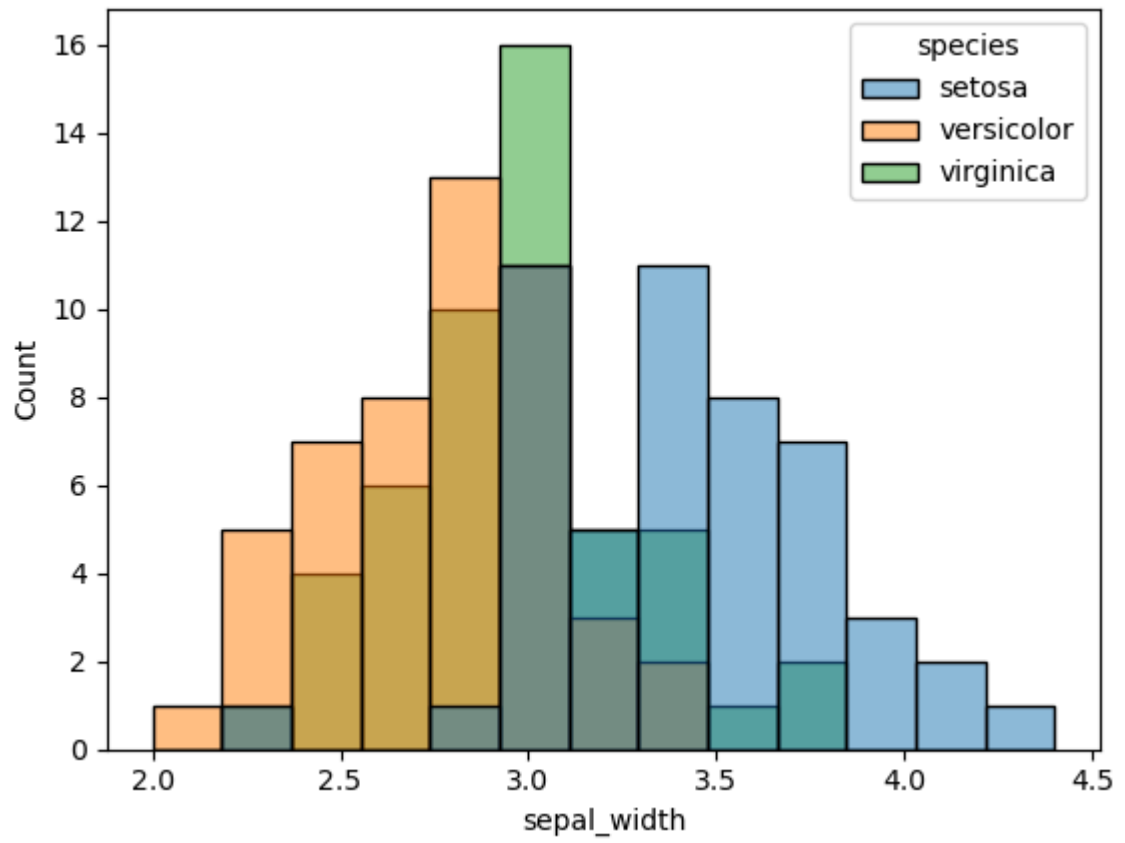
In [51]: `sns.histplot(x='sepal_length',hue='species',kde=True,multiple='dodge',data=df)`

Out[51]: `<Axes: xlabel='sepal_length', ylabel='Count'>`

In [53]: `sns.histplot(data=df,x='sepal_width',hue='species')`

Out[53]: `<Axes: xlabel='sepal_width', ylabel='Count'>`

In [ ]: