

```

import numpy as np
import pandas as pd
from sklearn.decomposition import PCA
import matplotlib.pyplot as plt

iris_df = pd.read_csv("iris.csv")

print(iris_df.head())

feature_columns = iris_df.columns[:-1]
data = iris_df[feature_columns].values

label_names = iris_df['species'].unique()
label_mapping = {name: i for i, name in enumerate(label_names)}
labels = iris_df['species'].map(label_mapping).values

pca = PCA(n_components=2)
data_reduced = pca.fit_transform(data)

reduced_df = pd.DataFrame(data_reduced, columns=['Principal Component 1', 'Principal Component 2'])
reduced_df['Label'] = labels

plt.figure(figsize=(8, 6))
colors = ['r', 'g', 'b']
for i, label in enumerate(np.unique(labels)):
    plt.scatter(
        reduced_df[reduced_df['Label'] == label]['Principal Component 1'],
        reduced_df[reduced_df['Label'] == label]['Principal Component 2'],
        label=label_names[label],
        color=colors[i]
    )

plt.title('PCA on Iris Dataset')
plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.legend()
plt.grid()
plt.show()

```