```
import numpy as np
import pandas as pd
from sklearn import datasets
from sklearn.preprocessing import StandardScaler
import matplotlib.pyplot as plt

iris = datasets.load_iris()
x = pd.DataFrame(iris.data, columns=iris.feature_names)
y = iris.target

scaler = StandardScaler()
x_scaled = scaler.fit_transform(x)

cov_matrix = np.cov(x_scaled.T)

eigenvalues, eigenvectors = np.linalg.eig(cov_matrix)

explained_variance_ratio = eigenvalues / np.sum(eigenvalues)
cumulative_variance = np.cumsum(explained_variance_ratio)

num_components = 2
selected_eigenvectors = eigenvectors[:, :num_components]

x_pca = x_scaled.dot(selected_eigenvectors)

plt.figure(figsize=(8, 6))
plt.scatter(x_pca[:, 0], x_pca[:, 1], c=y, cmap='viridis', edgecolor='k')
plt.xlabel('Principal Component 1')
plt.ylabel('Principal Component 2')
plt.title('PCA Result on Iris Dataset')
plt.colorbar(label='Target')
plt.grid(True)
plt.show()
```