In [77]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score,confusion_matrix
from sklearn.svm import SVC
from sklearn.feature_extraction.text import TfidfVectorizer
```

In [78]:
```
data=pd.read_csv("C:\\Users\\yash2004\\OneDrive\\Desktop\\news.csv")
```

In [79]:
```
data.head()
```

Out[79]:

	Unnamed: 0	title	text	label
0	8476	You Can Smell Hillary's Fear	Daniel Greenfield, a Shillman Journalism Fello...	FAKE
1	10294	Watch The Exact Moment Paul Ryan Committed Pol...	Google Pinterest Digg Linkedin Reddit Stumbleu...	FAKE
2	3608	Kerry to go to Paris in gesture of sympathy	U.S. Secretary of State John F. Kerry said Mon...	REAL
3	10142	Bernie supporters on Twitter erupt in anger ag...	— Kaydee King (@KaydeeKing) November 9, 2016 T...	FAKE
4	875	The Battle of New York: Why This Primary Matters	It's primary day in New York and front-runners...	REAL

In [80]:
```
data.shape
```

Out[80]:
```
(6335, 4)
```

In [81]:
```
x=data['text']
y=data['label']
```

In [82]:
```
tfidf_vectorizer = TfidfVectorizer(stop_words='english', max_df=0.7)

x_tfidf = tfidf_vectorizer.fit_transform(x)
```

In [83]:
```
x_train ,x_test,y_train,y_test=train_test_split(x_tfidf ,y,test_size=0.
```

In [84]:
```
sv=SVC(kernel='linear')
sv.fit(x_train,y_train)
```

Out[84]:
```
SVC(kernel='linear')
```

In [85]:
```
y_pred=sv.predict(x_test)
```

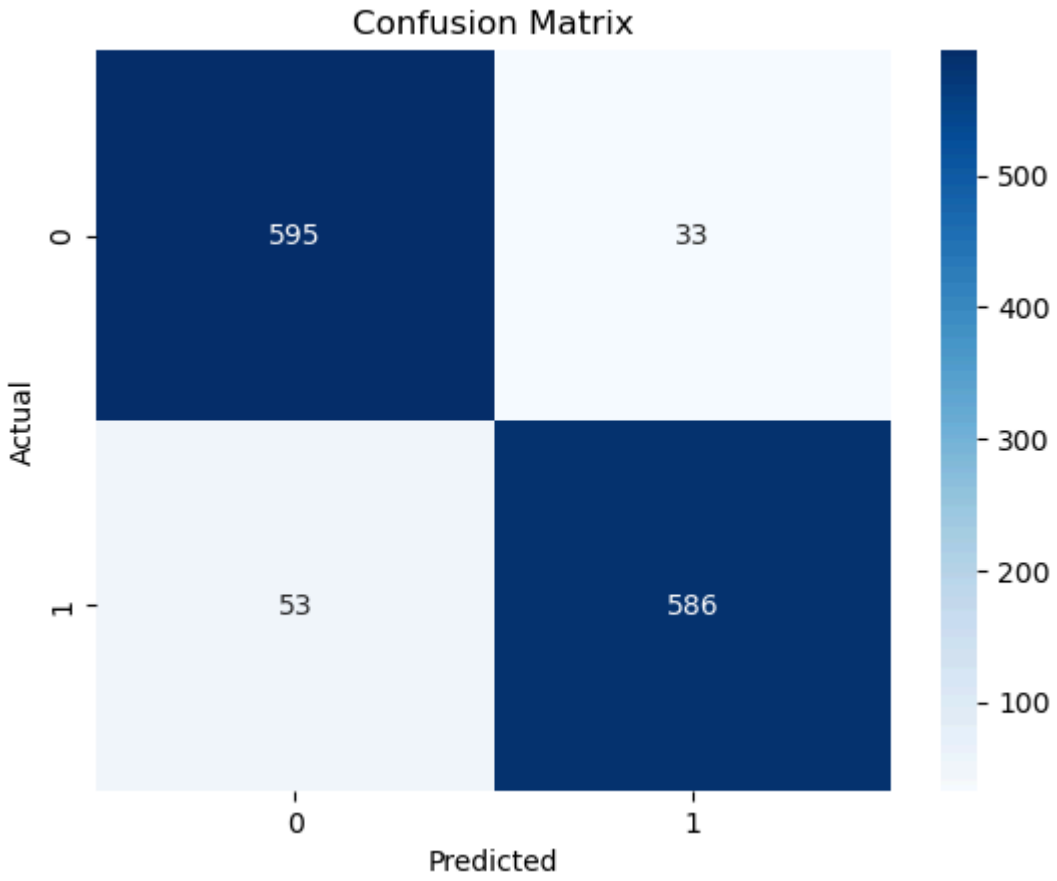
In [86]:
```
score=accuracy_score(y_test,y_pred)
print(f'Accuracy: {round(score*100,2)}%')
```

```
Accuracy: 93.21%
```

In [89]:
```
conf_matrix = confusion_matrix(y_test, y_pred)
print(conf_matrix)
```

```
[[595  33]
 [ 53 586]]
```

In [90]:
```
sns.heatmap(conf_matrix, annot=True, fmt='d', cmap='Blues')
plt.xlabel('Predicted')
plt.ylabel('Actual')
plt.title('Confusion Matrix')
plt.show()
```



In [ ]:
```
```