

LAMPIRAN

Lampiran 1 Jadwal Penelitian

NO	Kegiatan	Bulan				
		Agustus	September	Oktober	November	Desember
1	Studi Literatur					
2	Pengumpulan Data dan bahan					
3	Perancangan Sistem					
4	Pembuatan Website					
5	Pengujian Alat dan Sistem					
6	Evaluasi Alat dan Sistem					
7	Pengerjaan Skripsi					

Lampiran 2 *Query* dataset untuk pengujian integrasi model dan aplikasi

Data <i>Query</i>	Label	Hasi Deteksi
SELECT TOP 3 * FROM believed.	0	1
"" select * from users where id = 1 or "" (] "" or 1 = 1 -- 1 "",1,1	1	1
"" or pg_sleep (__TIME__) -- "",1,1	1	1
? or 1 = 1 --,1,1	1	1
) or ('a' = 'a,1,1	1	1
""admin"" or ""1"" = ""1""--"",1,0	1	1
"" select * from users where id = 1 or ""%{ "" or 1 = 1 -- 1 "",1,1	1	1
"" select * from users where id = 1 or 1#""? = 1 or 1 = 1 -- 1 "",1,1	1	1

""or 1 = 1 or "" = "",1,1	1	1
/**/or/**/1/**/ = /**/1,1,1	1	1
3023,0,0	0	0
2595,0,0	0	0
37311,0,0	0	0
barby,0,0	0	0
enconadura	0	0
zaca27,0,0	0	0
tridente	0	0
9.55315E+15	0	0
6.4671E+15	0	0
65236882g	0	0
guadalcanal	0	0
heile	0	0
"escritor nicolas del paso, 95"	0	1
19243	0	0
25471	0	0
8.0957E+15	0	0
42141	0	0

7.17889E+15	0	0
flo3a	0	0
fernn caballero	0	0
6.44911E+15	0	0
rutledge	0	0
milani4@beautifulbody.sh	0	0
1438	0	0
1' (select 'vdeo' where 4355 = 4355	1	1
1' in boolean mode) and 3787 = 7750--	1	1
"-2790%"") union all select 5070,5070#	1	1
1' (select 'vpuh' where 8164 = 8164	1	1
"iif (9342 = 6508,1,1/0) "	1	1
"-5779) union all select 6089,6089--"	1	1
-9721') or 9287 = 4362#	1	1
1'))) and 5934 = 2309	1	1
"1') union all select null,null,null#"	1	1
"1' where 8437 = 8437 and make_set (8403 = 8403,8899) --"	1	1
-9809' order by 1--	1	1
"1'))) union all select null,null--"	1	1

"-2316%' union all select 8636,8636,8636,8636,8636,8636,8636--"	1	1
"-5617) where 2132 = 2132 union all select 2132,2132,2132,2132#"	1	1
1') and sleep (5)	1	1

Lampiran 3 Kode *Training Machine Learning Model Deteksi SQL Injection*

```
import pandas as pd

from joblib import dump

from sklearn.feature_extraction.text import
TfidfVectorizer

from sklearn.model_selection import train_test_split

from sklearn.linear_model import LogisticRegression

from sklearn.metrics import classification_report

from sklearn.metrics import confusion_matrix,
ConfusionMatrixDisplay

import matplotlib.pyplot as plt

import numpy as np

df = pd.read_csv('Modified_SQL_Dataset.csv')

X = df['Query']
y = df['Label']
```

```
tf_vec = TfidfVectorizer(use_idf=False, norm=None)
vectorizer = TfidfVectorizer()
tf_matrix = tf_vec.fit_transform(X)
X_tfidf = vectorizer.fit_transform(X)
X_train, X_test, y_train, y_test =
train_test_split(X_tfidf, y, test_size=0.2,
random_state=42)
model = LogisticRegression(max_iter=500,
solver='lbfgs')
model.fit(X_train, y_train)
y_pred = model.predict(X_test)
print(classification_report(y_test, y_pred))

cm = confusion_matrix(y_test, y_pred)
custom_labels = ["Bukan SQLi", "SQLi"]
for i, label in enumerate(custom_labels):
    TP = cm[i, i]
    FN = np.sum(cm[i, :]) - TP
    FP = np.sum(cm[:, i]) - TP
    TN = np.sum(cm) - (TP + FP + FN)

    precision = TP / (TP + FP) if (TP + FP) > 0 else
0.0
```

```
    recall = TP / (TP + FN) if (TP + FN) > 0 else 0.0

    f1 = 2 * (precision * recall) / (precision +
recall) if (precision + recall) > 0 else 0.0

    accuracy = (TP + TN) / np.sum(cm)

print(f"\nMetrics for {label}:")

print(f" True Positive (TP): {TP}")

print(f" True Negative (TN): {TN}")

print(f" False Positive (FP): {FP}")

print(f" False Negative (FN): {FN}")

print(f" Precision: {precision:.2f}")

print(f" Recall: {recall:.2f}")

print(f" F1-Score: {f1:.2f}")

print(f" Accuracy: {accuracy:.2f}")

disp = ConfusionMatrixDisplay(confusion_matrix=cm,
display_labels=custom_labels)

disp.plot(cmap=plt.cm.Blues)

plt.title(f"Confusion Matrix TF-IDF + LR")

plt.xlabel("Predicted")

plt.ylabel("True")

plt.show()
```

```
dump(model, 'model.joblib')

dump(vectorizer, 'vectorizer.joblib')

dump(X_tfidf, 'x_tfidf.joblib')

dump([model,      vectorizer,      X_tfidf,      tf_matrix],
      'all.joblib')
```