🔐 PHISHING LINK SCANNER

A powerful and beginner-friendly web application built using **Python** and **Streamlit** to detect phishing or suspicious URLs using rule-based logic, WHOIS lookup, and VirusTotal API analysis.

📌 Project Overview

In today's digital world, phishing attacks are one of the most common cybersecurity threats. Many users unknowingly click on fake or harmful links that look genuine. This **Phishing Link Detector** tool aims to **prevent such risks** by analyzing the URL through:

- **Offline rule-based checks** (without internet)
- **WHOIS domain age verification**
- **VirusTotal API scanning**

The tool flags suspicious URLs using multiple detection mechanisms like:

- Presence of IP address
- .exe file extensions
- Shortened URLs
- @ symbols in domain
- Localhost/Private file URLs
- Unknown or non-existing domains

💡 Key Features

Feature	**Description**
🛡 Rule-Based Detection	Detect suspicious patterns in URL (like IP, shortened link, etc.)
🌐 WHOIS Lookup	Extract domain creation & expiration dates

Feature	**Description**
□ VirusTotal Integration	Scan the URL against 70+ security vendors via API
💾 Logging Enabled	Logs all URL checks in .phishing_log.txt file
⚙️ Works Offline	Basic rule-based detection without internet
🎛️ Simple UI with Streamlit	User-friendly interface for entering and checking URLs

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⚙️ Technologies Used

- **Python 3**
- **Streamlit**
- **Requests**
- **re / Regex**
- **Socket**
- **Base64**
- **WHOIS**
- **VirusTotal API**

📥 How to Run the App

1. **Clone the repository:**

```
git clone https://github.com/yourusername/phishing-link-detector.git
cd phishing-link-detector
```

2. **Install dependencies:**

```
pip install -r requirements.txt
```

3. **Run the app:**

```
streamlit run phishing-detector.py
```

□ Sample Test URLs

Try testing these URLs in the app:

Suspicious:

http://127.0.0.1:8000,

- http://example.com@phishingsite.com,
- https://bit.ly/3Ph1sh1ng

Safe:

- https://www.google.com,
- https://www.mygov.in/

📝 Log File

All URL scans (along with their results) are saved in a hidden file:

.phishing_log.txt

□ Result / Outcome

The Phishing Link Detector was successfully developed and tested using a combination of rule-based detection, WHOIS data extraction, and integration with the VirusTotal public API. It can analyze any given URL and provide insights into:

- Whether the URL uses IP addresses or obfuscated patterns.
- If it includes suspicious elements such as .exe downloads or @ symbols.
- Domain age and expiration via WHOIS lookup.
- Reputation analysis from over 70+ antivirus engines via VirusTotal.

✅ Key Achievements:

- Detected suspicious traits in localhost and fake IP-based URLs.
- Identified shortened links and flagged potentially hidden destinations.
- Logged all URL scans with time-stamped entries.
- Provided a shareable web interface using **Streamlit Cloud**.

This tool enhances cybersecurity awareness and assists in identifying potentially harmful links before users interact with them.

⚠ Disclaimer

This tool is made for educational and research purposes only. Detection is based on public data and logical rules. Always verify suspicious links manually or through trusted security providers.

🤝 Contributing

Pull requests are welcome. For major changes, please open an issue first to discuss what you would like to change.

👨‍💻 Author

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