

CyberDrill Exercise

"Penanganan Insiden Keamanan Siber Pada Kasus Eksploitasi Aplikasi Web, Jaringan dan Data Breach"

Kesiapsiagaan Teknis Insiden Keamanan Siber Pemerintah Pusat Bandung, 19 dan 21 September 2022

















Outline



- LANSKAP ANCAMAN SIBER GLOBAL
- 2. LANSKAP ANCAMAN SIBER NASIONAL
- 3. EKSPLOITASI APLIKASI WEB DAN JARINGAN
- 4. DATA BREACH (KEBOCORAN DATA)
- 5. SOLUSI DAN TINDAKAN PREVENTIF
- 6. CYBERDRILL EXERCISE



LANSKAP ANCAMAN SIBER GLOBAL



GLOBAL CYBERSECURITY INDEX 2020

Published in Geneva, Switerland 2022

Indonesia (Republic of)



Developing Country

Area(s) of Relative Strength
Cooperative, Capacity
Development Measures
Area(s) of Potential Growth
Organizational Measures

Overall	Legal	Technical	Organizational	Capacity	Cooperative
Score	Measures	Measures	Measures	Development	Measures
94.88	18.48	19.08	17.84	19.48	20.00

Source: ITU Global Cybersecurity Index v4, 2020

Table 3: GCI results: Global score and rank

Country Name	Score	Rank
United States of America**	100	1
United Kingdom	99.54	2
Saudi Arabia	99.54	2
Estonia	99.48	3
Korea (Rep. of)	98.52	4
Singapore	98.52	4
Spain	98.52	4
Russian Federation	98.06	5
United Arab Emirates	98.06	5
Malaysia	98.06	5
Lithuania	97.93	6
Japan	97.82	7
Canada**	97.67	8
France	97.6	9
India	97.5	10
2	22 V	3.2
Indonesia		04.00

Indonesia	94.88	24
Viet Nam	94.59	25

Source: https://www.itu.int/epublications/publication/D-STR-GCI.01-2021-HTM-E

LANSKAP ANCAMAN SIBER GLOBAL



Major

Attack Types

you need to know at least

Figure 1: ENISA Threat Landscape 2021 - Prime threats



Source: https://www.enisa.europa.eu/publications/enisa-threat-landscape-2021

LANSKAP ANCAMAN SIBER GLOBAL



Top cybersecurity threats facing the world in 2022

1. Social Engineering

Any network is hackable if an employee can be duped into sharing access

5. Cloud Vulnerability

Online data storage and transfer provides increased opportunities for a potential hack

2. Third Party Exposure

Vendors, client, and app integrations with poor security can provide access to an otherwise well-protected network

6. Ransomware

Hackers can capture sensitive data or take down networks and demand payment for restored access.

9. Poor Data Management

When massive amounts of unnecessary data are kept, it's easier to lose and expose essential information.

3. Configuration Mistakes

Even the most cutting-edge security software only works if it's installed correctly

7. Mobile Device Vulnerability

Devices that connect to multiple networks are exposed to more potential security threats.

10. Inadequate Post-Attack Procedures

Security patches must be as strong as the rest of your cybersecurity protections.

4. Poor Cyber Hygiene

Employee training is essential to ensure those with network access maintain safe cyber practices.

8. Internet of Things

Smart technology users may not realize that any IoT device can be hacked to obtain network access.

Source: https://www.embroker.com/blog/top-10-cybersecurity-threats-2022/





Tren Anomali Trafik Keamanan Siber

> Periode 1 Januari – 10 September 2022



TERCATAT TERDAPAT

851.477.160

ANOMALI TRAFIK PADA
TAHUN 2022

TOP #3 - JENIS ANOMALI

TRAFIK

55,58% INFEKSI MALWARE

INFORMATION LEAK 15,23%

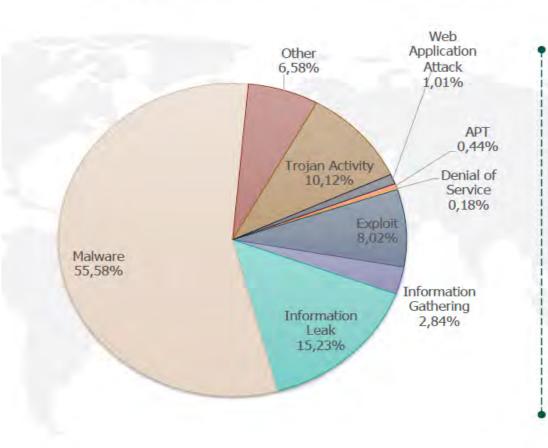
TROJAN

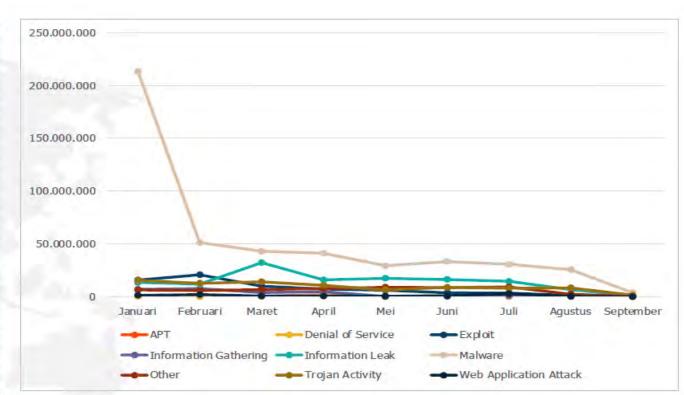




Tren Anomali Trafik Keamanan Siber

> Periode 1 Januari – 10 September 2022









ADVANCED PERSISTENT THREAT (APT) DI INDONESIA PERIODE JANUARI – 4 SEPTEMBER 2022



Selama periode Januari – 4 September 2022 terdeteksi adanya aktivitas **APT** di Indonesia sebanyak 1.887.351 yang tersebar pada sektor IIVN.

APT	Count	Percent from Total		
Lazarus	537,073	28.46%		
Winnti	463,492	24.56%		
APT40	160,107	8.48%		
MageCart	100,062	5.30%		
Dangerous Password	92,218	4.89%		
SilverTerrier	76,546	4.06%		
OceanLotus	58,256	3.09%		
APT10	40,690	2.16%		
Kimsuky	36,021	1.91%		
Lockbit2	35,716	1.89%		





TREN SERANGAN SIBER INDONESIA 2022

Data Breach

Data menjadi salah satu komoditas yang paling dicari saat ini. Selain memiliki nilai jual, data juga merupakan asset informasi yang menjadi target penyanderaan.

(target: Infrastruktur, end-user)



Human Operated Ransomware

Pada kasus ini pelaku serangan tidak melakukan penyanderaan terhadap seluruh data, namun hanya pada data tertentu yang memiliki nilai ekonomis dan memberikan peluang lebih besar korban untuk melakukan pembayaran.

(Ransomware Gang, Ransomware as a Service)

Web Defacements

Kasus peretasan di Indonesia menjadi salah satu hal yang masih marak terjadi. Situs yang teretas kemudian dimanfaatkan untuk tindak kejahatan lainnya

(Judi Online, crypto-mining, fake online-shop, dll)

Advance Persistent Threat

Aktifitas kejahatan siber yang dilakukan oleh pelaku kejahatan siber dengan Taktik, Teknik dan Prosedur yang cukup kompleks.

(Umumnya dilakukan oleh State-sponsored actor)







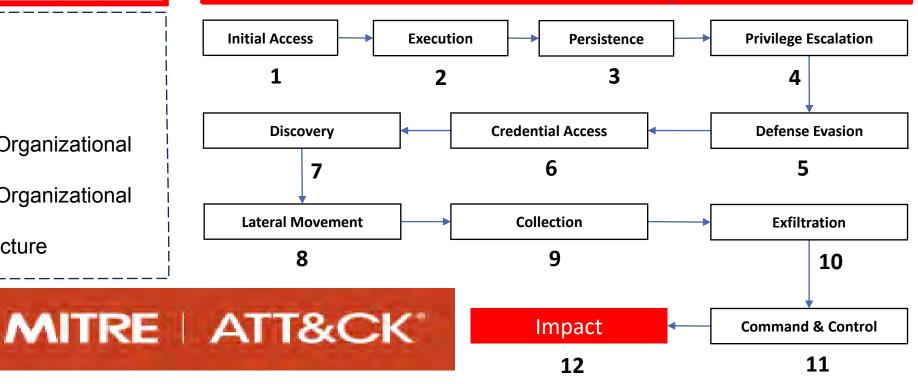
MITRE ATT&CK threat models and methodologies

- 1 Reconnaissance
- 2 Weaponize
- 3 Deliver 4 Exploit 5 Control 6 Execute 7 Maintain

PRE-ATT&CK

- **Priority Definition**
 - Panning Direction
- **Target Selection**
- Information Gathering
 - Technical, People, Organizational
- Weakness Identification
 - Technical, People, Organizational
- Adversary OpSec
- Establish Maintain Infrastructure
- Persona Development
- **Build Capabilities**
- **Test Capabilities**
- **Stage Capabilities**

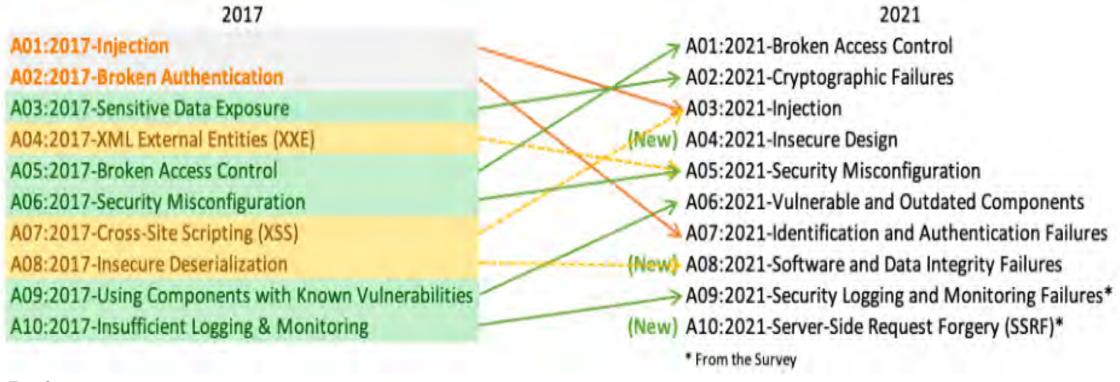
ATT&CK for Enterprise



Reference - https://attack.mitre.org/



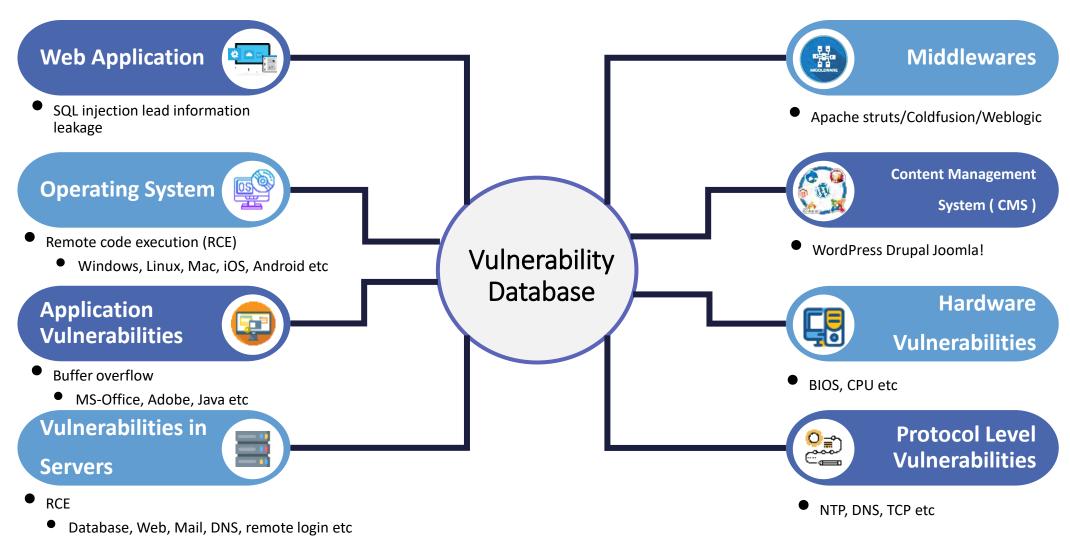
Latest Web Application risk based on OWASP Top 10 2021



Reference:

- https://owasp.org/
- https://owasp.org/www-project-top-ten/







Major Vulnerability Database and Standards





National Vulnerability Database: NVD

The NVD is the U.S. government repository of standards based vulnerability management data

https://nvd.nist.gov/



Common Vulnerability Exposure :CVE

CVE is a list of entries—each containing an identification number, a description, and at least one public reference—for publicly known cybersecurity vulnerabilities.

https://cve.mitre.org/



Common Weakness Enumeration: CWE

CWE is a communitydeveloped list of common software and hardware security weaknesses.

https://cwe.mitre.org/



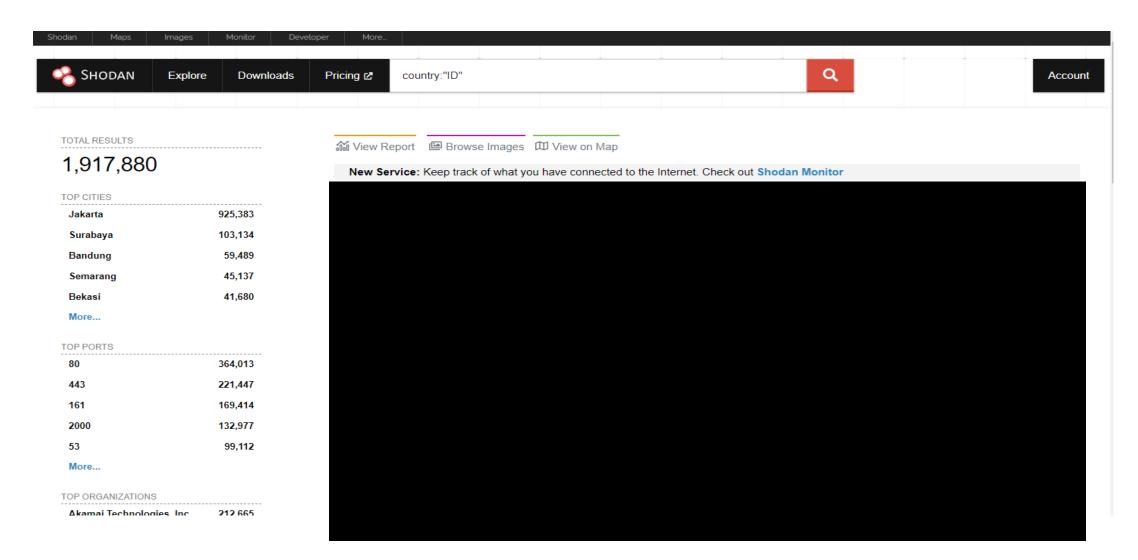
Common Vulnerability Scoring System: CVSS

The Common Vulnerability Scoring System (CVSS) provides a way to capture the principal characteristics of a vulnerability and produce a numerical score reflecting its severity.

https://www.first.org/cvss/

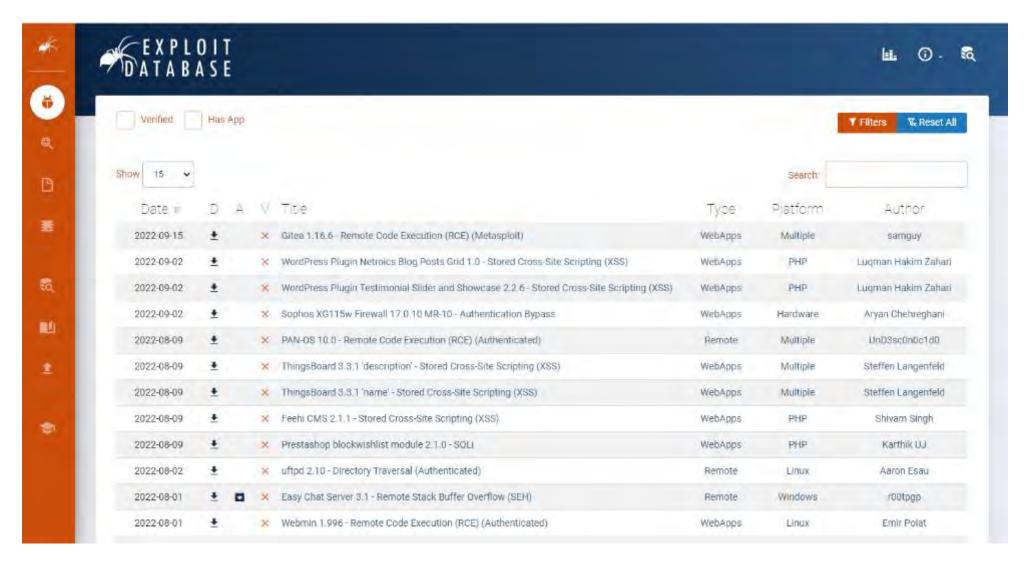


Threat Intelligent Online



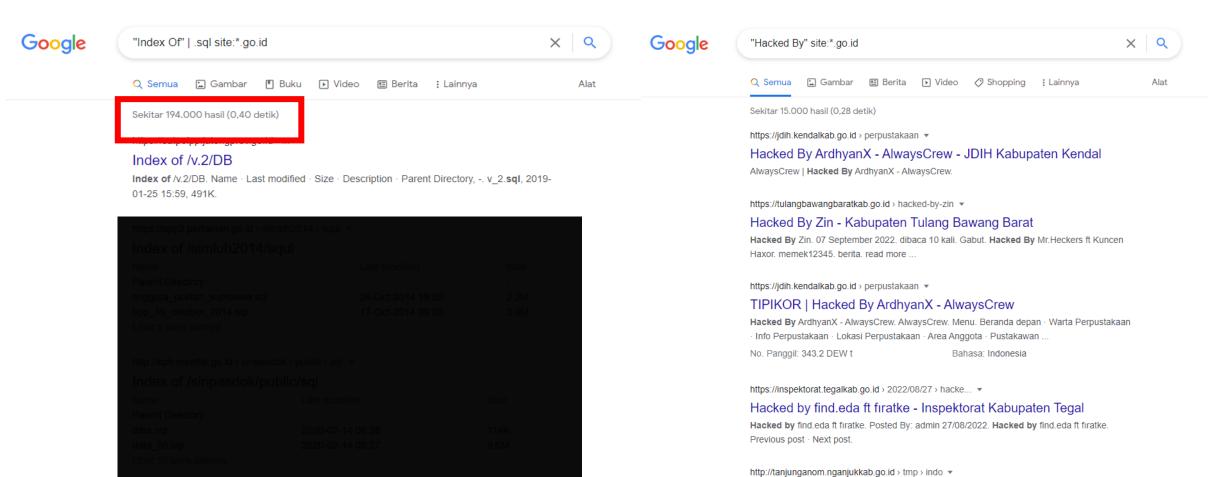


Exploit-DB Online



Contoh: Google Dork





Hacked By MR.5T1Y0
HACKED BY MR.5T1Y0.



Operating System for Hacking





















Network Security Toolkit

Samurai Web Testing Framework



1.Hackers hacking for fun, technical interest



2.Cyber attack for "information" by Nation



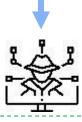
3.Money motivated hacking by criminals



Who are the attackers?



4.Hacktivist do hacking to say something

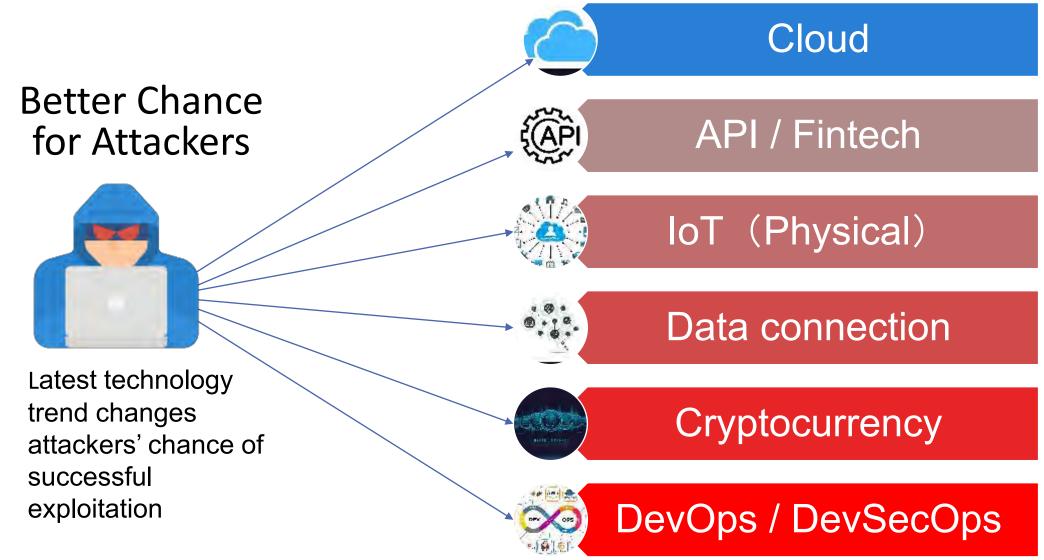


5.Cyber War



6. Younger generations are now can conduct cyber attack easily





Reference:



Data Breach



ISO/IEC 27040 / GDPR

mendefinisikan Data Breach sebagai:

"compromise of security that leads to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to protected data transmitted, stored or otherwise processed".

Tindakan atau kegiatan yang mengarah pada perusakan, kehilangan, perubahan, pengungkapan yang tidak sah atau tidak disengaja, atau akses ke data yang dilindungi yang dikirimkan, disimpan, atau diproses

DATA BREACH INFORMATION:



Personal Health
Information (PHI)



Sensitive Information



Personal Identifiable
Information (PII)



Financial Information



Intellectual Property



Government Information

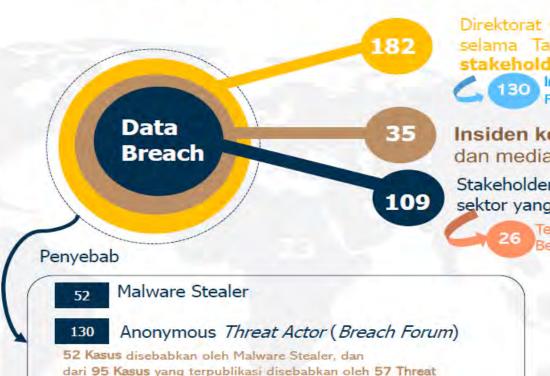


Data Breach



Rekapitulasi Notifikasi Data Breach

> Laporan Data Breach Tahun 2022 Per 13 September 2022



Actor unik pada Breach Forum

Direktorat Operasi Keamanan Siber telah membuat 182 Laporan Data Breach selama Tahun 2022. Terdiri atas 21 laporan internal dan 161 laporan ke stakeholder yang telah ternotifikasi

Insiden terpublikasi pada Breach

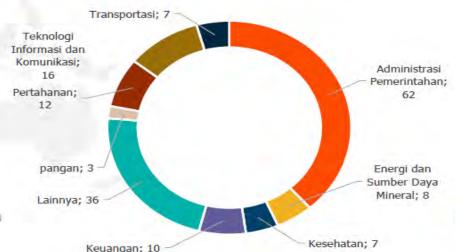
52 insiden tidak terpublikasi (Laporan proaktif Tim CTI)

Insiden kebocoran data diantaranya sudah publish di media berita dan media sosial

Stakeholder terkait yang menerima laporan insiden kebocoran data meliputi 9 sektor yang termasuk Perpres No.82 Tahun 2022 tentang Perlindungan IIV

Tercatat 26 Intansi telah melakukan tindak lanjut Bersama dengan Tim BSSN





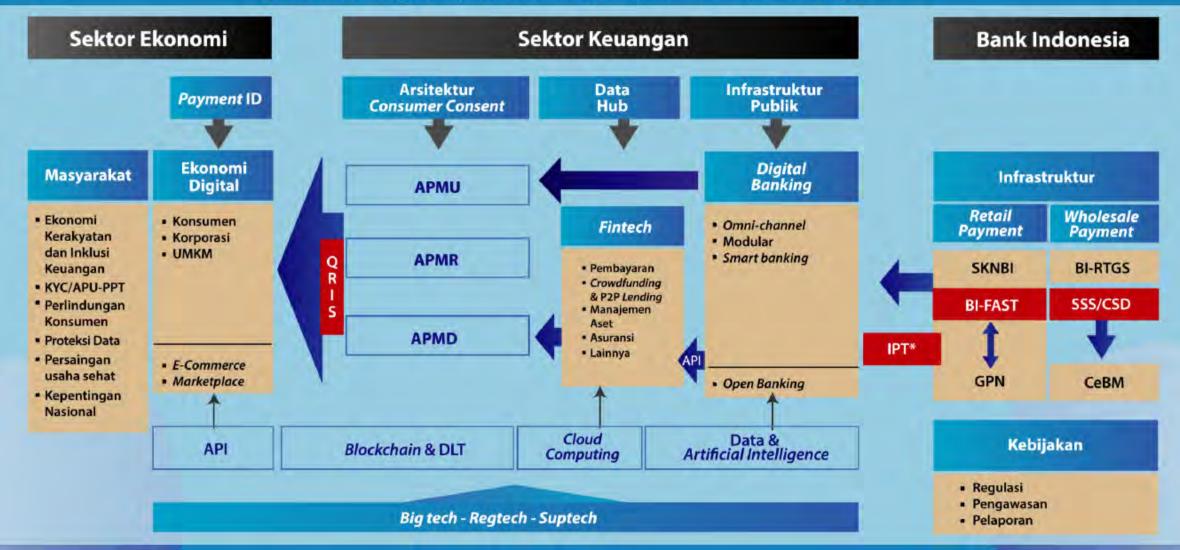






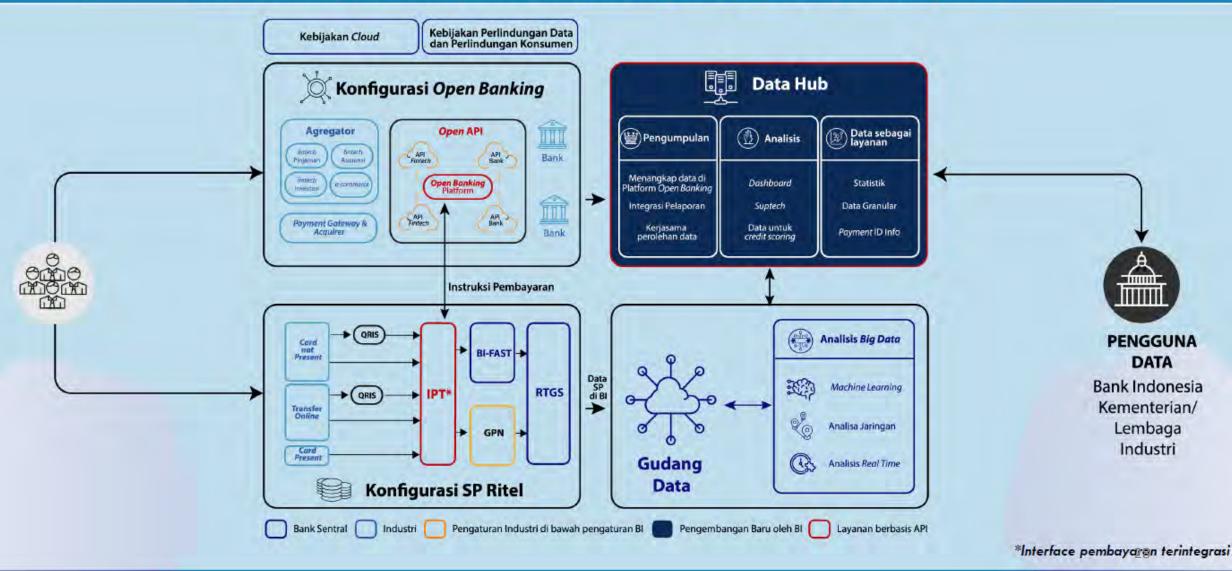
Konfigurasi Ekonomi dan Keuangan Digital Indonesia

SPI 2025 mendukung integrasi ekonomi-keuangan digital nasional sehingga menjamin fungsi bank sentral dalam proses peredaran uang, kebijakan moneter, dan stabilitas sistem keuangan.



Konfigurasi Data Hub

Pengembangan infrastruktur publik untuk menjamin keterbukaan terhadap akses data dan informasi dengan tetap memperhatikan proteksi data pribadi konsumen dan prinsip persaingan usaha yang sehat





HARMONISASI PERATURAN PERPAJAKAN



NIK : **********

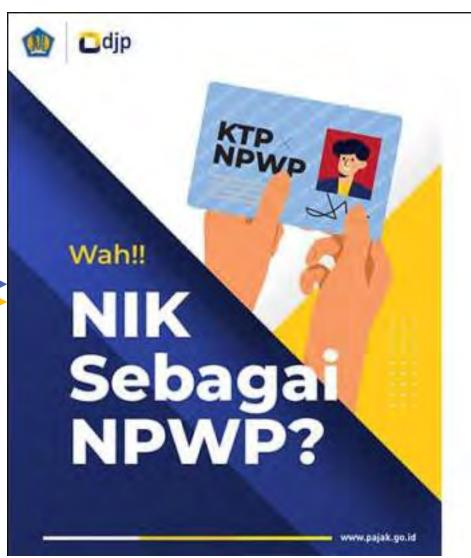
Nama Tempat/Tgl Lahin Jenis Kelamin Alamat

: *********** Gol Darah: *

Berlaku Hingga ; ****







Saya punya KTP udah harus bayar pajak nih?

Jawabannya adalah Tidak.

Tidak semua warga negara yang sudah memiliki NIK, harus membayar pajak.

Kewajiban membayar pajak hanya melekat pada Setiap Wajib Pajak yang telah memenuhi persyaratan subjektif dan objektif sesuai dengan ketentuan peraturan perundang-undangan perpajakan.







Cyber attacks on Nvidia



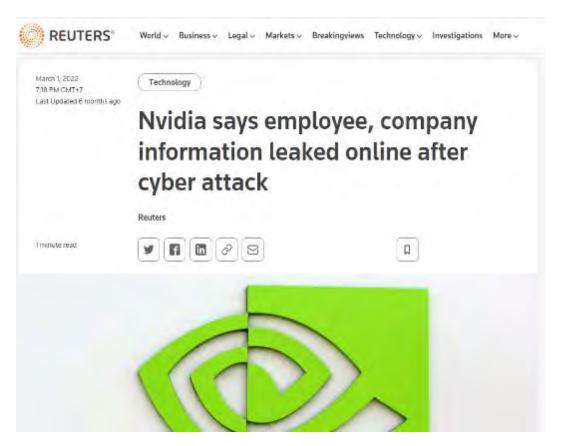
Nvidia confirms it's investigating an "incident," after a report suggested the company experienced a cyberattack that "completely compromised" the company's internal systems over the past two days theverge.com/2022/2/25/2295...

Tweet Ubersetzen



11:45 nachm. - 25. Feb. 2022 - Twitter Web App

Source: https://twitter.com/tomwarren/status/1497341983127445506



Source: https://www.reuters.com/technology/nvidia-says-employee-company-information-leaked-online-after-cyber-attack-2022-03-01/





Created: Feb 25, 2022 07:08 PM Updated: Feb 25, 2022 07:10 PM

McDonald's

https://www.mcdonalds.com/

500 GB

Back in 1954, a man named Ray Kroc discovered a small burger restaurant in California, and wrote the first page of our history. From humble beginnings as a small restaurant, we're proud to have become one of the world's leading food service brands with more than 36,000 restaurants in more than 100 countries.

Ransomware McDonald's

https://pbs.twimg.com/media/FMd r9bXIAYIGG7?format=jpg&name=900x900; https://borncity.com/win/2022/02/26/nvidia-von-cyberangriff-betroffen-25-feb-2022/



← Windows 10/11 (21H2): Wipe does not delete user data

Linux vulnerabilities patched fastest (Feb. 2022) -

axis.com (IP security camera vendor) is down (Feb. 21, 2022)

Posted on 2022-02-21 by guenni



[German] Brief note for people dealing with security cameras from vendor Axis. A German blog reader informed me, that the website of this vendor is currently down. There seems to be massive technical issues causing a major outage. Whether it is the result of a cyber attack, or just the technology, I can not currently answer. Means that customers (banks, supermarkets, etc.) can no longer access their security cameras remotely because the cloud is down. Here is some information. Addendum: It looks like a cyberattack —

because after my inquiry on Twitter, there is a new reference to an "IT-related intrusion" on the status page – see addendum in the text. **Addendum 1:** It's was a cyberattack that has taken place.

https://borncity.com/win/2022/02/21/webseite-von-ip-sicherheitskamera-hersteller-axis-com-ist-down-21-2-2022/

Axis Communications AB is a Swedish manufacturer of network cameras, access control and network audio devices for physical security and video surveillance. The manufacturer considers itself a technology leader in network cameras and other IP network solutions.

The websites are down

I received a private message from a reader via Facebook (thanks for that) on 2/21/2022 at midafternoon, asking if I knew anything about axis.com, because their website was dead. In deed — whoever tries to access the site *axis.com* in a browser is greeted with a simple error message that the page is not accessible. Here is the German version of this browser message.



Home > Cryptocurrency > News >> Solana Hack That Drained \$8 Million Is Linked To The Slope Mobile \

Solana hack that drained \$8 million is linked to the Slope mobile wallet

■ IANS | AUG 5, 2022, 11:38 IST













Source:

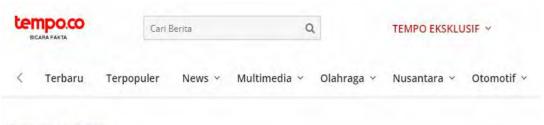
https://www.businessinsider.in/cryptocurrency/news/solana-hack-that-drained-8-million-is-linked-to-the-slope-mobile-wallet/articleshow/93363977.cms

The multi-million Solana crypto hack, that drained more than 8,000 wallets worth around \$8 million, has been linked to accounts tied with the Slope mobile wallet app.

Slope Finance said in a statement that a cohort of Slope wallets were compromised in the breach, advising users to create "a new and unique seed phrase wallet, and transfer all assets to this new wallet."

"We have some hypotheses as to the nature of the breach, but nothing is yet firm. We feel the community's pain, and we were not immune. Many of our own staff and founders' wallets were drained," the company said late on Thursday.





Beranda > Tekno

Sampel 2 Juta Data SIM Card Diduga Bocor dari Kominfo, Apakah ada Nomor Anda?

Reporter Editor

Maria Fransisca Lahur Zacharias Wuragil

Senin, 5 September 2022 15:31 WIB



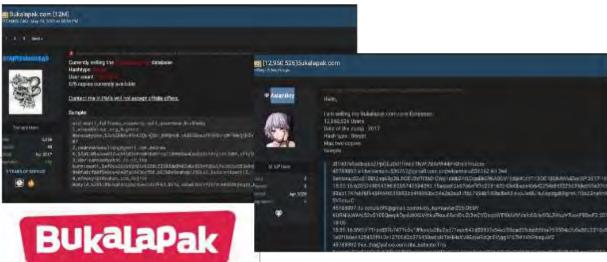




https://www.viva.co.id/digital/digilife/1444068-kebocoran-data-bank-indonesia-terus-bertambah







Data Breaches Indonesia

Data 279 Juta Penduduk Bocor di Internet, BPJS Kesehatan: Server Aman

Liberty Jemadu | Dicky Prastya

Kamis, 20 Mel 2021 | 18:47 WIB.



Ilitaliasi kantor BPJS Kanehalani (ANTARA FOTO/Aditya Pradana Puira)



SOLUSI DAN TINDAKAN PREVENTIF



Governance



- Corporate board
- · Executive leadership
- Risk management
- · 3rd party policies
- · Zero-trust model

People



- SOC (Security Operation Center)
- Cyber security talent
- Employee awareness
- Adaptive trust model
- · Secure remote environment

Process



- Identify
- Protect
- Detect
- Respond
- Recover

Technology



- DevSecOps
- AI & ML
- · Zero trust architecture
- · Hybrid cloud security
- SOAR (Security Orchestration, Automation and Response)

Build Computer Security Incident Response Team (CSIRT) is a must

SOLUSI DAN TINDAKAN PREVENTIF



What are Common Cyber Hygiene Problems?

Why is Cyber Hygiene Important?

Every employee needs to understand basic cyber hygiene practices and their role in protecting and maintaining your IT systems and devices. This will enable better incident response and provide immediate and effective defenses against cyber attacks.

Reference:

https://www.upguard.com/blog/cyber-hygiene

Loss of Data

Hard drives, online cloud storage and SaaS apps that store sensitive data that isn't backed up or maintained can be vulnerable to hacking, corruption, data leaks, and data breaches.

Outdated software

Software applications must have security patches applied regularly to prevent known vulnerabilities. The success of the WannaCry ransomware computer worm is a great example of why patching operating systems is an important part of good cyber hygiene

Misplaced data

Poor cyber hygiene could mean losing data in other ways, while it may not be corrupted or gone for good, it's increasingly common to misplace data due to the myriad of places it can be stored. This is why robust data classification is important.

Old security software

Antivirus software and other security software must be kept up to date to keep pace with the ever-changing threat landscape

Security breaches

Data breaches are becoming increasingly common, and costly. Spear phishing, whaling attacks, lack of configuration management, and poor network security can all lead to exposure of trade secrets, PII, and PHI. This can result in customer identity theft, industrial espionage, and a loss of market position.

Poor or lack of vendor risk management

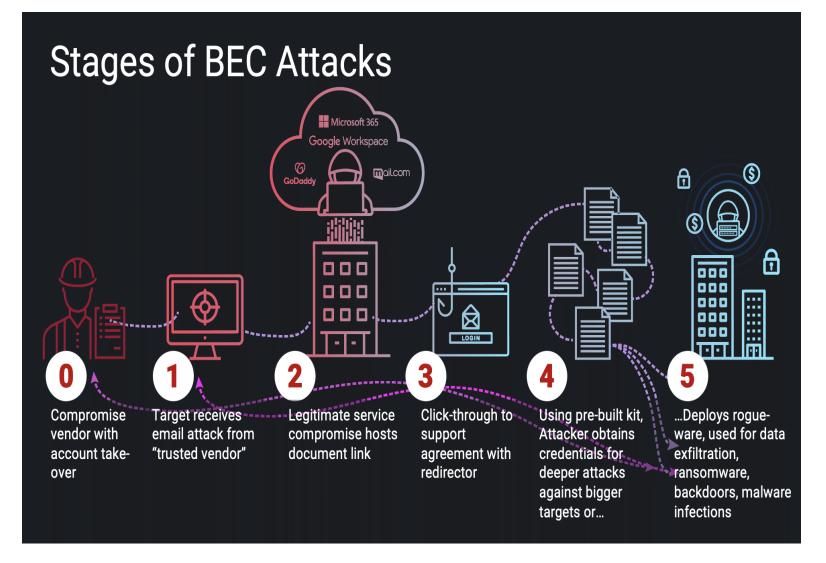
Number of your third-party vendors and service providers have access to your Wi-Fi networks or process sensitive data on your behalf

CYBERDRILL EXERCISE



What is Business Email Compromises (BEC)?

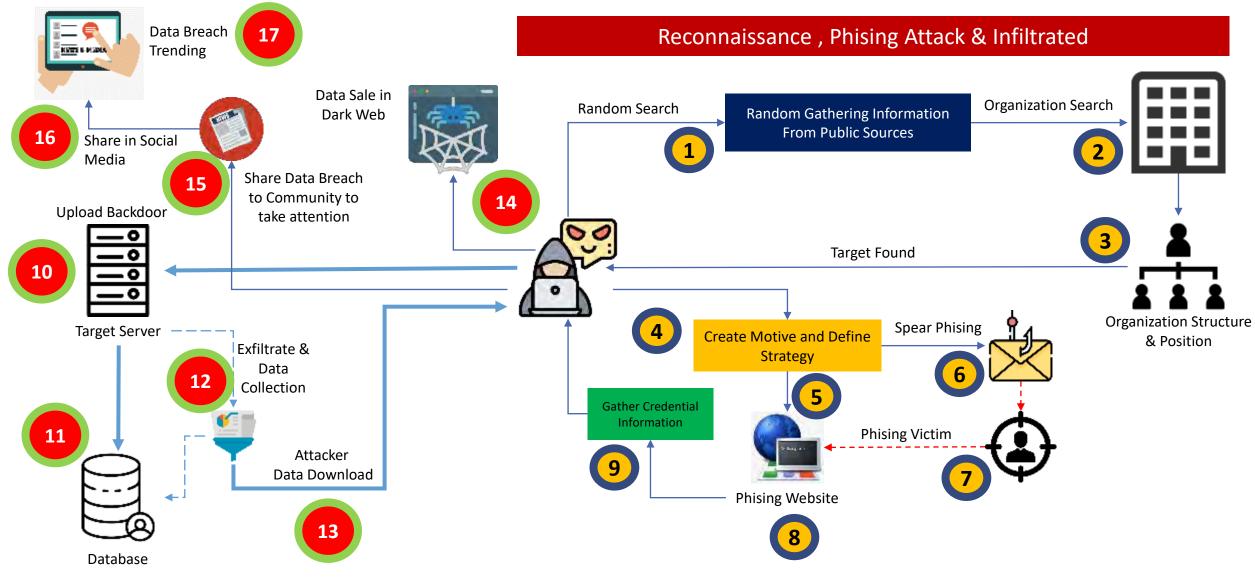
Business email compromise (BEC) is a type of phishing scam targeting companies for financial gain. These scams typically target executive-level employees or individuals involved in finance that could request or initiate wire transfers or other types of money transfer scams. Cybercriminals sometimes spoof an email address with a similar name of an executive or a vendor familiar with the company.



Reference: https://portswigger.net/web-security/cross-site-scripting

CYBERDRILL EXERCISE





CYBERDRILL EXERCISE



Case Study Cyber Attack Anatomy of Data Breach

Recon	Phising	Infiltrated	Backdoor	Lateral Movement	Data Collection	Exfiltrate
1	2	3	4	5	6	7
Attacker Recon of Target	Attacker sends phising url to targeted email	User click phising url and input username & password	Attacker accesses user's machine	Attacker elevates rights, accesess systems	Attacker acquires data	Attacker exfiltrates data
NVAP				> login:		

