



# La sécurité par où commencer ? Install Party

David Aparicio

Touraine Tech, Salle TD1  
Vendredi 20 Janvier 2023, 10h10



[@dadideo](#)

# David Aparicio

15/ DD INSA de Lyon / UNICAMP (Brésil)

Facebook Open Academy / MIT AppInventor

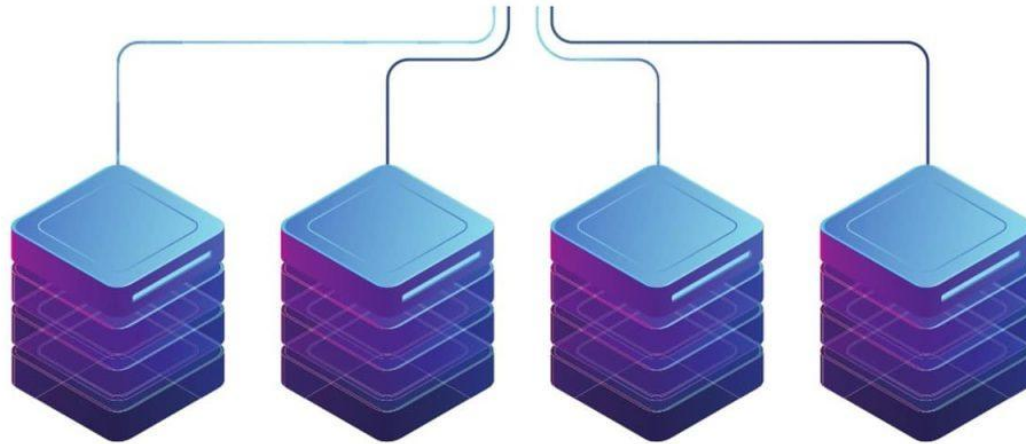
17/ Dev(Sec)Ops @ AMADEUS (Nice, 2 ans)

19/ Data(Sec)Ops @ OVHcloud (Lyon, 3 ans)





# OVHcloud



400 000  
serveurs

1,6 million  
de clients

Leader  
européen

2021  
IPO

30 Datacenters



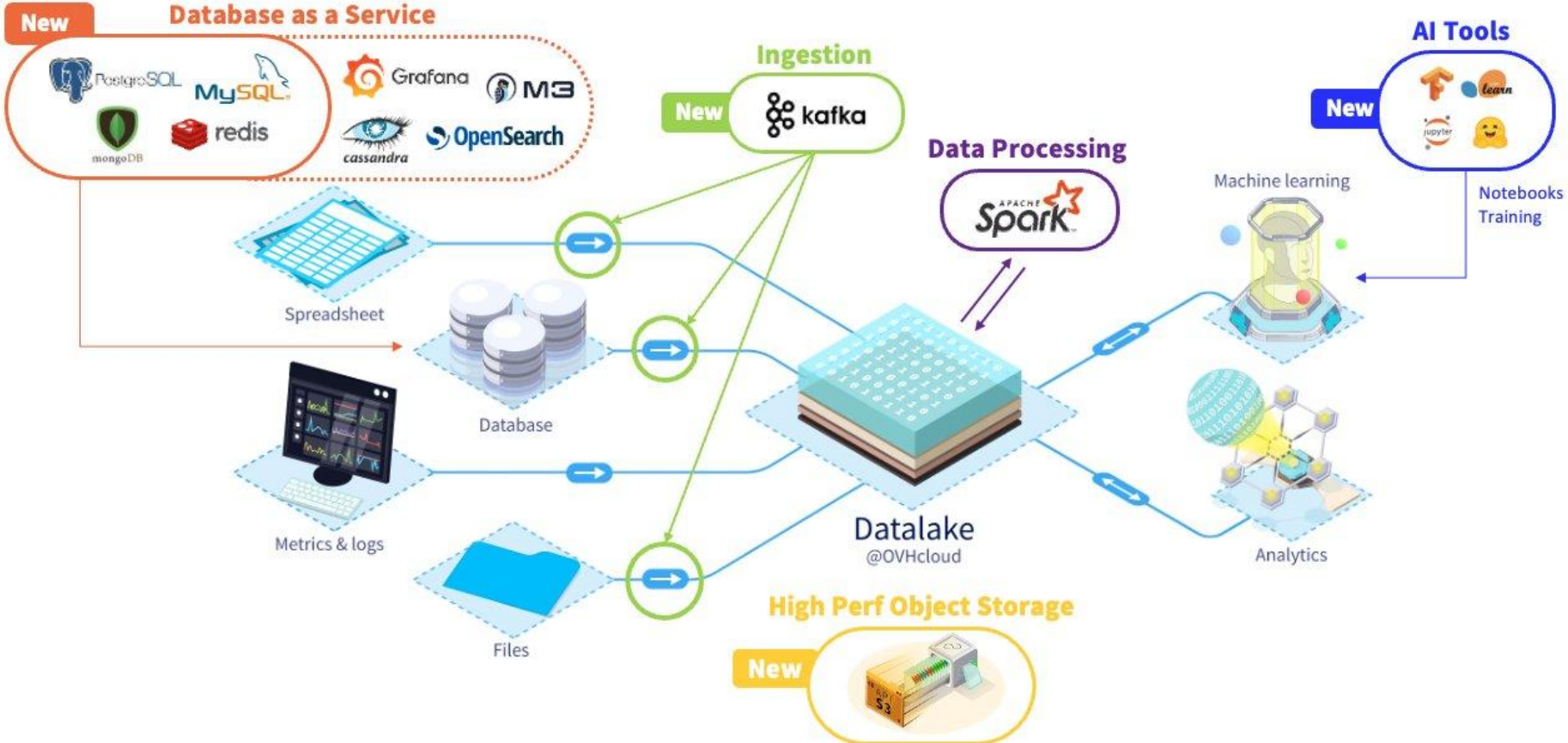
gaia-x

SecNumCloud  
Depuis Déc 2020





# GIS-DATA







# Agenda

Introduction

Conseils

Outils

Conclusion

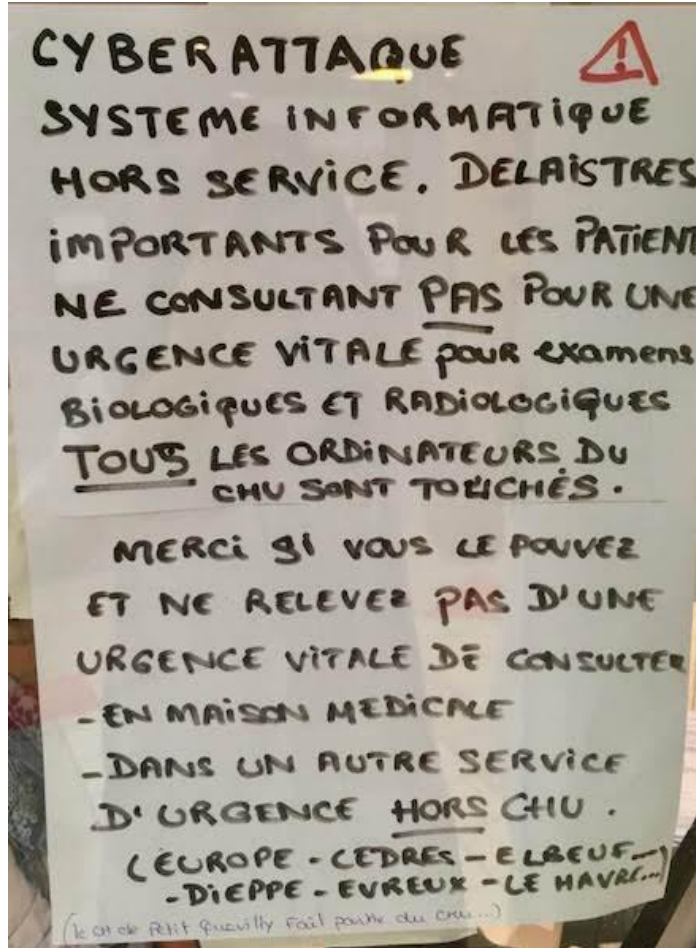


# Introduction





# Pourquoi ce talk ?







# Dès la Conception !!

## Y a-t-il un pilote à jour dans l'avion ?

En 2015, les autorités états-uniennes de l'aviation alertaient les compagnies aériennes: le Boeing 787 Dreamliner devait être redémarré tous les 248 jours pour contourner un bogue pouvant entraîner une coupure de courant généralisée dont on peut imaginer les conséquences en vol. Cette fois, elles ont

annoncé qu'il faut éteindre et rallumer ces mêmes avions tous les 51 jours pour éviter des problèmes informatiques catastrophiques en raison d'une mémoire saturée de données sinon. Mesdames et Messieurs, veuillez regagner vos places et attacher vos ceintures de sécurité, nous allons bientôt rebouter!

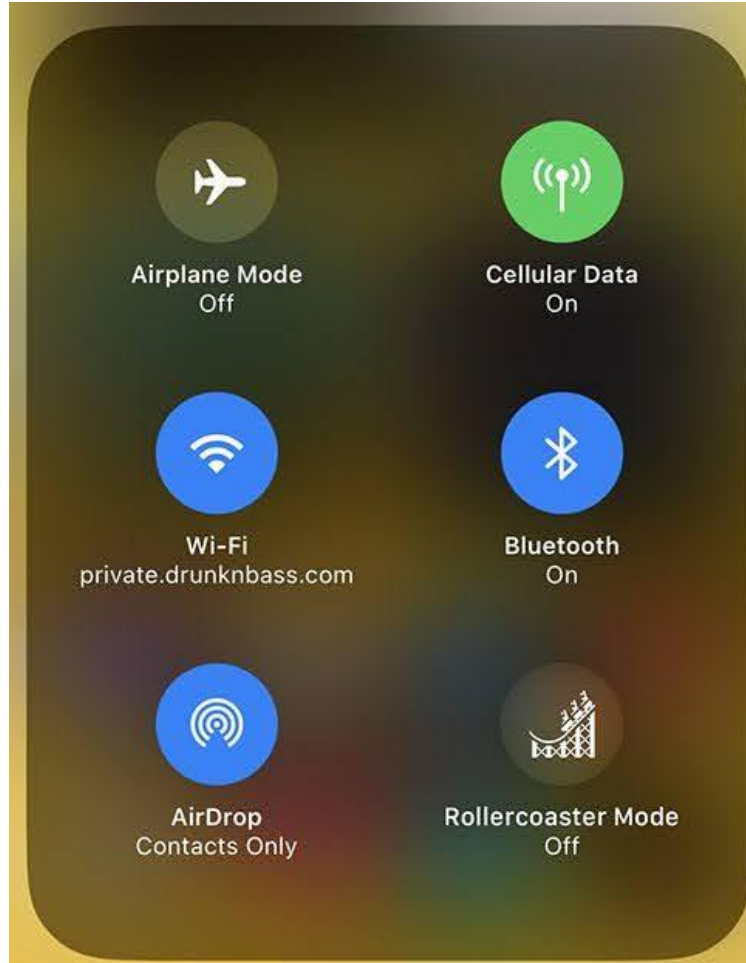
OOOH... C'EST FASCINANT TOUS  
CES CADRANS ET CES BOUTONS,  
COMMANDANT ! ET CES TOUCHES  
CTRL+ALT+SUPPR, LÀ, ÇA SERAIT  
À QUOI ?

HEU, JE... M'ÉLLE...  
C'EST UN SECRET !





# Autre exemple récent





# Sécurité dès la conception

Du domaine du **Génie Logiciel**  
Souvent associé à **Privacy By Design**  
Considérer la sécurité comme une **partie intégrante**  
Conception d'architecture **robuste**  
Résistant aux attaques **bien connues**  
Utilisant des techniques **réutilisables**  
Minimiser l'impact **en prévision** des vulnérabilités

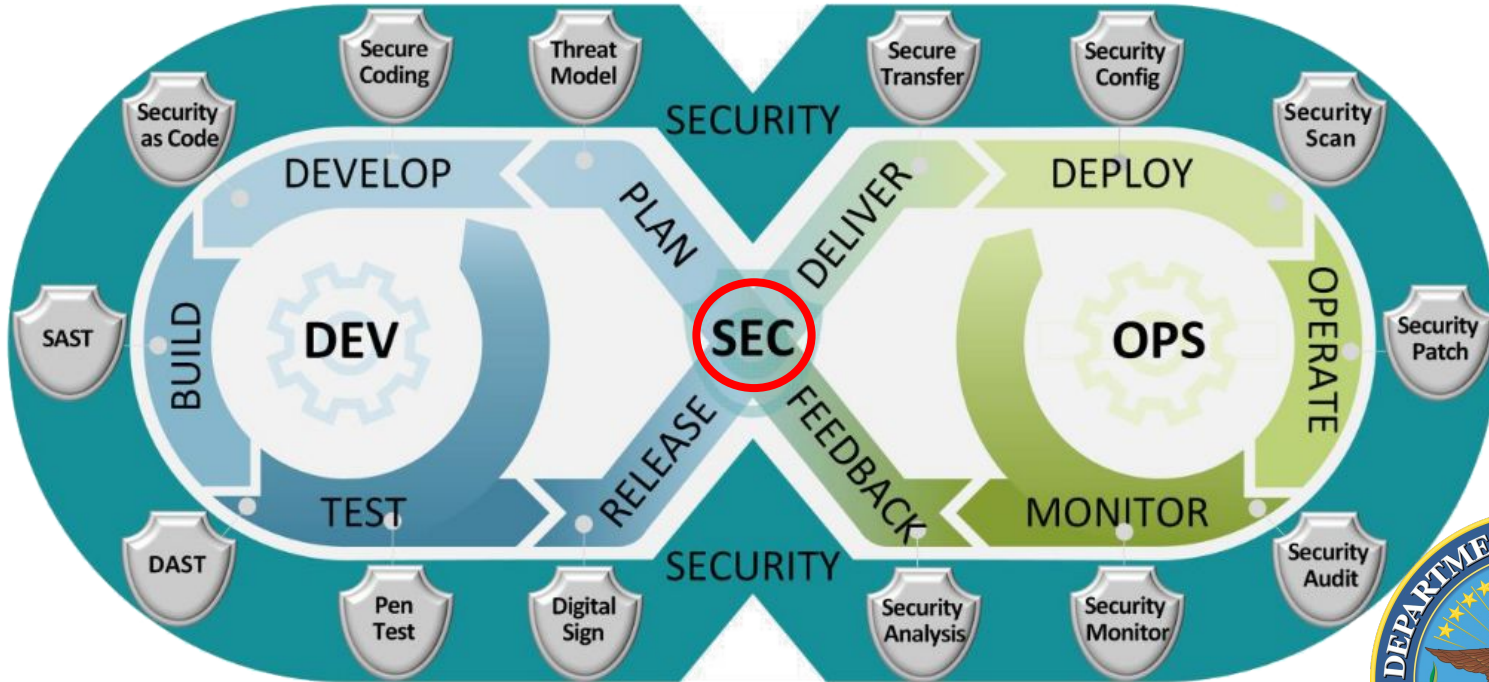
Exigences dans de **multiples domaines** (auth., intégrité, confidentialité, etc...)  
Même lorsque le système est attaqué  
**Préserver** l'architecture pendant l'**évolution du logiciel**  
Mise en oeuvre durant tout le **cycle de vie**, jusqu'à la fin du support, et donc une date de **décommissionnement**







# Shift-left Security





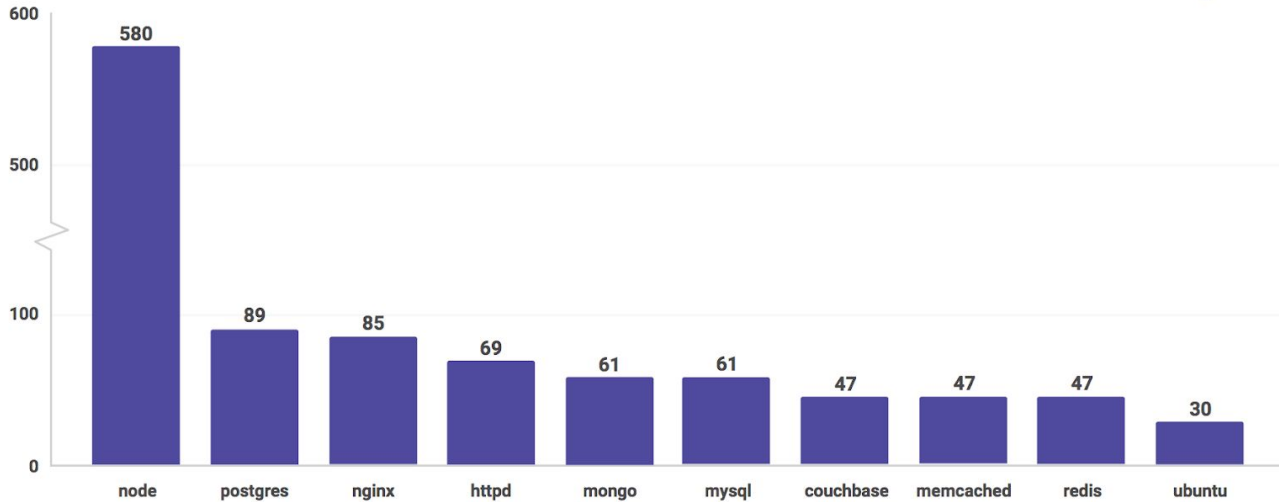
# Conseils





# Attention avec Docker

Number of OS vulnerabilities by docker image







# Attention avec vos dépendances

## Open Source Security report

- 78% of vulnerabilities are found in indirect dependencies





#TNT23

#SecurityByDesign

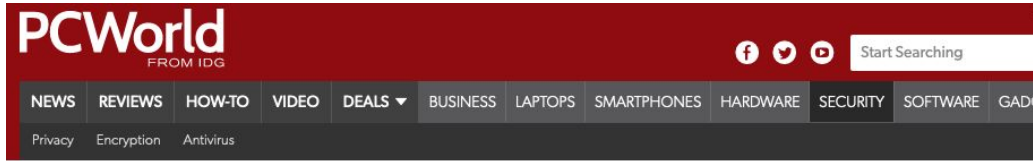
@dadideo



15



# Attention avec vos dépendances



[Home](#) / [Internet](#)

NEWS

## Failure to patch known ImageMagick flaw for months costs Facebook \$40k

A researcher found that Facebook was still vulnerable to the ImageTragick exploit months after it was disclosed



By [Lucian Constantin](#)

CSO Senior Writer, [IDG News Service](#) | JAN 18, 2017 12:06 PM PST



[PCWorld](#) - [Remote Code Execution Exploit \(Write-up\)](#)



# Ne pas afficher des données personnelles (PII)

The screenshot shows the Ameli.fr website interface. At the top, there is a navigation bar with the Ameli logo and a search bar. Below the navigation bar, there are several menu items: Accueil, Mes paiements, Mes démarches, Mon espace prévention, and Mes informations. The main content area is divided into several sections:

- MES DERNIERS PAIEMENTS**: A table showing two payments to a third party in October. The first payment is for 3,09€ and the second is for 7,41€.
- MES DÉMARCHES EN 2 CLICS**: A list of services available in two clicks, including Attestation de droits, Attestation de paiement d'indemnités journalières, and Carte européenne d'assurance maladie (CEAM). There are also links to view all démarches and consult treatment delays.
- MON AGENDA**: A section for appointments, including Mes rendez-vous and Prendre un rendez-vous.
- MON ESPACE PRÉVENTION**: A section for prevention, including Repères Prévention.

On the right side of the page, there is a user profile for Nathalie Durand (SPECIMEN). The profile shows the user's name, last connection date (05/11/2020 at 05:27), and a phone number (2 69 05 49 588 157 80) which is circled in red. Below the profile, there is a target icon next to the text 'CNIL - Donnée personnelle, Personnally identifiable information (PII)'. At the bottom left, there is a notification icon with the number 2 and the text 'NOTIFICATIONS' and 'Ma complémentaire santé'.

Site d'Ameli.fr  
(numéro modifié  
pour illustrer)



CNIL - Donnée  
personnelle,  
Personnally  
identifiable  
information (PII)



# Ne pas utiliser les configurations par défaut



Home > Blog > Report: Hotel Reservation Platform Leaves Millions of People Exposed in Massive Data Breach

## Report: Hotel Reservation Platform Leaves Millions of People Exposed in Massive Data Breach



Mark Holden

🕒 November 06, 2020

### Inside this Article ▾

**Company:** Prestige Software, based in Spain.

**Severity:** High

**Size:** 24.4 GB, totaling 10,000,000+ exposed files

**Data Storage Format:** Misconfigured AWS S3 bucket

**Countries Affected:** Worldwide

Courtesy of our security team at [Website Planet](#), we can reveal that a hotel reservation platform has been exposing highly sensitive data from millions of hotel guests worldwide, dating as far back as 2013 and including credit card details for 100,000s of people.

Based in Madrid and Barcelona, Prestige Software sells a channel management platform called Cloud Hospitality to hotels that automates their availability on online booking websites like Expedia and Booking.com.

The company was storing years of credit card data from hotel guests and travel agents without any protection in place, putting millions of people at risk of fraud and online attacks.

### Customer Data Exposed

- **PII data:** Full names, email addresses, national ID numbers, and phone numbers of hotel guests

Prestige Software doesn't list that appeared to originate from including, but not limited to:

- Agoda
- Amadeus
- Booking.com
- Expedia
- Hotels.com
- Hotelbeds
- Omnibees
- Sabre
- and many others



[Hotel Reservation Platform Leaves Millions of People Exposed in Massive Data Breach](#)





# Ne pas utiliser les configurations par défaut



## BREAKING: Massive Breach of Mexican Voter Data

See the [interview with Chris Vickery](#) commenting on this breach.

Before going any further, let's make one thing very clear. I'm not the one who transmitted the data out of Mexico. Someone else will have to answer for that. However, eight days ago (April 14th), I did discover a publicly accessible database, hosted on an Amazon cloud server, containing these records. There was no password or authentication of any sort required. It was configured purely for public access. Why? I have no clue.

After reporting the situation to the US State Department, DHS, the Mexican Embassy in Washington, the Mexican Instituto Nacional Electoral (INE), and Amazon, the database was finally taken offline April 22nd, 2016.


Under Mexican law, these files are "strictly confidential", carrying a penalty of up to 12 years in prison for anyone extracting this data from the government for personal gain. We're talking about names, home addresses, birthdates, a couple of national identification numbers, and a few other bits of info.



[Massive Breach of Mexican Voter Data](#)



# Ne pas utiliser les permissions par défaut

 **Mathis Hammel**  
@MathisHammel

Mais le souci justement, c'est que les permissions étaient mal configurées. Tout ce qui touchait aux candidats était autorisé en lecture et en écriture, notamment la fonction permettant d'ajouter ou de modifier une proposition...

[Translate Tweet](#)

```
eprop { createPropositions(input: {id:"555", title:"Y'a un souci là non ?", source:"-"}, source:"-") {id} }
rticleContent:"-"} {id} }
ePropositions(input: {id:"555", title:"Y'a un souci là non ?", source:"-"} {id} }

: {

p { deletePropositions(input:{id:"555"})(title)
ositions(input:{id:"555"})(title)}

: {
souci là non ?"
}
```

- Bannir les pesticides, instaurer des zones-tampons, lutter contre l'artificialisation des sols  
Par Jean-Luc Mélenchon
- Créer un haut-commissariat à l'eau  
Par Jean-Luc Mélenchon
- Planifier le 100% d'énergies renouvelables avec un double axe sobriété/efficacité énergétique pour 2050  
Par Jean-Luc Mélenchon
- Sortir du nucléaire : abandonner les projets d'EPR et d'enfouissement des déchets nucléaires, planifier le démantèlement de la...  
Par Jean-Luc Mélenchon
- Y'a un souci là non ?  
Par Jean-Luc Mélenchon

5:46 PM · Jan 15, 2022 · Twitter Web App



[Thread @MathisHammel](#)



# Attention au risque humain

**ars** TECHNICA [BIZ & IT](#) [TECH](#) [SCIENCE](#) [POLICY](#) [CARS](#) [GAMING & CULTURE](#) [STO](#)

*ELON SPEAKS —*  
**Russian tourist offered employee \$1 million to cripple Tesla with malware**

"This was a serious attack," Elon Musk says.

DAN GOODIN - 8/28/2020, 4:12 AM



Tesla

[Enlarge](#)



# Attention au traffic sortant aussi !

## Introduction à DNSSEC

We think of DNS as a lookup.

```

>nslookup tesla.com
name: tesla.com
address: 199.66.11.62
    
```

where is Tesla.com?

But each DNS lookup request sends data to a server.

? @overs  
mysecret.paypa1.com

I can put any info I want in here! (subdomain)

And it'll get sent to the DNS server config'd for this domain.

How do I steal this file w/o getting detected?

Top Secret.docx

Email  
USB  
FTP  
Dropbox

Blocked!

First, I can encode it with base64 (or similar)

```

Top Secret
Q4 Profit
$15M
UTQg UHJvZ
24czogLG
    
```

← Plain text, easy for DLP to scan

← Encoded, DLP can't make sense of it

Outbound DNS is usually allowed on corporate networks.

MEGACORP

port 53 open!

DNS

And it's a very noisy protocol to monitor & analyze.

```

dns.log
Sep 30 18:18:57 dds named
Sep 30 18:18:58 dds named
Sep 30 18:18:58 dds named
Sep 30 18:19:59 dds named
Sep 30 19:19:02 dds named
Sep 30 19:19:02 dds named
Sep 30 19:19:02 dds named
Sep 30 19:19:02 dds named
    
```

Yikes!

Then I chop up my base64 file into small chunks that each fit into a DNS query.

```

UTQg.paypa1.com
UHcz.paypa1.com
24og.paypa1.com
www.google.com
www.twitter.com
    
```

Then tuck all the "bad" DNS queries in with the thousands of "good" ones

When the evil queries arrive at the attacker's paypa1.com DNS server they are logged and pieced back together.

```

UTQg +
UHcz +
24og
    
```

Stitch together

decode base64


Top Secret.docx







# Quelques bonnes pratiques

- Diminuer surface d'attaque (scratch, distroless, ubi-minimal)
- Principe de moindre privilège (!root, 1 user = 1 appli)
- Défense en profondeur (bastion, traceability, siem)
- Détection de connexion, proposer/activer MFA
- Pas de configuration/permissions par défaut (K8s, [MongoDB](#))
- Pas de secrets dans les Docker images ou les repositories Git (Vault, .gitignore)
- Pas de données sensibles dans les GUI (cf slide suivante)
- Ne pas afficher de stacktrace (pas debug | Fail securely)
- Ni de version/nom de framework
- Vérifier les entrées/sorties des clients/noeuds (injection/XSS, protocoles)
- Faire des backups régulièrement et déconnectées du réseau
- Mettre à jour infra/docker images (CI/CD|[GitOps](#))
- PaaS (BUILD/RUN)  OVHcloud/CleverCloud



# Pourquoi ?

2013	2017 (new, * from the community)	2021 (new, * from the survey)
A1 - Injection	A1 - Injection	A1 - Broken Access Control
A2 - Broken Authentication & Session Management	A2 - Broken Authentication	A2 - Cryptographic Failures
A3 - Cross-Site Scripting (XSS)	A3 - Sensitive Data Exposure	A3 - Injection
A4 - Insecure Direct Object References	A4 - XML External Entities (XXE)	A4 - Insecure Design
A5 - Security Misconfiguration	A5 - Broken Access Control [MERGED A4+A7]	A5 - Security Misconfiguration
A6 - Sensitive Data Exposure	A6 - Security Misconfiguration	A6 - Vulnerable and Outdated Components
A7 - Missing Function Level Access Control	A7 - Cross-Site Scripting (XSS)	A7 - Identification and Authentication Failures
A8 - Cross-Site Request Forgery (CSRF)	A8 - Insecure Deserialization *	A8 - Software and Data Integrity Failures
A9 - Using Components with Known Vulnerabilities	A9 - Using Components with Known Vulnerabilities	A9 - Security Logging and Monitoring Failures *
A10 - Unvalidated Redirects and Forwards	A10 - Insufficient Logging & Monitoring *	A10 - Server-Side Request Forgery (SSRF) *

**OWASP TOP 10**

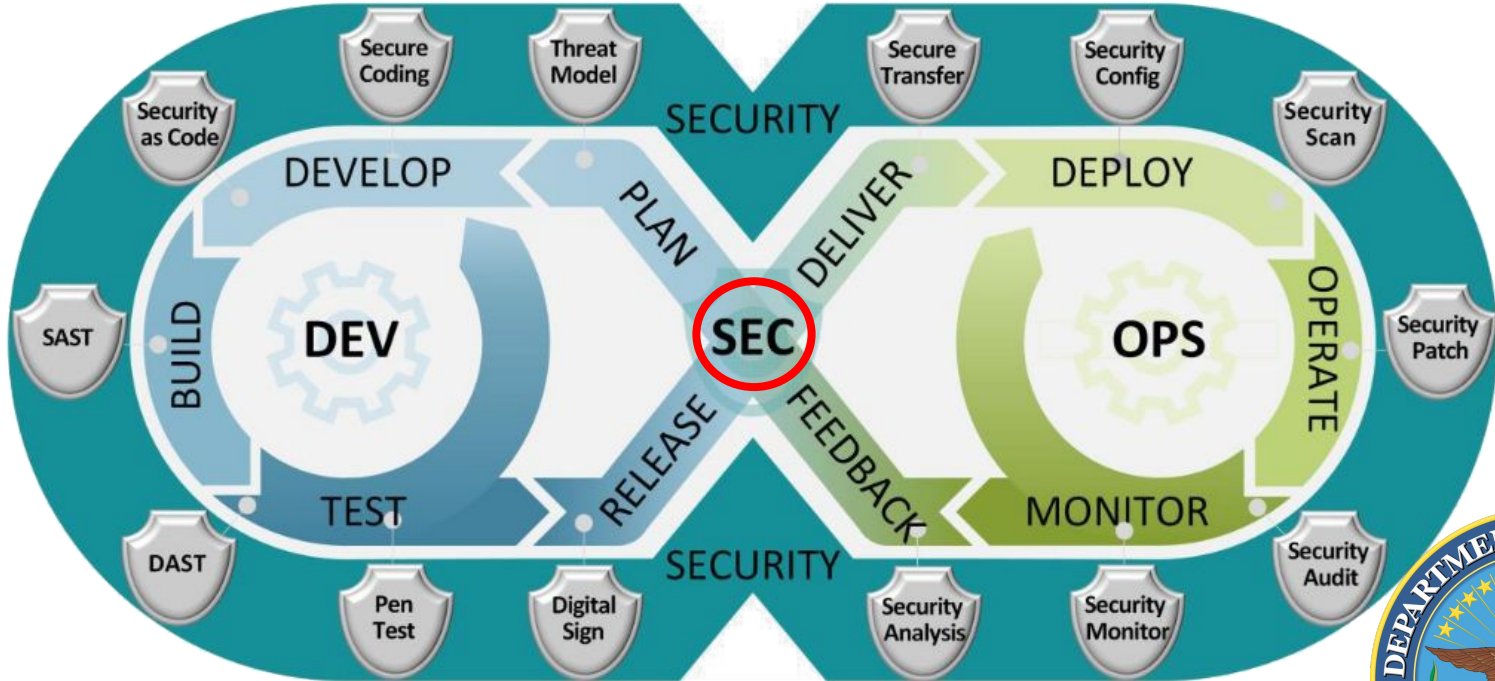


# Outils





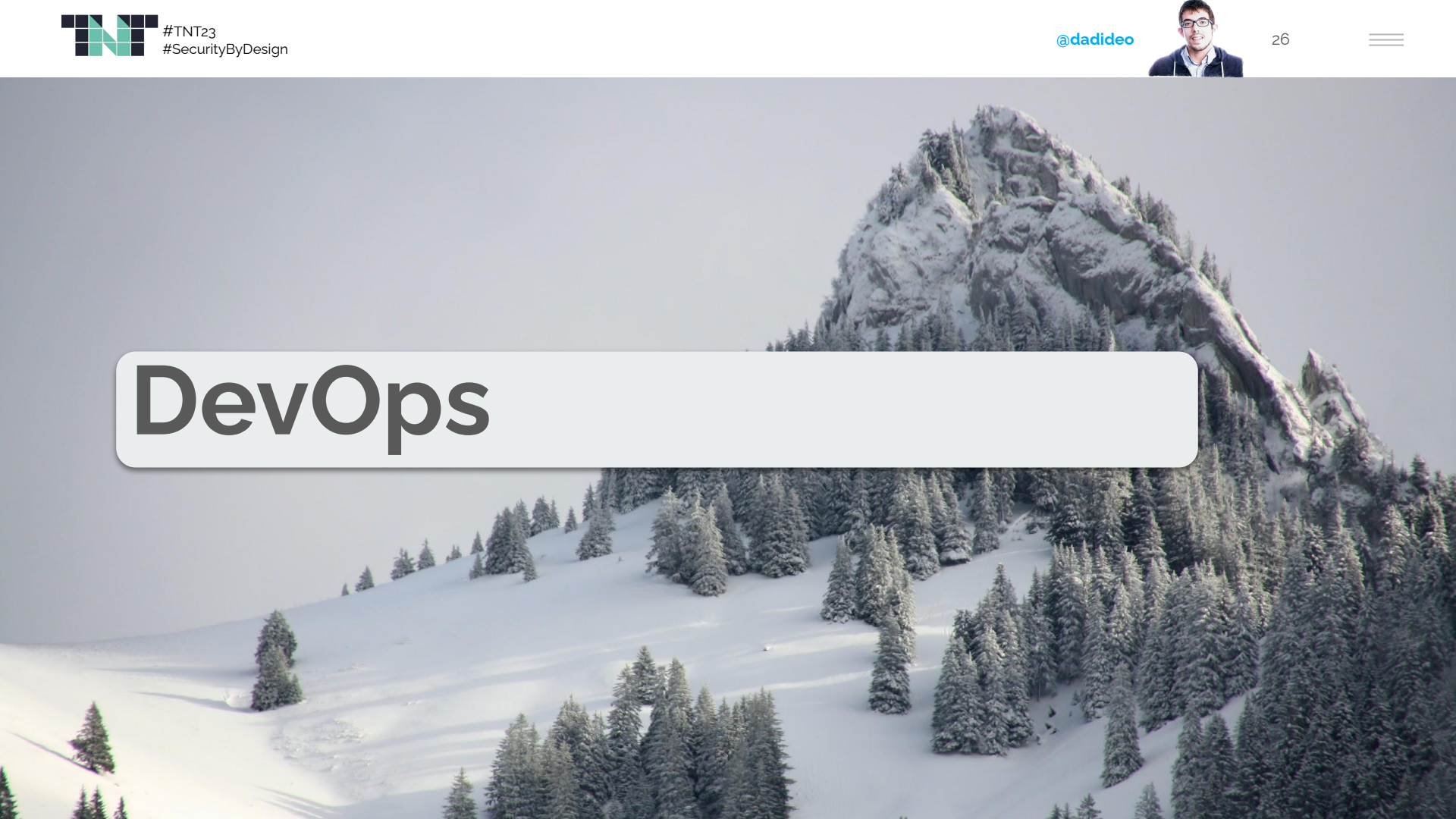
# Shift-left Security







# DevOps





# CI/CD

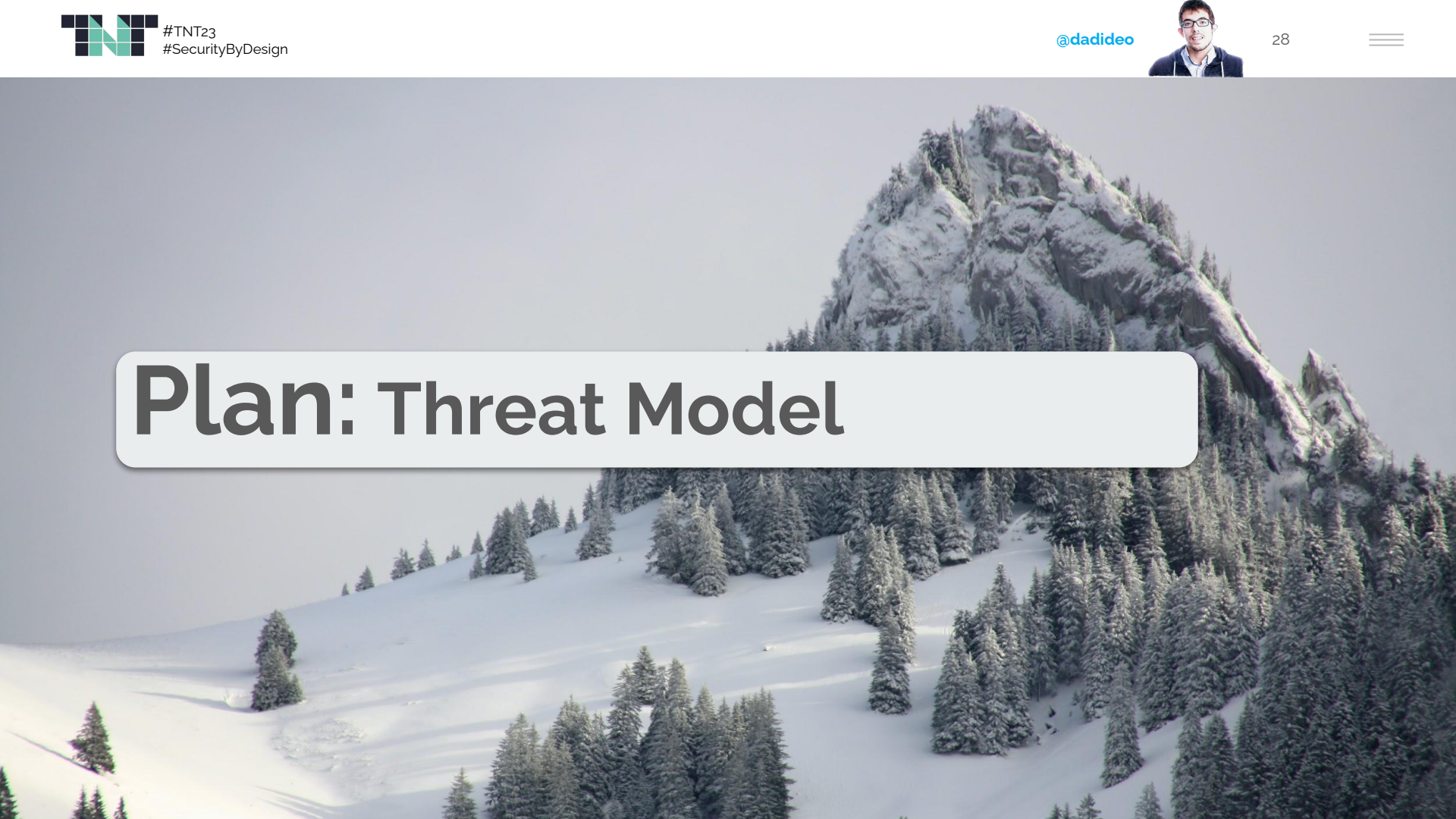
Pipeline Jobs 5



[Philippe Charrière \(Twitter\)](#)



# Plan: Threat Model





# Bonnes pratiques ANSSI

- Se documenter, se former
- Lire les guides de l'ANSSI
- Comparer les technologies, les langages de programmation
- Effectuer l'analyse des risques
- Identifier le modèle de l'attaquant pour ce produit en particulier
- Préparer des spécifications / des ateliers
- Participer à des conférences Sécurité
- Choix du système hôte ([OS hardening](#))
- Veille technologique ([Feedly/RSS](#))



ANSSI

Agence nationale de la sécurité des systèmes d'information



	<p><b>RECOMMANDATIONS RELATIVES À L'INTERCONNEXION D'UN SYSTÈME D'INFORMATION À INTERNET</b></p> <p>Réseaux</p> <p>19/06/2020</p> <p>architecture interconnexion Internet messagerie passerelle</p>
	<p><b>RÈGLES DE PROGRAMMATION POUR LE DÉVELOPPEMENT D'APPLICATIONS SÉCURISÉES EN RUST</b></p> <p>09/06/2020</p> <p>application sécurisée bonne pratique développement sécurisé langage Rust règle</p>
	<p><b>RECOMMANDATIONS DE SÉCURITÉ RELATIVES À TLS</b></p> <p>Cryptographie Réseaux</p> <p>26/03/2020</p> <p>chiffrement HTTPS TLS</p>
	<p><b>RECOMMANDATIONS SUR LA SÉCURISATION DES SYSTÈMES DE CONTRÔLE D'ACCÈS ET DE VIDÉOPROTECTION</b></p>

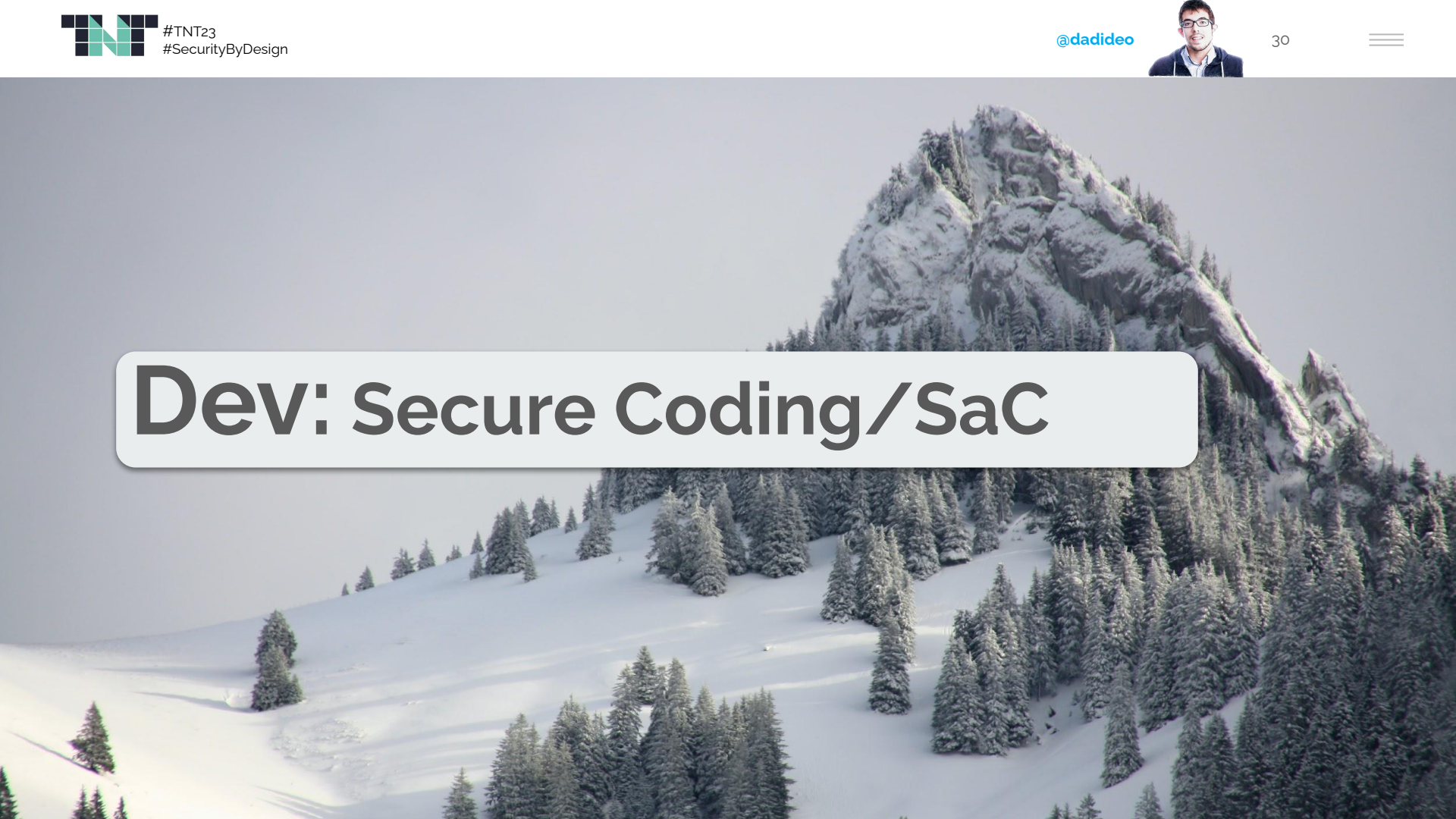


[Bonnes pratiques de sécurité numérique \(ANSSI\)](#)





# Dev: Secure Coding/SaC







# Linters

## Go

Un linter est un outil d'analyse statique de code source. Il sert à détecter : des erreurs (très utile sur des langages interprétés comme JavaScript qui n'ont pas de phase de compilation) ; des problèmes de syntaxe et de non-respect de style (tabulation vs espaces, indentation, etc.)

## STATIC LINTS WITH GOLANG-CI



Customize: linters list, values...

In few situations you can bypass the linters with noLint directive.

```
//noLint
```

```
Linters:  
disable-all: true  
enable:  
- bodyclose  
- deadcode  
- depguard  
- dogsled  
- dupl  
- errcheck  
- funlen  
- goconst  
- gocritic  
- gocyclo  
- gofmt  
- goimports  
- golint  
- gomnd  
- goprintffuncname  
- gosec  
- gosimple  
- govet  
- ineffassign  
- interfacer  
- misspell  
- nakedret  
- rowserrcheck  
- scopelint  
- staticcheck  
# - ...
```



"Common mistakes" en Go, Aurélie Vache (Async 2021)



# Linters

## Shell

Il permet d'avoir un code avec moins d'effets de bord  
Disponible dans (quasiment) tous les langages

```
$ shellcheck myscript

Line 4:
if ! grep -q backup=true.* "~/.myconfig"
    ^-- SC2062: Quote the grep pattern so the
    ^-- SC2088: Tilde does not

Line 6:
echo 'Backup not enabled in $HOME/.myconfig, exiting
    ^-- SC2016: Expressions don't expand in single

Line 10:
if [[ $1 =~ "-v(erbos)?" ]]
    ^-- SC2076: Don't quote right-hand side of

Line 12:
verbose='-printf "Copying %f\n"
    ^-- SC2089: Quotes/backslashes will be treat

Line 16:
-iname *.tar.gz \
    ^-- SC2061: Quote the parameter to -iname so
    ^-- SC2035: Use ./*glob* or -- *glob* so name
```





# Docker CLI



Guillaume 🐶  
@glours



Replying to @glours @silvin\_docker and 2 others

With a better Gif and a link to the documentation  
[docs.docker.com/engine/scan/](https://docs.docker.com/engine/scan/)

```
~/docker/scan (zsh) 251 ..an-cli-plugin (zsh) 252
100%
docker scan hello-world
Testing hello-world...
Organization:    docker-desktop-test
Package manager: linux
Project name:    docker-image|hello-world
Docker image:   hello-world
Licenses:       enabled

/ Tested hello-world for known issues, no vulnerable paths found.
Note that we do not currently have vulnerability data for your image.
```

12:11 PM · Sep 2, 2020 · TweetDeck



[Vulnerability scanning - Docker Documentation](#)



# 19/10/20

→ ↻ 🏠 🔒 https://securite.developpez.com/actu/309772/Quatre-packages-npm-trouves-en-train-d-ou-... 📄 ⋮ 🗨️ ⭐ 📄

## Quatre packages npm trouvés en train d'ouvrir des shells sur des systèmes Linux et Windows.

Tout ordinateur avec l'un de ces packages installés « doit être considéré comme totalement compromis »

Le 19 octobre 2020 à 12:27, par Stan Adkens | 6 commentaires



364 PARTAGES

👍 15 🗨️ 0



L'équipe de sécurité de npm a supprimé la semaine dernière quatre packages hébergés sur son dépôt, découverts en train d'ouvrir des shells afin d'établir une connexion à des serveurs distants pour exfiltrer les données des utilisateurs à partir des systèmes Linux et Windows infectés. Selon l'équipe de sécurité, chaque bibliothèque a été téléchargée des centaines de fois depuis son chargement sur le portail npm.

Les noms des quatre packages npm sont : plutov-slack-client, nodetest199, nodetest1010 et nmpubman. Les packages ont été mis en ligne sur le portail npm en mai 2018 (en ce qui concerne le premier) et en septembre de la même année (pour le reste). Jeudi dernier, le personnel du npm a retiré les quatre paquets JavaScript du portail npm parce qu'ils contenaient du code malveillant.



npm est le plus grand dépôt de packages pour tous les langages de programmation. L'équipe de sécurité de npm scanne régulièrement sa collection de bibliothèques JavaScript, considérée comme le plus important dépôt. Bien que les paquets malveillants soient régulièrement supprimés, la suppression de la semaine dernière est la troisième grande mesure de répression de ces trois derniers mois.

Selon les avis publiés par l'équipe de sécurité de npm, les quatre bibliothèques JavaScript ont ouvert des shells sur les ordinateurs des développeurs qui ont importé ces packages dans leurs projets. Les shells permettaient aux acteurs de la



### [4 packages npm ouvrent des shells \[Linux/Windows\]](#)



# npm-audit Javascript

Auditer les vulnérabilités connues des librairies et des dépendances associées

```
High | Arbitrary File Overwrite
Package | tar
Patched in | >=4.4.2
Dependency of | libnpm
Path | libnpm > npm-lifecycle > node-gyp > tar
More info | https://npmjs.com/advisories/803

High | Arbitrary File Overwrite
Package | tar
Patched in | >=4.4.2
Dependency of | npm-lifecycle
Path | npm-lifecycle > node-gyp > tar
More info | https://npmjs.com/advisories/803

Found 19 vulnerabilities (8 moderate, 11 high) in 11360 scanned packages
run 'npm audit fix' to fix 4 of them.
12 vulnerabilities require semver-major dependency updates.
3 vulnerabilities require manual review. See the full report for details.
```







# Github Code Scanning

Il permet d'avoir un retour rapide  
directement dans son code  
(sur les failles)

```
src > main > java > com > octodemo > rest > calculatorservice > service > CatalogService.java > CatalogService > deleteConfig()
26 |
27 |     public Map<String, Object> getConfig(String id) {
28 |         Map<String, Object> conf = jdbcTemplate.queryForMap("SELECT * FROM configuration WHERE id = '"+ id +"'");
```

Participants: @github-code-scanning

 github-code-scanning 1 week ago

**Query built from user-controlled sources**

Query might include code from this user input.

[Show more details](#)

Reply...





Pas copier-coller depuis StackOverFlow

# 98% snippets sécu/crypto sont insecure



Fisher et al., 2017; Nadi et al., 2016; Das et al., 2014, Prevent cryptographic pitfalls by design



## GitHub Copilot Security Study: 'Developers Should Remain Awake' in View of 40% Bad Code Rate

By David Ramel 08/26/2021

Researchers published a scholarly paper looking into security implications of GitHub Copilot, an advanced AI system now being used for code completion in Visual Studio Code and possibly headed for Visual Studio after its current preview period ends.

In multiple scenario testing, some 40 percent of tested projects were found to include security vulnerabilities.

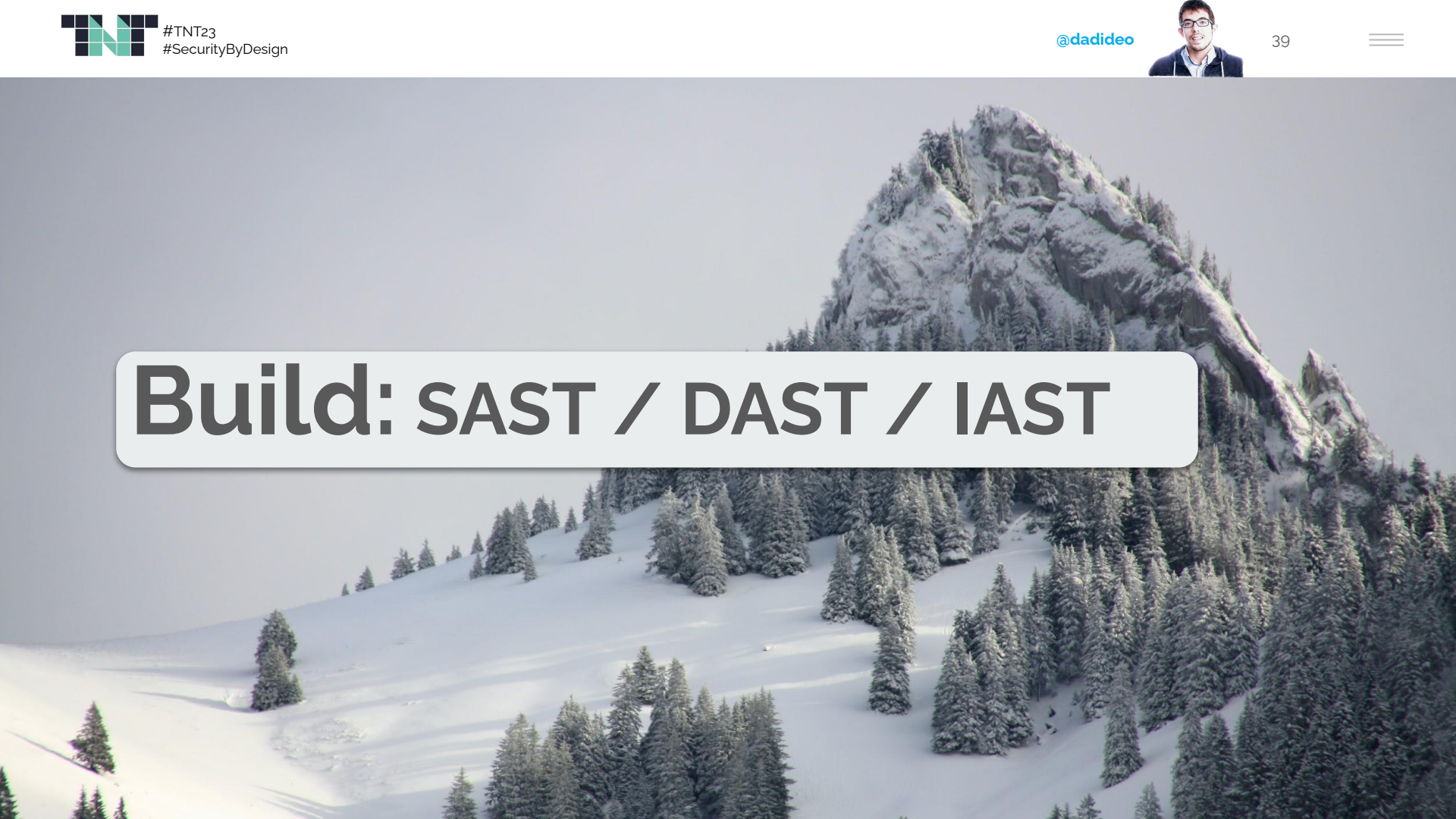
**GitHub Copilot** is described as an "**AI pair programmer**" whose advanced AI



[40% of Code Produced by GitHub Copilot Vulnerable to Threats](#)

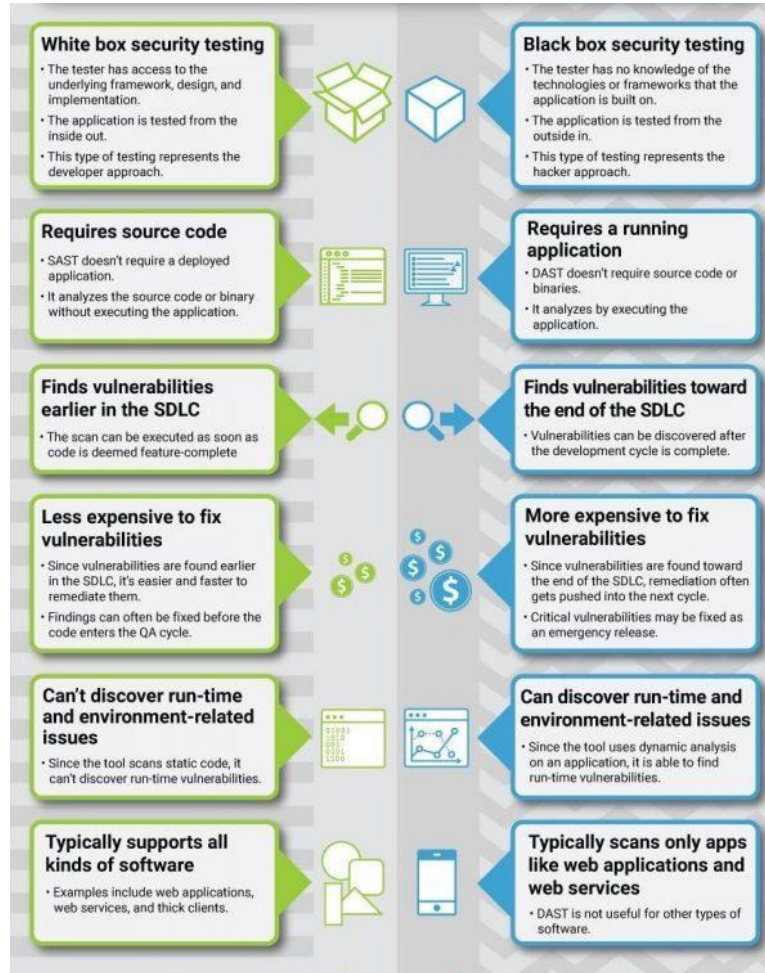


# Build: SAST / DAST / IAST





# SAST DAST IAST App Security Test







# AWS git-secrets / GitGuardian



## 1 policy break detected!

**ca-certificates.crt** - FILE EXTENSIONS

2022-10-11 10:35:19 pm (UTC)

 davidaparicio/namecheck

[See on GitGuardian](#)

[SEE ON GITHUB](#)

ute

e our API to  
ipeline.

ay

s for secrets

s  
ng and  
providers.

[GitGuardian](#) is an automated secrets detection service.

We help developers and security teams secure the modern software development process.



# Sonar

```

246  if (Provider.class == roleTypeClass) {
247      Type providedType = ReflectionUtils.getLastTypeGenericArgument(dependen
248      2 Class providedClass = 1 ReflectionUtils.getTypeClass(providedType);
249
250      if (this.componentManager.hasComponent(providedType, dependencyDescript
251          || 3 providedClass.isAssignableFrom(List.class) || providedClass.

```

A "NullPointerException" could be thrown; "providedClass" is nullable here.

Bug

Major

```

252      continue;
253  }


```

			New code		
			Since last release		
<b>Reliability</b>					
	Bugs	2		1	
<b>Security</b>					
	Security Vulnerabilities	0		0	
	Security Hotspots	39	-	0	-
<b>Maintainability</b>					
	Technical Debt	6 days		0	
	Code Smells	319	-	0	-





# Snyk



## davidaparicio's weekly report

2nd of September – 9th of September 2020

### Status of all 4 active projects

<p><b>1</b> known vulnerability</p> <p>1 H 0 M 0 L</p>	<p><b>49</b> total dependencies</p>
------------------------------------------------------------	-----------------------------------------

Review the status of your projects on your dashboard. [View on Snyk](#)

If you have any questions, [we're happy to help](#).

Stay secure!  
The Snyk team



# DAST (Gitlab)

Language (package managers) / framework	Scan tool
.NET Core	<a href="#">Security Code Scan</a>
C/C++	<a href="#">Flawfinder</a>
Go	<a href="#">Gosec</a>
Helm Charts	<a href="#">Kubesecc</a>
Java ( <a href="#">Ant</a> , <a href="#">Gradle</a> , <a href="#">Maven</a> , <a href="#">SBT</a> )	<a href="#">SpotBugs</a> with <a href="#">find-sec-bugs</a>
Java / Kotlin (Android)	<a href="#">MobSF (beta)</a>
JavaScript	<a href="#">ESLint security plugin</a>
Kubernetes manifests	<a href="#">Kubesecc</a>
Node.js	<a href="#">NodeJsScan</a>
PHP	<a href="#">phpcs-security-audit</a>
Python ( <a href="#">pip</a> )	<a href="#">bandit</a>

## Available rules

- G101: Look for hard coded credentials
- G102: Bind to all interfaces
- G103: Audit the use of unsafe block
- G104: Audit errors not checked
- G106: Audit the use of ssh.InsecureIgnoreHostKey
- G107: Url provided to HTTP request as taint input
- G108: Profiling endpoint automatically exposed on /debug/pprof
- G109: Potential Integer overflow made by strconv.Atoi result conversion to int16/32
- G110: Potential DoS vulnerability via decompression bomb
- G201: SQL query construction using format string
- G202: SQL query construction using string concatenation
- G203: Use of unescaped data in HTML templates
- G204: Audit use of command execution
- G301: Poor file permissions used when creating a directory
- G302: Poor file permissions used with chmod
- G303: Creating tempfile using a predictable path
- G304: File path provided as taint input
- G305: File traversal when extracting zip/tar archive
- G306: Poor file permissions used when writing to a new file
- G307: Deferring a method which returns an error
- G401: Detect the usage of DES, RC4, MD5 or SHA1
- G402: Look for bad TLS connection settings
- G403: Ensure minimum RSA key length of 2048 bits
- G404: Insecure random number source (rand)
- G501: Import blacklist: crypto/md5
- G502: Import blacklist: crypto/des
- G503: Import blacklist: crypto/rc4
- G504: Import blacklist: net/http/cgi
- G505: Import blacklist: crypto/sha1
- G601: Implicit memory aliasing of items from a range statement

## Retired rules

- G105: Audit the use of math/big.Int.Exp - [CVE is fixed](#)



#TNT23  
#SecurityByDesign

# 42Crunch Scanner d'API

Utilise la spécification OpenAPI / Swagger pour identifier les faiblesses de votre API



Protection contre le Top 10 de la sécurité de l'API de l'OWASP

@dadideo



45



The screenshot shows the 42Crunch API scanner interface in a browser. The main dashboard displays three key metrics:

- Security Audit:** Audit score 84 / 100. Summary: "Looking good. Just a few more things to fix." Last run: 13/06/2019, 11:28.
- Conformance Scan:** Number of issues: 41. Summary: "Your API has security issues." Last run: 13/06/2019, 11:28.
- Protection:** Status: ACTIVE. Summary: "API Firewall is active and working correctly."

Below the dashboard, the VS Code editor shows the OpenAPI specification for PixiBasic-v1.0.json. The 'post' operation is highlighted, showing its parameters and responses. A security audit report is overlaid on the right side of the editor, detailing a finding:

- Security audit score: 43**
- Security (18/30)**
- Data validation (25/70)**
- The security section of the operation 'post' contains an empty array**
- Description:** The security field of the operation does not list any security schemes to be applied. Instead, it just contains an empty array.





# Test: PenTest



# Proxy

Method Origin Path Status

GET	https://juice-shop.herokuapp.com	/rest/products/search?q=	200 OK
GET	https://juice-shop.herokuapp.com	/rest/admin/application-configuration	304 Not Modified
GET	https://juice-shop.herokuapp.com	/assets/118n/en.json	200 OK
GET	https://juice-shop.herokuapp.com	/rest/admin/application-configuration	200 OK
GET	https://juice-shop.herokuapp.com	/main.js	200 OK
GET	https://juice-shop.herokuapp.com	/vendor.js	200 OK

GET /rest/admin/application-configuration REQUEST

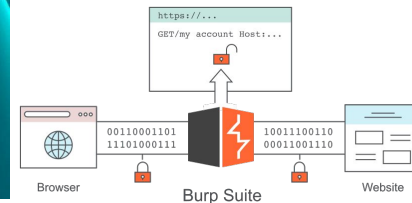
Key	Value
User-Agent	Mozilla/5.0 (Macintosh; Intel Mac OS X 10_15_7) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/98.0.4758.109 Safari/537.36
Referer	https://juice-shop.herokuapp.com/
Sec-Fetch-Dest	empty
Accept-Language	en-US,en;q=0.9
Accept-Encoding	gzip, deflate, br
Accept	application/json, text/plain, */*

Body (18690 bytes) Headers (11) HTTP/1.1 200 OK RESPONSE

```
1 [{"config":{"server":{"port":3000,"basePath":"","application":{"domain":"juice-sh.op","name":"OWASP Juice Shop","logo":"JuiceShop_Logo.png","favicon":"favicon.js.ico","theme":"bluegrey-lightgreen","showVersionNumber":true,"showGitHubLinks":true,"localBackupEnabled":true,"numberOfRandomFakeUsers":0,"altcoinName":"Juicycoin","privacyContactEmail":"donotreply@owasp-juice-shop","customMetricsPrefix":"juiceshop","chatBot":{"name":"Juicy","greeting":"Nice to meet you <customer-name>, I'm <bot-name>","trainingData":{"botDefaultTrainingData.json","defaultResponse":"Sorry I couldn't understand what you were trying to say"},"avatar":"JuicyChatBot.png"},"social":{"twitterUrl":"https://twitter.com/owasp_juiceshop","facebookUrl":"https://www.facebook.com/owasp.juiceshop","slackUrl":"https://owasp.org/slack/invite","redditUrl":"https://www.reddit.com/r/owasp_juiceshop","pressKitUrl":"https://github.com/OWASP/owasp-swag/tree/master/projects/juice-shop"},"questionnaireUrl":null,"recyclePage":{"topProductImage":"fruit_press.jpg",
```

## Security Bug Hunting with Proxies (Black Box)

Hetty, Burp Suite, OWASP ZAP, mitmproxy, charles



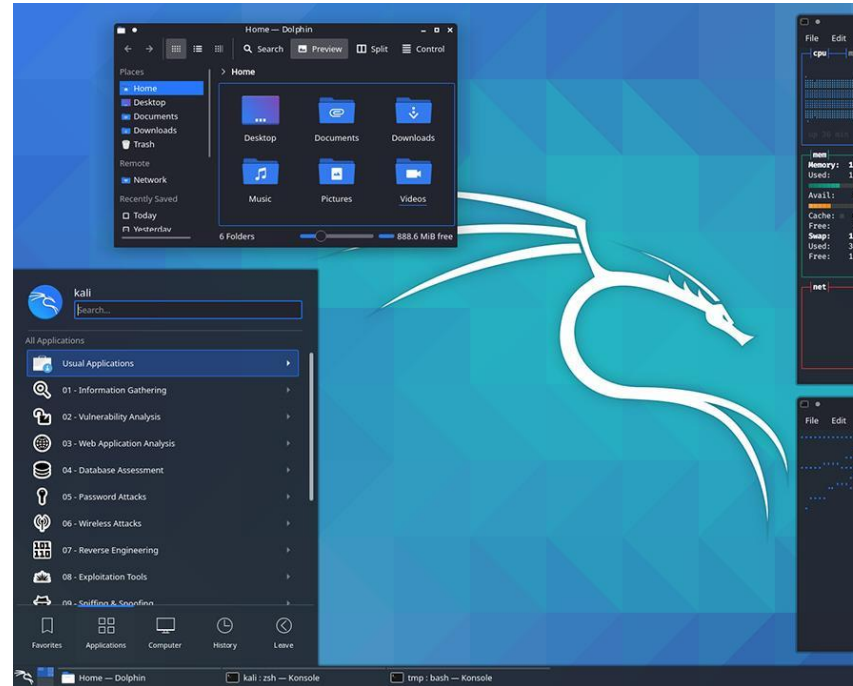


# Kali Linux / Parrot OS

## Boîte à outils

Les tests d'intrusion sont un moyen de trouver et de colmater des brèches. Objectif: Simuler des attaques pour tester la robustesse de la plate-forme

- Nmap
- Metasploit
- Wireshark
- John The Ripper
- Hashcat
- Hydra
- Burp Suite
- Zed Attack Proxy (ZAP)
- sqlmap
- aircrack-ng



[11 outils pour s'initier au pentest](#)



# Hackers as a Service







# Release: Digital Signature







# Docker Notary

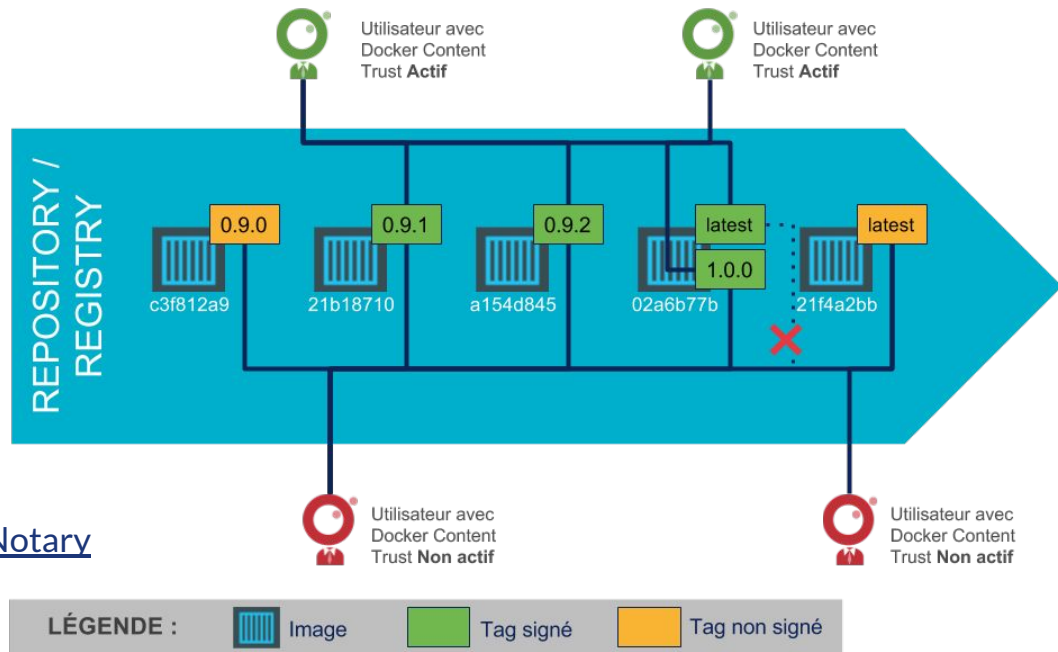
## Ready for PROD

Signer pour certifier et être avoir la garantie sur la provenance (non-altération)



[Documentation Docker Notary \[EN\]](#)

[La signature d'images Docker sur une Registry avec Notary](#)





# Deliver: Secure Transfer





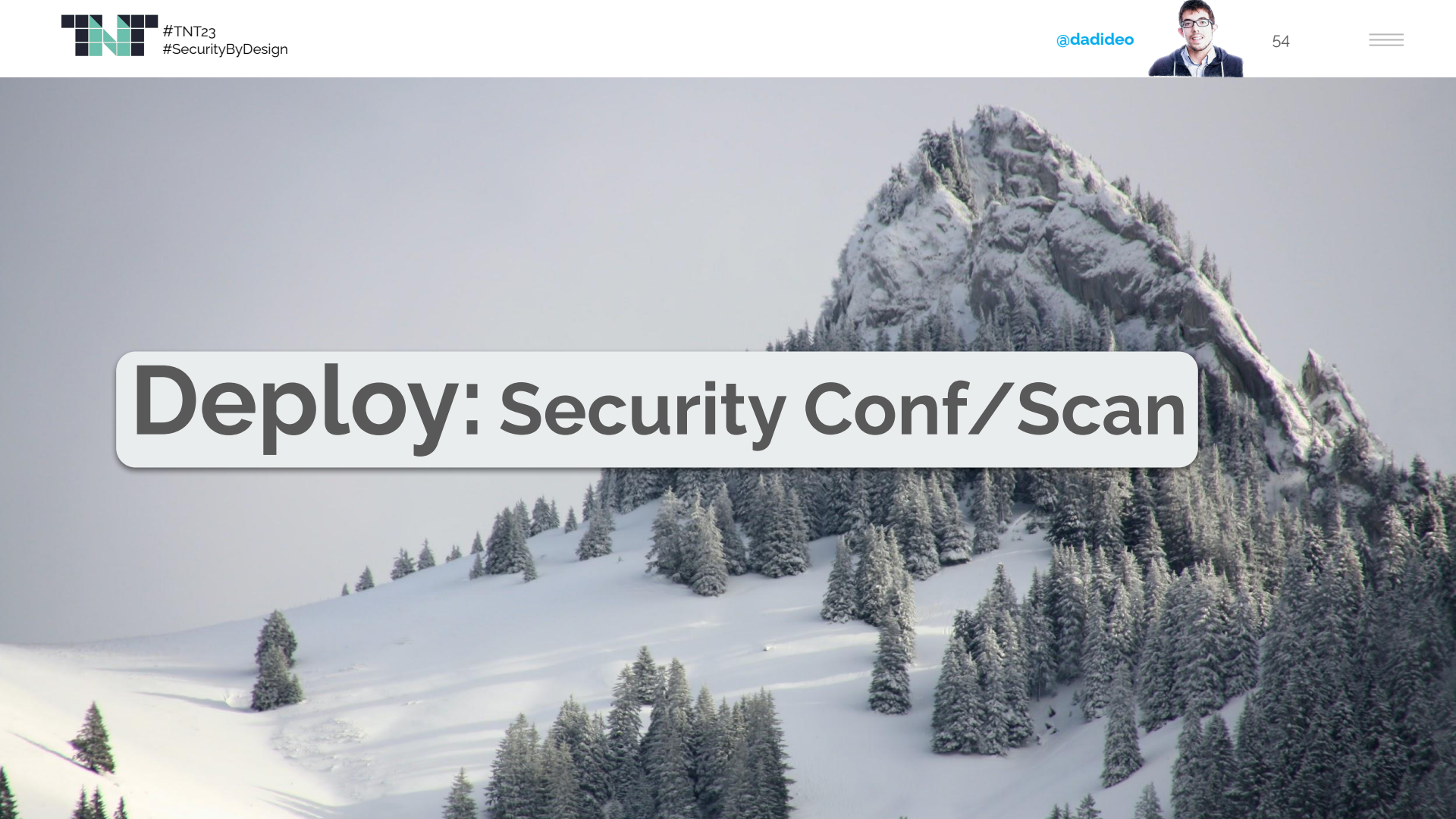
# JFrog Artifactory Repository

Signer pour certifier, être avoir la garantie sur la provenance (non-altération), archiver et faciliter les rollbacks

The screenshot displays the JFrog Artifactory web interface. At the top, there is a green header with the JFrog logo and the text 'JFrog Artifactory'. To the right of the header, there is a search icon, the text 'Welcome, admin', and a 'Help' link. Below the header, the main content area is titled 'Artifact Repository Browser'. On the left side, there is a tree view showing a hierarchy of repositories: 'docker', 'docker-local', 'hello-world', 'uploads', and 'v1.0'. The 'docker' repository is selected, and its details are shown on the right. The details include a 'General' tab, an 'Info' section with the following fields: Name (docker), Package Type (Docker), Repository Path (docker/), and Repository Layout (simple-default). There is also a 'docker' logo in the Info section. Below the Info section, there is an 'Included Repositories' section showing a list of repositories: 'docker-local', 'bintray-docker-r...', and 'docker-remote'.



# Deploy: Security Conf/Scan





# Argo CI + Vault

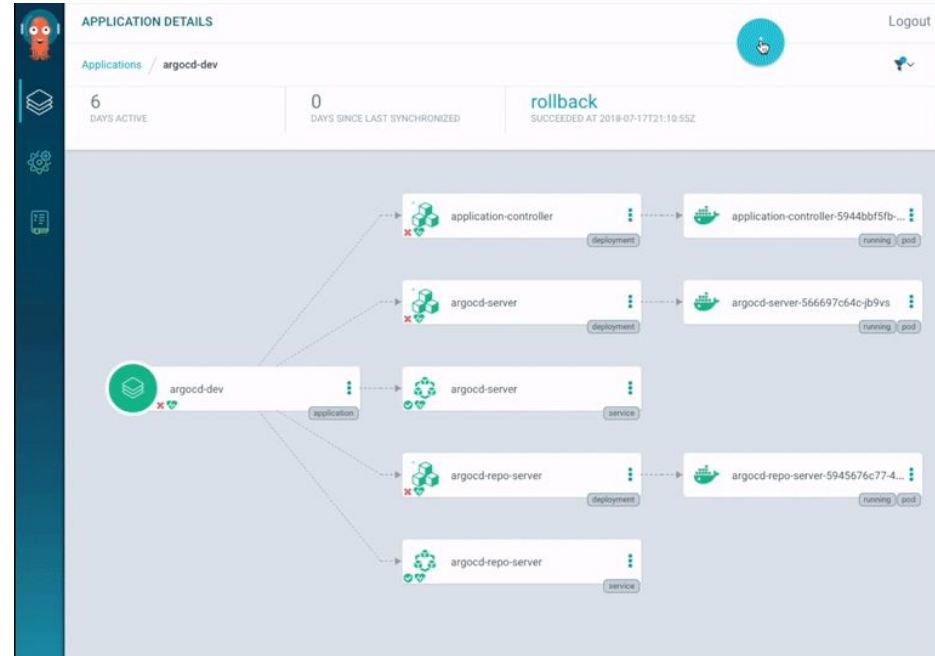
## Keep immutable

Les définitions, configurations et environnements des applications doivent être déclaratifs et contrôlés par version. Le déploiement et la gestion du cycle de vie des applications doivent être automatisés, contrôlables et faciles à comprendre

-> Maintenir un système iso aux specs



[Why Argo CD? \[EN\]](#)







# Operate: Secu. Patch/Audit



# Ansible / Chef / Puppet Patch & Reboot

Maintenir un système à jour en installant les patches de sécurité

- Linux
- Windows
- Mac OS
- iOS
- Android
- /e/
- etc...



[Playbook: apply patches & perform a reboot if required](#)

```
---
- name: Patch and reboot servers
  hosts: all
  vars:
    yum_name: "*"
    yum_state: latest
    yum_securityrepo: yes
    yum_enablerepo: "rhel?-server-rpms,rhel?-server-satellite-tools-6.?-rpms"
    yum_disablerepo: "*"
    yum_exclude: ""
  tasks:
    - name: upgrade packages via yum
      yum:
        name={{ yum_name }}
        state={{ yum_state }}
        security={{ yum_securityrepo }}
        become: "yes"
        register: yumcommandout
        when:
          - (ansible_facts['distribution_major_version'] == '6') or
            (ansible_facts['distribution_major_version'] == '7')

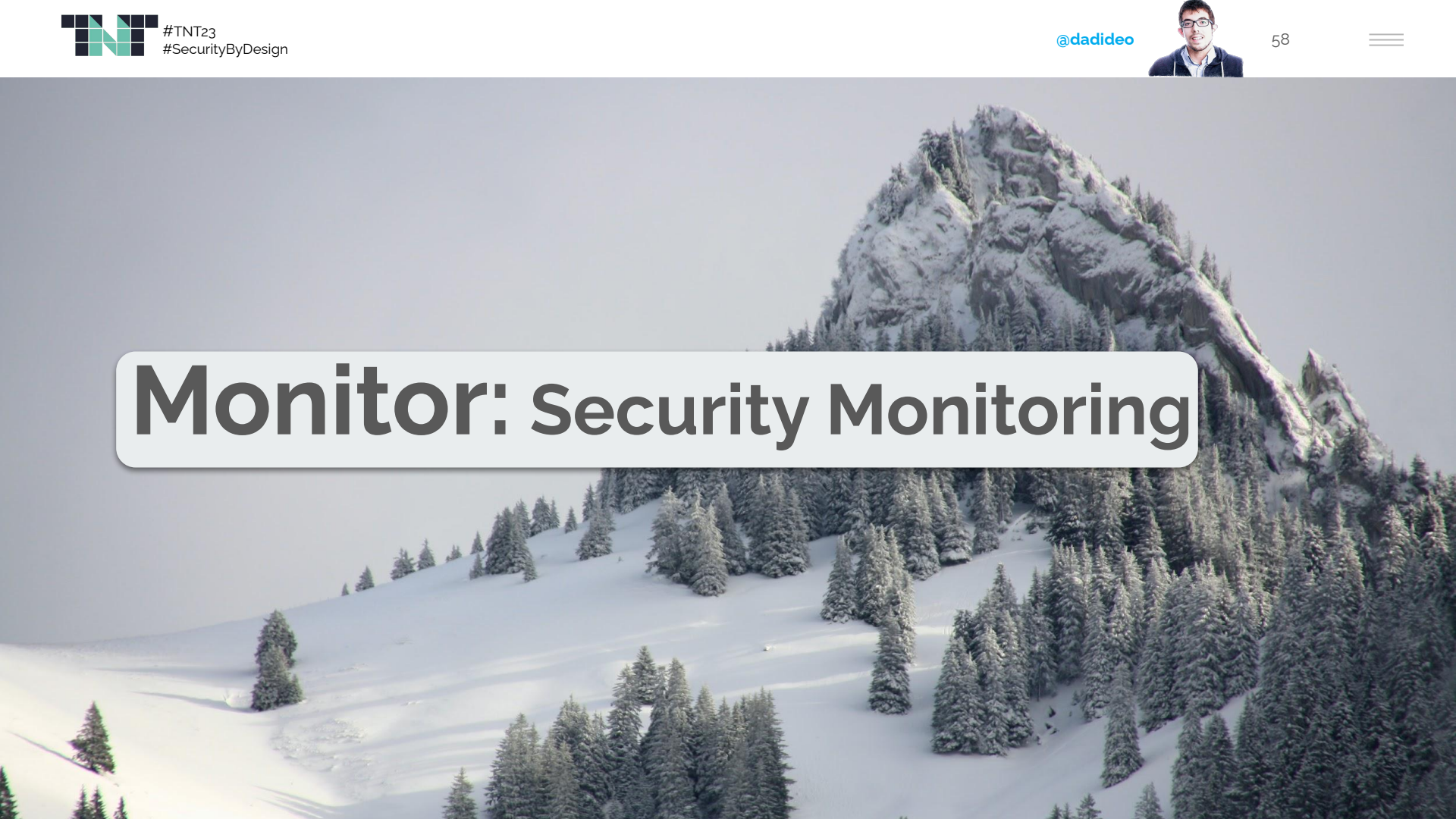
    - name: display security packages
      debug:
        msg: "security patches for: {{ yumcommandout.changes.updated }}"
      when: yumcommandout.changes is defined

    - name: check to see if we need a reboot
      command: needs-restarting -r
      register: result
      ignore_errors: yes
      changed_when: false #avoid changed

    - name: Reboot Server if Necessary
      command: shutdown -r now "Ansible Updates Triggered"
      become: true
      async: 30
      poll: 0
      when: result.rc is defined and result.rc == 1
```

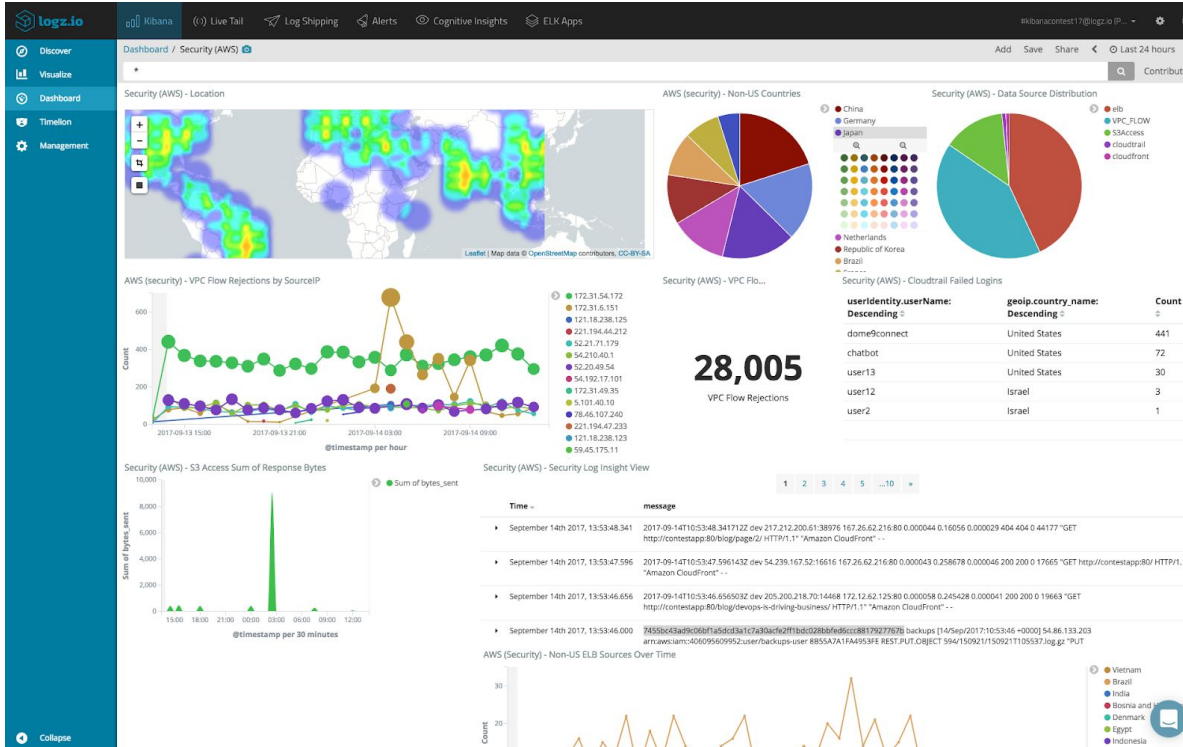


# Monitor: Security Monitoring





# Elastic Security



SIEM at the speed of Elasticsearch





# Falco

- Runtime detection
- Alerts



- Image Scanning
- Configuration Validation

- Runtime prevention
- Automated policy creation using ML
- Policy editor and rules library
- Automatic remediation
- Falco Tuning

- Incident Response
- Forensics
- Audit



← Continuous Compliance (PCI, NIST, CIS, etc.) →







# OVH Bastion (SSH proxy)

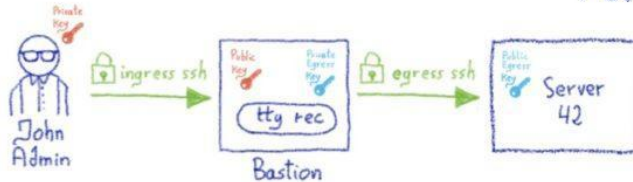
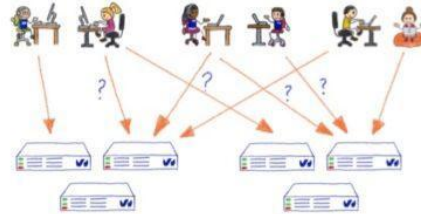
The



OVHcloud

Bastion

Part #1



```
slesimpl@bastion-2.99.99-rc9.2-ovh1:~$ zdevbst --ssh help
-----*
|THIS IS A PRIVATE COMPUTER SYSTEM, UNAUTHORIZED ACCESS IS STRICTLY PROHIBITED.|
|ALL CONNECTIONS ARE LOGGED. IF YOU ARE NOT AUTHORIZED, DISCONNECT NOW.      |
-----*
Enter PIN for 'PIV Card Holder pin (PIV_II)':
-----the-bastion-2.99.99-rc9.2-ovh1---
=> OSH help
-----*
> MANAGE YOUR ACCOUNT
- manage your ingress credentials (you->bastion):
  selfListIngressKeys selfAddIngressKey selfDelIngressKey
- manage your egress credentials (bastion->server):
  selfListEgressKeys selfGenerateEgressKey
- manage your accesses to servers:
  selfListAccesses selfAddPersonalAccess selfDelPersonalAccess
```



[Blog article](#) / [Documentation](#) / [Source Code](#)





# Feedback: Secu. Analysis






# AlienVault OTX

OPEN THREAT EXCHANGE

Hi David,

A user you are subscribed to (AlienVault) has posted a new pulse:



## Introducing The Jupyter Infostealer/Backdoor

[VIEW PULSE](#) [SUGGEST EDIT](#) [SCAN ENDPOINTS](#)

To view the pulse, please visit <https://otx.alienvault.com/pulse/5faf00679c90b876019cc653/>

Click "Embed" on the pulse to insert this pulse in your blog.

You can also [tweet](#) it out to your followers.

Get this updated threat intelligence automatically in your infrastructure using [the OTX API](#)





# AlienVault OTX

Browse Scan Endpoints Create Pulse Submit Sample API Integration

All Search OTX



## Introducing The Jupyter Infostealer/Backdoor

CREATED 2 DAYS AGO by AlienVault | Public | TLP: White

During what began as a routine incident response process, Morphisec has identified (and prevented) a new .NET infostealer variant called Jupyter. Morphisec discovered this variant as part of assisting a higher education customer in the U.S. with their incident response. Jupyter is an infostealer that primarily targets Chromium, Firefox, and Chrome browser data. However, its attack chain, delivery, and loader demonstrate additional capabilities for full backdoor functionality.

REFERENCE: [https://www.morphisec.com/hubfs/eBooks\\_and\\_Whitepapers/Jupyter%20Infostealer%20WEB.pdf](https://www.morphisec.com/hubfs/eBooks_and_Whitepapers/Jupyter%20Infostealer%20WEB.pdf)

TAGS: Jupyter Loader, Infostealer, Backdoor, Academia, Russian Actors, Docx2Rtf, Magix Photo Manager, Jupyter Client, PoshC2

INDUSTRY: Education

MALWARE FAMILIES: PoshC2 - 50378, Jupyter Loader, Jupyter Client

ATT&CK IDS:

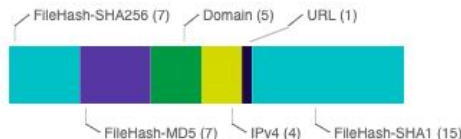
T1564 - Hide Artifacts, T1033 - System Owner/User Discovery, T1082 - System Information Discovery, T1140 - Deobfuscate/Decode, T1127 - Trusted Developer Utilities Proxy Execution, T1059.001 - PowerShell, T1055.012 - Process Hollowing, T1036 - Masquerading, T1217 - Browser Bookmark Discovery, T1560.001 - Archive via Utility, T1059.003 - Windows Command Shell, T1547.001 - Registry Run, T1049 - System Network Connections Discovery, T1016 - System Network Configuration Discovery

### Indicators of Compromise (39)

Related Pulses (8)

Comments (0)

History (0)



### TYPES OF INDICATORS



### THREAT INFRASTRUCTURE

ENDPOINT SECURITY Scan your endpoints for IOCs from this Pulse!

Indicators of Compromise (39)
Related Pulses (8)
Comments (0)
History (0)



Show 10 entries

TYPE	INDICATOR	ROLE	TITLE
IPv4	91.241.19.21		

Show 10 entries

TYPE	INDICATOR	ROLE	TITLE
IPv4	91.241.19.21		
IPv4	45.146.165.219		
IPv4	45.146.165.222		
IPv4	45.135.232.131		
FileHash-SHA1	6ad28e1810eb1be26e835e5224e78e13576887b9		



## Introducing The Jupyter Infostealer/Backdoor



# OpenCVE




Sign in Register

Have an account ?

Vulnerabilities (CVE)

Vendors (CPE)

Categories (CWE)

## FILTER

ALL LOW MEDIUM HIGH



130145  
total CVE

CVE	Vendors	Products	Updated	CVSS
CVE-2019-2215	1 Google	1 Android	2019-10-16	4.6
A use-after-free in binder.c allows an elevation of privilege from an application to the Linux Kernel. No user interaction is required to exploit this vulnerability, however exploitation does require either the installation of a malicious local...				
CVE-2019-2183	1 Google	1 Android	2019-10-16	2.1
In generateServicesMap of RegisteredServicesCache.java, there is a possible account protection bypass due to a caching optimization. This could lead to local information disclosure with no additional execution privileges needed. User interaction...				
CVE-2019-9533	1 Cobham	1 Explorer 710 Firmware	2019-10-16	10.0
The root password of the Cobham EXPLORER 710 is the same for all versions of firmware up to and including v1.08. This could allow an attacker to reverse-engineer the password from available versions to gain authenticated access to the device.				
CVE-2019-2187	1 Google	1 Android	2019-10-16	2.1
In nfc_ncif_decode_rf_params of nfc_ncif.cc, there is a possible out of bounds read due to an integer underflow. This could lead to local information disclosure with no additional execution privileges needed. User interaction is not needed for...				
CVE-2019-17420	2 Oisf, Suricata-ids	2 Libhttp, Suricata	2019-10-16	5.0
In OISF LibHTTP before 0.5.31, as used in Suricata 4.1.4 and other products, an HTTP protocol parsing error causes the http_header signature to not alert on a response with a single \r\n ending.				
CVE-2019-2184	1 Google	1 Android	2019-10-16	9.3
In PV_DecodePredictedIntraDC of dec_pred_intra_dc.cpp, there is a possible out of bounds write due to a missing bounds check. This could lead to remote code execution with no additional execution privileges needed. User interaction is needed for...				







# OpenCVE / Vue d'une CVE



## CVE-2019-2215

A use-after-free in binder.c allows an elevation of privilege from an application to the Linux Kernel. No user interaction is required to exploit this vulnerability, however exploitation does require either the installation of a malicious local application or a separate vulnerability in a network facing application. Product: Android Android ID: A-141720095

CVSS v3.0

7.8 HIGH

CVSS v2.0

4.6 MEDIUM

7.8/10

CVSS v3.0 : HIGH

V3 Legend ↕

Vector :

Exploitability : 1.8 / Impact : 5.9

Attack Vector

LOCAL

Attack Complexity

LOW

Privileges Required

LOW

User Interaction

NONE

Confidentiality Impact

HIGH

Integrity Impact

HIGH

Availability Impact

HIGH

Scope

UNCHANGED

## References

Link	Resource
<a href="http://packetstormsecurity.com/files/154911/Android-Binder-Use-After-Free.html">http://packetstormsecurity.com/files/154911/Android-Binder-Use-After-Free.html</a>	
<a href="http://packetstormsecurity.com/files/155212/Slackware-Security-Advisory-Slackware-14.2-kernel-Updates.html">http://packetstormsecurity.com/files/155212/Slackware-Security-Advisory-Slackware-14.2-kernel-Updates.html</a>	
<a href="http://packetstormsecurity.com/files/156495/Android-Binder-Use-After-Free.html">http://packetstormsecurity.com/files/156495/Android-Binder-Use-After-Free.html</a>	
<a href="http://seclists.org/fulldisclosure/2019/Oct/38">http://seclists.org/fulldisclosure/2019/Oct/38</a>	



# CERT-FR (Flux RSS)



## MENACES ET INCIDENTS

### LE MALWARE-AS-A-SERVICE EMOTET

**CERTFR-2020-CTI-010** • *Publié le 2 novembre 2020*

Observé pour la première fois en 2014 en tant que cheval de Troie bancaire, Emotet a évolué vers une structure modulaire à partir de 2015. Depuis 2017, Emotet ...

### 🇬🇧 DEVELOPMENT OF THE ACTIVITY OF THE TA505 CYBERCRIMINAL GROUP

**CERTFR-2020-CTI-009** • *Publié le 27 août 2020*

The intrusion set TA505 has been active since at least 2014 when it initially stole financial information through the use of Dridex and mass distributed ransoms. It evolved and ...

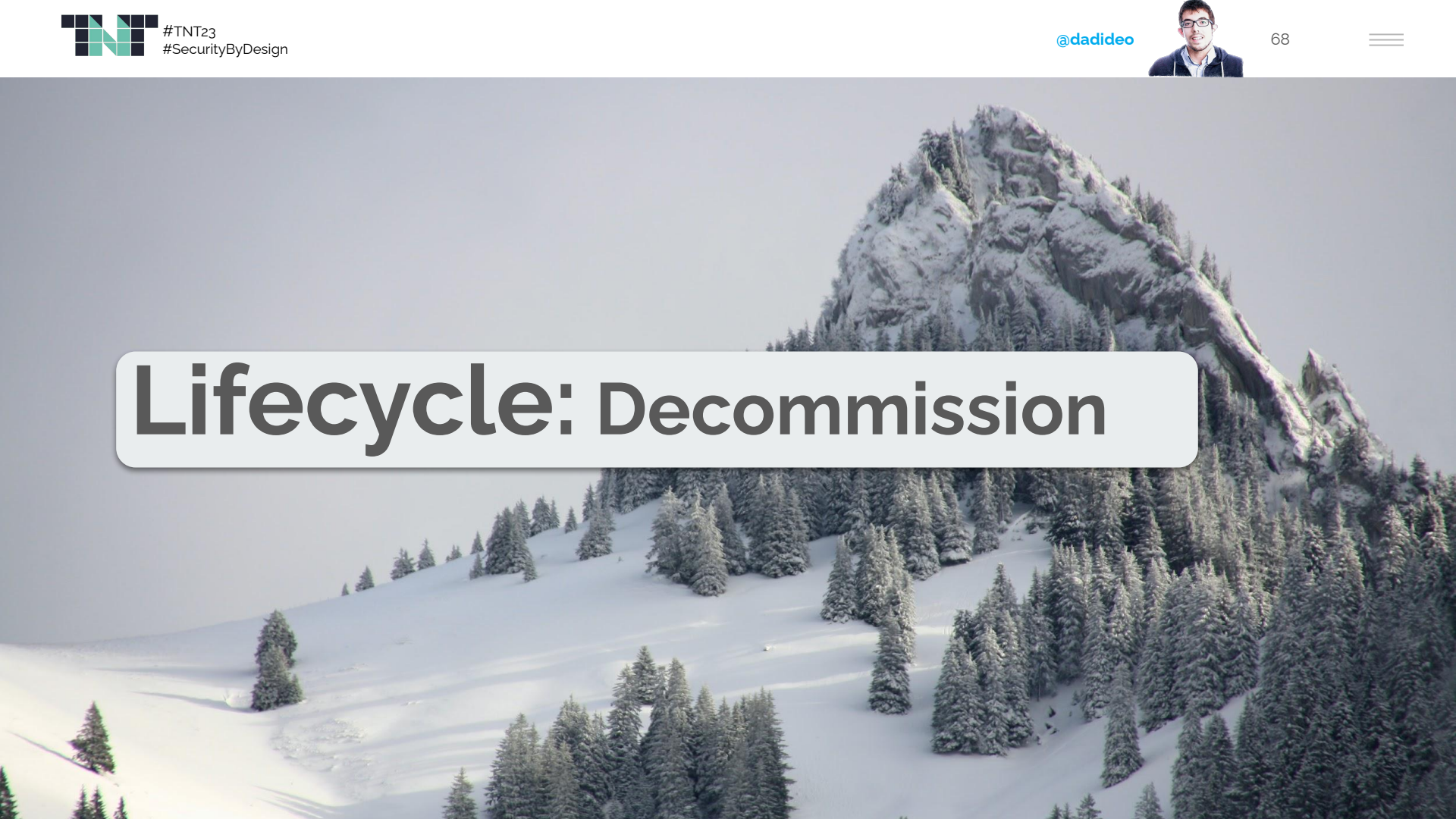
### 🇬🇧 THE MALWARE DRIDEX: ORIGINS AND USES

**CERTFR-2020-CTI-008** • *Publié le 17 juillet 2020*

Surfacing in June 2014 as a variant of the banking trojan Bugat, Dridex is a malware which has evolved a lot since then in terms of functionalities and uses. This report provides ...



# Lifecycle: Decommission





# Planification (LTS/Migration/EoL)

Home > News > Computing

## ATM security still running Windows XP

By Anthony Spadafora November 15, 2018

New study reveals ATM security is mostly for show

New research from Positive Technologies has revealed that ATM machines are vulnerable to a number of basic attack techniques that could allow hackers to steal thousands in cash.

The company's researchers studied over two dozen different models of ATMs and discovered that almost all of them are vulnerable to network or local access attacks that would allow hackers to obtain money from them illegally.

Positive Technologies' study had its researchers try to penetrate 26 machines from various manufacturers and service providers.

The researchers found that 15 of the ATMs were running Windows XP, 22 were vulnerable to a "network spoofing" attack, 18 were vulnerable to 'black box' attacks, 20 could be forced to exit kiosk mode via USB or PS/2 and 24 had no data encryption in place on their hard drives.

HOME DAILY NEWS ATM MIGRATION TO WINDOWS 10 – THE TIME IS NEAR!

## ATM migration to Windows 10 – the time is near!

BY ALEX ROLFE DECEMBER 11, 2019 DAILY NEWS

SHARE: 2,903 VIEWS

The banking sector will face a big ATM migration challenge in 2020. Microsoft made the official announcement: Windows 7 (operating system for many ATMs) extended support will end on January 14, 2020. Consequently, all banks have to update their entire ATM network by installing a new operating system caring about data security.

There are about 3.2 million ATMs in the world. They are used daily by billions of people, but only a few know that most ATMs work on the Windows operating system.

A lot of ATMs around the globe are still running Windows XP embedded, long after Microsoft ceased support with security and stability patches. Support for Windows XP was discontinued in 2014, which means that since then the Microsoft Company has not rolled out any security updates for this Windows version.

In June 2018, The Central Bank of India issued a statement saying that all ATMs in the country should be updated from Windows XP to the newer platform by December 2019. It is estimated that about 50% of ATMs use Windows XP operating system.

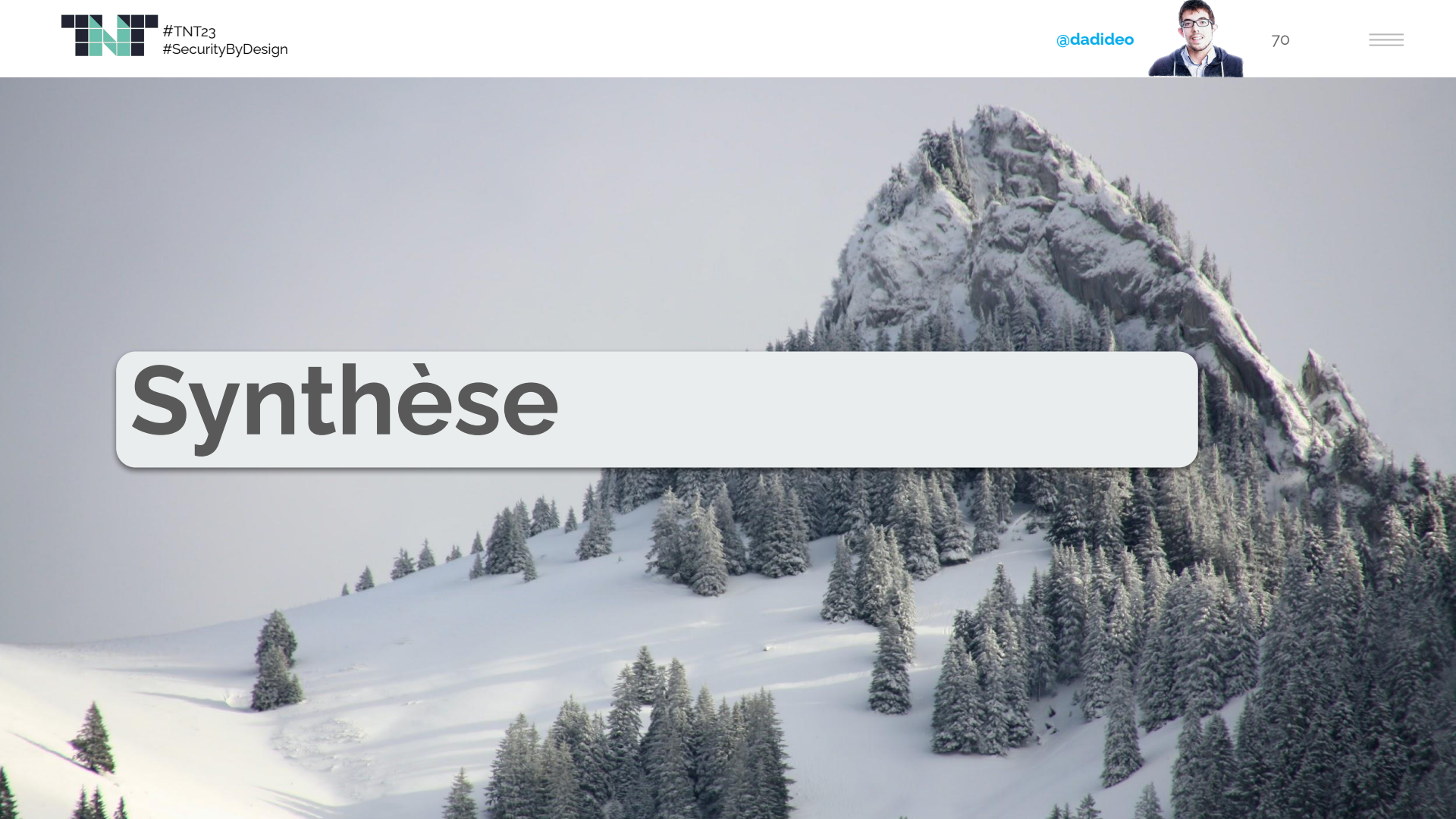


ATM migration to Windows 10 – the time is near!





# Synthèse







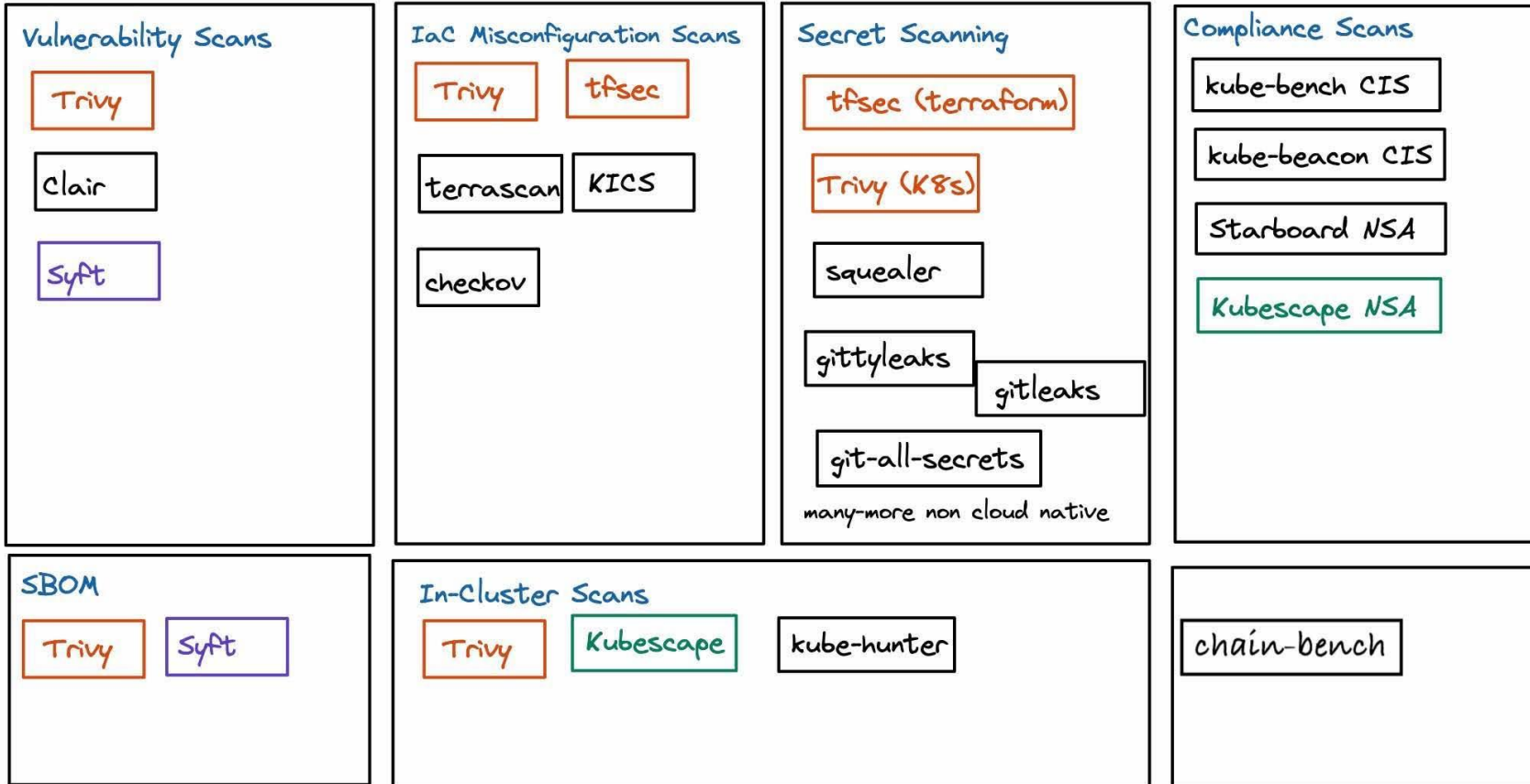
# DevSecOps Toolbox

- Secure Coding
  - [Linters](#), [gosec](#), [npm-audit](#), [git-secrets/GitGuardian](#), [42Crunch](#)
- Security as Code
  - [Cilium](#) (Network), [gVisor/Kata](#) (Sandbox), [Istio/maesh](#) (SSL)
- SAST / DAST / IAST
  - [SonarQube](#), [Gitlab SAST/GitHub](#), [Clair/Anchore/Dagda](#) (CVE)
- Pentest
  - [Parrot/Kali OS](#), [YesWeHack/Yogosha](#), [Hetty/Burp Suite/SuperTruder/ffuf](#), [OWASP ZAP](#)
- Digital signature / Secure Transfer
  - [Notary](#), [JFrog Artifactory](#)
- Security Configuration, Security Scan
  - [Argo+Vault](#), [OpenSCAP](#)
- Security Patching, Security Audit
  - [Puppet](#), [Chef](#), [Ansible Playbook/AWX](#) ou [RedHat Tower](#)
- Security Monitoring
  - [Elastic Security](#), [Falco](#), [OVH Bastion](#)
- Security Analysis
  - [OpenCVE](#), [AlienVault OTX](#)

And more... (not exhaustive) 😊



# Open Source Security Scanning -- focus on cloud native





# Conclusion





# TL;DR - The state of open source security 2019 report, at a glance



## Open source adoption

- ▶ Growth in indexed packages, 2017 to 2018
  - ⚡ Maven Central - 102%
  - ⚡ PyPI - 40%
  - ⚡ npm - 37%
  - ⚡ NuGet - 26%
  - ⚡ RubyGems - 5.6%
- ▶ npm reported 304 billion downloads for 2018
- ▶ 78% of vulnerabilities are found in indirect dependencies



## Known vulnerabilities

- ▶ 88% growth in application vulnerabilities over two years
- ▶ In 2018, vulnerabilities for npm grew by 47%. Maven Central and PHP Packagist disclosures grew by 27% and 56% respectively
- ▶ In 2018, we tracked over 4 times more vulnerabilities found in RHEL, Debian and Ubuntu as compared to 2017



## Known vulnerabilities in docker images

- ▶ Each of the top ten most popular default docker images contains at least 30 vulnerable system libraries
- ▶ 44% of scanned docker images can fix known vulnerabilities by updating their base image tag



## Vulnerability identification

- ▶ 37% of open source developers don't implement any sort of security testing during CI and 54% of developers don't do any docker image security testings
- ▶ The median time from when a vulnerability was added to an open source package until it was fixed was over 2 years



## Who's responsible for open source security?

- ▶ 81% of users feel developers are responsible for open source security
- ▶ 68% of users feel that developers should own the security responsibility of their docker container images
- ▶ Only three in ten open source maintainers consider themselves to have high security knowledge



## Snyk stats

- ▶ In the second half of 2018 alone, Snyk opened more than 70,000 Pull Requests for its users to remediate vulnerabilities in their projects
- ▶ CVE/NVD and public vulnerability databases miss many vulnerabilities, only accounting for 60% of the vulnerabilities Snyk tracks
- ▶ In 2018 alone, 500 vulnerabilities were disclosed by Snyk's proprietary dedicated research team



A horizontal bar with three segments: yellow, purple, and orange.

# Analogie

« Nul n'est censé ignorer la loi »







# Ma devise

« Nul développeur n'est censé ignorer la sécurité »





## Pour aller plus loin

- [ANSSI](#) ([Sécurité Agile](#), Applications sécurisés en [Rust](#), Déploiement de conteneurs [Docker](#))
- [10 leçons sur les 10 plus grosses fuites de données](#), de Adrien Pessu (JSC 2020)
- [La Cryptographie en 55' chrono](#) de m4dz (SnowCamp2020)
- [Sécurité du Cloud](#), de Eric Briand (RemoteClazz 2020)
- [La nuit tous les hackers sont gris](#) (Fiction écrite par Vincent Hazard, 2019)





Pour aller plus loin

TV5 Monde Analyse d'Incident / Incident Analysis

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## Traumatisme

- Ce genre d'incident de sécurité a plusieurs conséquences
  - Conditions de travail très dures : horaires importants, vacances annulées, pression croissante...
  - Traumatisme lié à l'attaque qui perdure et qui est difficile à percevoir lorsque l'ANSSI intervient
  - La crainte que l'attaquant revienne est permanente

Retour technique de  
l'incident de TV5Monde

ANSSI

<https://www.sstic.org>

7 au 9 juin 2017

SSTIC 2017

38:39 / 1:16:25



[TV5 Monde Analyse d'Incident](#), ANSSI (SSTIC 2017)

Pour aller plus loin



#TNT23  
#SecurityByDesign

@dadideo



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[La Sécurité dès la conception \(Secure by design\)](#), Programmez! (Hors-série 8 Septembre/Octobre 2022)



# Rappelez-vous: Les hackers n'en ont rien à "faire"

- À propos du scope de votre projet
- Il est géré par une tierce partie / sous-traitant
- C'est un système ancien (Legacy)
- TPCM / " Touche pas ! C'est magique "
- C'est "trop critique pour être réparé"
- A propos de vos périodes de maintenance
- A propos de votre budget
- Vous l'avez toujours fait de cette façon
- À propos de votre date de mise en service
- Il s'agit seulement d'un pilote/PoC
- À propos des accords de non-divulgation
- Ce n'était pas une exigence dans le contrat
- C'est un système interne
- Il est vraiment difficile de modifier / changer
- Vous n'êtes pas sûr de savoir comment y remédier
- Il doit être remplacé
- C'est géré dans le Cloud
- À propos de votre inscription au registre des risques
- L'éditeur ne prend pas en charge cette configuration
- C'est une solution provisoire
- Il est conforme à [insérer la norme ici]
- Il est crypté sur disque
- Le rapport coût-bénéfice ne scale pas
- "Personne d'autre ne pouvait le comprendre"
- Vous ne pouvez pas expliquer le risque au "Business"
- Vous avez d'autres priorités
- Sur votre foi dans la compétence de vos utilisateurs internes
- Vous n'avez pas de justification commerciale
- Vous ne pouvez pas montrer le retour sur investissement
- Vous avez sous-traité ce risque
- C'était à la mode [insérer la technologie hype ici].
- De vos certifications







# Merci pour votre attention !

 N'oubliez pas de me donner votre avis sur cette session: <https://feedback.touraine.tech>

 Lien des slides dans les commentaires 

 Rejoignez-nous sur <https://careers.ovhcloud.com>



*Faites-vous confiance aux QR Codes ?*





- Cluster sans Kerberos (MapR ticket)
- Pas de 50/50 (épuisement)
- Temps de livraison (junior)
- Sécurité ? (auto-formation)
- Chiffrement des sauvegardes
- Accompagnement du Management