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How To Block Ads And Banners In SafeSquid Proxy Server

Ads and banners not only unnecessarily consume bandwidth, but also distractusers, and can be exceedingly irritating at times. Few ads and banners keep rotating and fetching new contents, and keep consuming bandwidth in thebackground.

SafeSquid can be configured to either blank out these ads and banners, or replace themwith a custom html page or an image. In this tutorial I will explain howyou can replace ads and banners with a custom html page. This requiresconfiguring 3 sections, viz. *Templates*, *Profiles* and *URLredirecting*.

The first thing to do is to design an html page, to replace the ads andbanners. Since many ads and banners are displayed in a small window, the htmlpage that you design to replace them, should be as small as possible.

Here is a sample :

```
<table border="0" cellspacing="0" width="100" cellpadding="0" bgcolor="#00FFFF">
 <tr>
 <td>
 <p align="center"><font size="1" face="Tahoma"><a href="http://www.safesquid.com/">Ad / banner blocked<br>
  by <b>SafeSquid</b></a></font></td>
 </tr>
 </table>
```

Copy your custom html file, which we will call ads.html in this tutorial, tothe SafeSquid template directory. By default, the directory is located at */opt/safesquid/safesquid/templates/*. You can verify this from the SafeSquid Interface => *Config* => *Templates*Section.

SafeSquid's *Templates* section, allows you to add your own custom templates,or messages, to be displayed when a page is blocked by a filter, instead of SafeSquid's default message. The replacement file could be an html page, animage, audio / video file, an executable, etc. and is a very powerful tool, thatwe will explained in a future tutorial.

After you have copied the file to the templates directory, you need to definethe file in the *Templates* section (create a template), and give it a name by which it will be identified in the other section. To do this, open the SafeSquidInterface and go to *Config* => *Templates*. Click on *Add* under the *Template*sub-section and add the new template as shown below:

Option

Value

Enabled

Yes

Comment

Template to replace ads and banners

Profiles

Name

replace-ad-banner

File

/opt/safesquid/safesquid/templates/ads.html

Mime type

text/html

Response code

302

Type

File

Parsable

Yes

The explanation for the various fields above can be found at **http://www.safesquid.com/html/portal.php?page=24**and will be covered in a future tutorial.

Now the file ads.html can be used as a template in SafeSquid, and has beennamed replace-ad-banner. We will later use it in the `URL Redirecting` section.

The next thing to do, is to identify ads and banners that appear in webpages, so that they can be replaced. They could either be fetched from a remoteAd Server, or located on the same web server. In the former case, if the AdServers are identified, then it would be easy to identify the content beingfetched by

these servers. In the later case, in most cases, the link to thecontent has the words ad, ads, adv, advert, banner, banners, etc. in the filepart of the URL, e.g. d7.zedo.com/ads2/*, *.googlesyndication.com/pagead/show_ads.js.So, if we can filter our such URLs, we can replace them with our customtemplate.

SafeSquid allows the use of Perl Compatible Regular Expressions (PCRE), hencewe can create a single rule that can cover multiple words, strings or expressions. Go to `Config => Profiles` and create the following two rules:

Profile to identify Ad Servers:

Option

Value

Enabled

True

Comment

Identify content from Ad Servers

Host

```
(^ad(|s|v|server).|adtag.|targetsearches.com|webconnect.net|imgis.com|atwola.com|
  fastclick.net|abz.com|tribalfusion.com|advertising.com|atdmt.com|spinbox.(com|net)|
  linkexchange.com|hitbox.com|doubleclick.net|valueclick.com|click2net.com|mediaplex.com|
  247media.com|clickagents.com|adbutler.com|qkimg.net|realmedia.com|us.a1.yimg.com|
  clickheretofind.com|images.cybereps.com|adbureau.net|sfads.osdn.com|adflow.com|
  adprofs.com|zedo.com|digitalmedianet.com|ad-flow.com|/adsync/|adtech.de|netdirect.nl|
```

rcm-images.amazon.com|pamedia.com|msads.net|valuead.com|smartadserver.com|thisbanner.com|
aaddzz.com|scripps.com|ru4.com|adtrix.net|falkag.net)

Time match mode

text/html

Added profiles

Ad-Server-Content

The above rule analyzes the Host part of URLs to verify if the content isbeing served from any of the Ad Servers listed in the `Host`field, and if a positive mach is found, applies the profile `Ad-Server-Content`to that content. (A URL is made up of protocol://host/file, e.g. http://www.safesquid.com/html).

The Host field in the above rule is a regular expression. Host names areseparated with a pipe (|). In regular expressions, a '.' is a specialcharacter - a single character wildcard. A " before a '.' specifies that it isto be interpreted as character '.' and not wildcard. The expression begins with^ad(|s|v|server). This will match the expressions ad., ads., adv. and adserver.in the host part of a URL, e.g. ad.indiatimes.com, ads.asiafriendfinder.com, adv.elbuscador.com,etc. You can also add additional hosts to the expression.

Profile to identify expressions in file part of URL:

Option

Value

Enabled

True

Comment

Template to replace ads and banners

File

```
/(adimages/|banner(|s)/|ad(|s|v|(|_)banner(|s))/|adx/|sponsors/|advert(ising|s|)/|adcycle/|
  track/|promo/|adspace/|admentor/|image.ng/|ajrotator/|adview.php|clickthru|affiliates|
  banmat(.cgi|..cgi)|adproof/|bannerfarm/|BannerAds/|banner_|sponsorid|servfu.pl|
  RealMedia/|pagead/|adsync/|_ad_|adceptdelivery.cgi)
```

Time match mode

text/html

Added profiles

Ad-Banner

The above rule analyzes the file part of URLs to verify if they contain anyof the expressions specified in the file field of the rule, and if a positivematch is found, applies the profile `Ad-Banner` tothe content.

We can now use the added profiles `Ad-Server-Content`and `Ad-Banner` that is applied to positive matches,to redirect the requests for them to our custom html page ads.htnl. To achievethis, go to `Config => URLredirecting`. The `URL redirecting` sectionallows you to redirect requests for specific URL, to another URL. This is a verypowerful feature, and is mostly used to create redundancy for web servers, whenSafeSquid is used in reverse proxy mode.

Verify that the section is enabled - `Enabled = Yes`,click on `Add` under `Redirect`sub-section and add the following rule:

Option

Value

Enabled

True

Comment

Redirect specified profiles to template replace-ad-banner

Profiles

Ad-Server-Content,Ad-Banner

URL

/.*

Redirect

http://safesquid.cfg/template/replace-ad-banner

Port

0

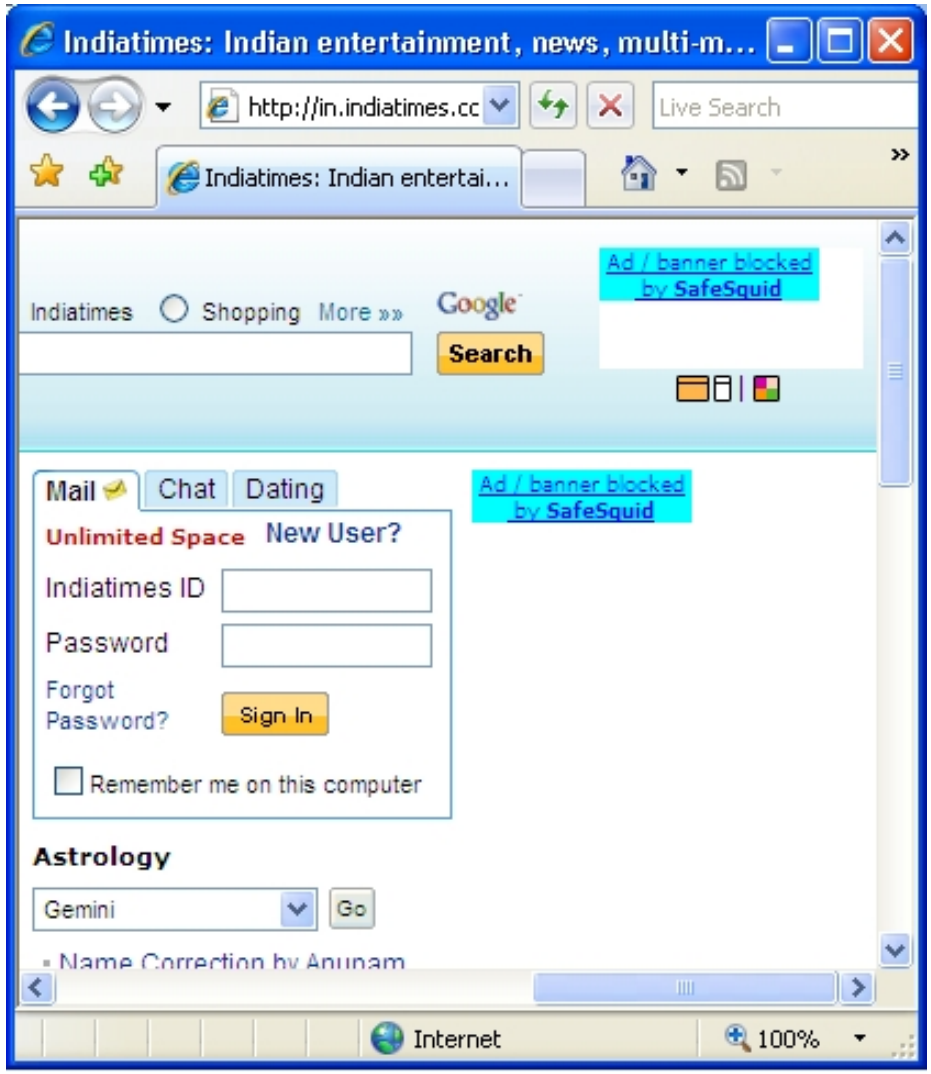
302 redirect false

Applies to

both

Simply put, this rule will redirect all the requests that carry the profiles `Ad-Server-Content` and `Ad-Banner`, to the template `replace-ad-banner`, which is the name of our custom html page - ads.html. I will cover the `URLredirecting` section and explanation for the various fields, in a futuretutorial.

We are now ready to test the results of the above configurations. Open thebrowser and visit a website that has lots of ads and banners, e.g. **www.in.indiatimes.com**. The ads and banners should now be replaced with the custom html, as shown below:



You can also verify what URLs are being redirected, by checking the SafeSquidlogs. Click on *View log entries* in the *TopMenu* of the interface. You will see a lot of entries. To filter out theentries for *URL redirecting*, type *redirect*in the *Regular expression match* field, and click on *Submit*. This will filter out entries similar to this:

```
2008 06 06 13:06:45 [19] redirect: request for http://ads.indiatimes.com/ads.dll/genptypead?slotid=1942to
http://safesquid.cfg/template/replace-ad-banner
```

Also see:

- **Deploying A Content Filtering Proxy Server To Distribute Controlled Internet Access With SafeSquid**
- **Set Up Gateway Level Virus Security With ClamAV And SafeSquid Proxy**
- **How To Set Up Internet Access Control And Internet Filtering With SafeSquid Proxy Server**
- **How To Control Access To Unwanted Websites Using URL Blacklist With SafeSquid Proxy Server**
- **How To Configure Granular Bandwidth Management Rules In SafeSquid Proxy Server**
- **How To Control Download Of Files And Mime Types In SafeSquid Proxy Server**