

---

ADBLOCK AND WEB SECURITY  
BA.NET DNS FILTER SERVER  
ADMINISTRATOR MANUAL

---



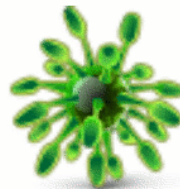
(c) BA.net/Adblock - Feb 2014



**FlashBoot**



**Server**



**Anti-  
Malware**



**Adblock**

AdBlock Filter Server Administrator Manual (c) ba.net adblock@ba.net

Chapter 3, 4 and 5 and portions of other chapters part of Linux HowTo's and Linux Guides copyright Linux Documentation Project LDP.

The optional FlashBoot Software Appliance contains software provided by GNU/Linux, Slackware and other providers covered by the GNU General Public License.

1 Introduction..... 5

1.1.1	AdBlock BA.net .....	5
1.1.2	Configure AdBlock DNS for iPhone, iPad.....	5
1.2	<i>Setting up AdBlock BA.net on Android devices</i> .....	6
1.3	<i>Configure DSL or Wireless router settings</i> .....	6
1.3.1	Configure AdBlock DNS for Mac OS X, Windows, or Linux.....	7
1.4	<i>Works with Safari. Any Web Browser / Any Platform</i> .....	9
1.4.1.1	User Benefits .....	9
1.4.1.2	Multi Device .....	9
1.4.1.3	Block Tracking Sites.....	9
1.4.1.4	Block Ads Everywhere .....	9
1.5	<i>Frequently Asked Questions</i> .....	10
1.5.1	Q: How is AdBlock BA.net different from other ad-blocking services ?.....	10
1.5.2	Q: How can it be free ? .....	10
1.5.3	Q: We only use Apple computers in our household, can we still use AdBlock BA.net?.....	10
1.5.4	Q: Will AdBlock BA.net work on my iPhone, Blackberry or other mobile Internet device?.....	10
1.5.5	Q: Will AdBlock BA.net also restrict pornographic ads? .....	10
1.5.6	Q: I live in Toronto, will AdBlock BA.net work in Canada?.....	11
1.5.7	Q: Does AdBlock BA.net track where I go on the Internet? .....	11
1.5.8	Q: I noticed an ad the other day surfing the web, should I report that to AdBlock BA.net Support?.....	11
1.5.9	Q: What kind of banners will it block ?.....	11
1.5.10	What about Site and Blog Owners ?.....	11
1.5.11	Q: Will it block Phishing and Malware sites ? .....	12
1.5.12	Q: Do you offer Corporate Service ? .....	12
1.5.13	Q: Do you offer Server DNS Filter Solutions ?.....	12
1.5.14	Q: Do you offer an Administrator Manual ? .....	12
<b>2</b>	<b>Filtering methods</b> .....	<b>13</b>
2.1	<i>Benefits of ad filtering</i> .....	13
2.2	<i>Economic consequences for online business</i> .....	14
2.3	<i>Advertiser offensive countermeasures and justifications</i> .....	15
2.4	<i>Browser integration</i> .....	15
2.5	<i>External programs</i> .....	16
2.6	<i>Hosts file</i> .....	16
2.7	<i>DNS cache</i> .....	16
2.8	<i>DNS filtering</i> .....	17
2.9	<i>Ad filtering by external parties and internet providers</i> .....	17
<b>3</b>	<b>BA.net Adblock Filter Server FlashBoot</b> .....	<b>18</b>
3.1.1	HOWTO INSTALL.....	19
3.2	<i>Children's Internet Protection Act</i> .....	22
3.2.1.1	Background.....	22
3.2.1.2	What CIPA Requires .....	22
<b>4</b>	<b>How DNS Works</b> .....	<b>24</b>
4.1	<i>Name Lookups with DNS</i> .....	27

4.2	<i>Types of Name Servers</i> .....	29
4.3	<i>The DNS Database</i> .....	29
4.4	<i>Reverse Lookups</i> .....	31
4.4.1	Notes .....	32
<b>5</b>	<b>Running named</b> .....	<b>34</b>
5.1	<i>The named.boot File</i> .....	34
5.2	<i>The BIND 8 host.conf File</i> .....	37
5.3	<i>The DNS Database Files</i> .....	39
5.4	<i>Caching-only named Configuration</i> .....	44
5.5	<i>Writing the Master Files</i> .....	45
5.6	<i>Verifying the Name Server Setup</i> .....	46
5.7	<i>Other Useful Tools</i> .....	49
5.7.1	Notes .....	49
<b>6</b>	<b>BA.net Adblock Filter Server FlashBoot</b> .....	<b>50</b>
6.1.1	HOWTO INSTALL .....	50
<b>7</b>	<b>Configuration Files</b> .....	<b>53</b>
7.1	<i>2 Initial configuration</i> .....	53
7.2	<i>3 Internals and externals</i> .....	55
7.3	<i>4 Security</i> .....	58
7.4	<i>5 Configuration files</i> .....	58
7.4.1	5.1 /etc/bind/named.conf.local .....	58
7.4.2	5.2 /etc/bind/externals/db.example.com .....	59
7.4.3	5.3 /etc/bind/internals/db.example.com .....	60
7.4.4	Bibliography .....	60
7.4.5	Footnotes.....	60
<b>8</b>	<b>Domain Name Server (DNS) Configuration and Administration</b> .....	<b>61</b>
<b>9</b>	<b>Response Rate Limiting</b> .....	<b>65</b>
9.1	<i>The Problem</i> .....	65
9.2	<i>A Solution</i> .....	66
9.3	<i>The Results</i> .....	66
9.4	<i>Sample BIND RRL configuration</i> .....	66

---

## 1 INTRODUCTION

---

### 1.1.1 ADBLOCK BA.NET

Make your Internet **Faster**, more Private and Safer with AdBlock BA.net.



Works on iPad, IOS, Mac, PC. No software to install. It is a network based DNS Service.

[64.16.214.40](http://64.16.214.40) , [63.246.151.66](http://63.246.151.66)

### 1.1.2 CONFIGURE ADBLOCK DNS FOR IPHONE, IPAD

- Open Settings
- Tap on "WiFi" and tap the blue arrow alongside the wi-fi network name you are connected to
- Tap the numbers next to "DNS" to change them



Free BA.net AdBlock DNS

[64.16.214.40](#) , [63.246.151.66](#)



## **1.2 SETTING UP ADBLOCK BA.NET ON ANDROID DEVICES**

1. Settings
2. WiFi (click on word "WiFi", not ON/OFF switch)
3. Press and hold preferred (or active) wireless network until dialog pops up
4. Select "Modify Network"
5. Check "Show advanced options" checkbox at the bottom
6. Switch "IP settings" to "Static"
7. Keep IP address, Gateway and Network prefix length the same (should be set from standard DHCP)
8. Set DNS 1 and DNS 2 fields as per table below:
9. "Save"
10. Restart your phone (power cycle).

## **1.3 CONFIGURE DSL OR WIRELESS ROUTER SETTINGS**

Depending on your router manufacturer, the steps to configure the router may vary. Following steps are provided for your reference. For more information, you may refer to the support documentation for the router.



1. Start your Web browser.
2. In the Address box, type the IP address of your router, and then press Enter.

Generally, 192.168.1.1 and 192.168.0.1 are the most widely used default IP addresses by various manufacturers. If your router manufacturer uses a different IP address, refer to the help documentation for the router.

3. Type the administrator user name and password, and then click OK.

Router configuration settings page opens in your Web browser.

4. Find and open the DNS settings.

You may find the DNS settings option under WAN settings.

5. In the Preferred DNS server and Alternate DNS server boxes, type the DNS server addresses provided by your Internet service provider.

Use the following server BA.net AdBlock DNS addresses:

[64.16.214.40](http://64.16.214.40) , [63.246.151.66](http://63.246.151.66)

6. Click Apply or Save or Save Settings.
7. Restart your router to apply the changes.

### 1.3.1 CONFIGURE ADBLOCK DNS FOR MAC OS X, WINDOWS, OR LINUX

- [Mac OS X](#)

- [Windows](#)
- [Linux](#)
- [DSL or Wireless Router](#)
- [Android](#)
- [AdBlock Server](#)

## After BA.net/adblock



## Before BA.net/adblock





## **1.4 WORKS WITH SAFARI. ANY WEB BROWSER / ANY PLATFORM**

### 1.4.1.1 User Benefits

The benefits of ad blocking include quicker loading and cleaner looking Web pages free from advertisements, lower resource waste (bandwidth, CPU, memory, etc.), and privacy benefits gained through the exclusion of the tracking and profiling systems of ad delivery platforms.

### 1.4.1.2 Multi Device

You can configure it for your computers, iPad, iPhone WiFi and more devices on your network. [Premium Plans](#) available.

**Except on iPhone mobile** networks, as DNS can not be changed. It will work on WiFi for iPhone.

### 1.4.1.3 Block Tracking Sites

Many sites use Web bugs and analytics to track where you go on the Internet. Adblock BA.net stops these sites from profiling you, invading your privacy and slowing your connection.

### 1.4.1.4 Block Ads Everywhere

Adblock BA.net stops advertisements on Safari, Any Web Browser, Any Platform. Also blocks many in-app Ads! Also blocks Ads from appearing in MSN, Yahoo!, and AOL messaging programs at the source. No more annoying pop-up animated ads.

## 1.5 FREQUENTLY ASKED QUESTIONS

### 1.5.1 Q: HOW IS ADBLOCK BA.NET DIFFERENT FROM OTHER ADBLOCKING SERVICES ?

AdBlock BA.net does not require installing any software on your computer and works with any Web browser on any computer.

### 1.5.2 Q: HOW CAN IT BE FREE ?

AdBlock BA.net is free for personal use. If you like the service we encourage you to [Share it with your friends](#). Or upgrade to a [Premium Plan](#)

### 1.5.3 Q: WE ONLY USE APPLE COMPUTERS IN OUR HOUSEHOLD, CAN WE STILL USE ADBLOCK BA.NET?

Yes, AdBlock BA.net will work with Safari, Internet Explorer and Firefox on Apple computers.

### 1.5.4 Q: WILL ADBLOCK BA.NET WORK ON MY IPHONE, BLACKBERRY OR OTHER MOBILE INTERNET DEVICE?

Yes, although some providers give no option to configure your DNS servers in order to use AdBlock BA.net. (For example it will not work on 3G connections only on WiFi)

### 1.5.5 Q: WILL ADBLOCK BA.NET ALSO RESTRICT PORNOGRAPHIC ADS?

AdBlock BA.net is not specifically designed to remove pornographic ads, however we make every attempt to block ads from known ad distribution networks.

1.5.6 Q: I LIVE IN TORONTO, WILL ADBLOCK BA.NET WORK IN CANADA?

Yes, Adblock BA.net will work from any location, however we concentrate our efforts on blocking advertising on the most popular sites for U.S. Internet users.

You can report any Ads or Malware to be included in the BA.net/adblock blocked list. [Report Ads or Malware Here](#)

1.5.7 Q: DOES ADBLOCK BA.NET TRACK WHERE I GO ON THE INTERNET?

Adblock BA.net does not log any personally identifiable information whatsoever. See details at the [Privacy Policy](#)

1.5.8 Q: I NOTICED AN AD THE OTHER DAY SURFING THE WEB, SHOULD I REPORT THAT TO ADBLOCK BA.NET SUPPORT?

Adblock BA.net will not block 100% of Internet advertising. Our goal is to eliminate banner and Flash advertisements on the most popular sites, and block the most widely used advertising distributors.

You can report any Ads or Malware to be included in the BA.net/adblock blocked list. [Report Ads or Malware Here](#)

1.5.9 Q: WHAT KIND OF BANNERS WILL IT BLOCK ?

Adblock BA.net is designed to block Banner and Flash advertising on the most popular sites, and to block ads coming from the largest advertising networks.

Adblock BA.net will work for anyone, anywhere in the world, but our focus is on popular U.S. Websites. Our servers are centrally located in the U.S.

1.5.10 WHAT ABOUT SITE AND BLOG OWNERS ?

Our intent is to block major adserver networks that track you across the web. They use questionable re-targetting, profiling and invade your privacy.

Smaller sites generally offer sponsorships and directly served ads, which we do not block.

#### 1.5.11Q: WILL IT BLOCK PHISHING AND MALWARE SITES ?

Yes Phishing and Malware sites will also be blocked. Helping to keep you safe from identity theft.

#### 1.5.12Q: DO YOU OFFER CORPORATE SERVICE ?

Yes, you can point your corporate routers to our Filtering DNS service. We offer volume discounts per user.

Also available custom filter lists and access policies running on your own dedicated virtual dns servers.

Corporate, ISP, school and campus filtering bundles also available.

- [Get Premium Adblock Multi Device](#)
- [Business Web Security Solutions](#)

[Wikipedia Ad Filtering Docs](#)

#### 1.5.13Q: DO YOU OFFER SERVER DNS FILTER SOLUTIONS ?

BA.net Adblock DNS Server FlashBoot is a complete Software Appliance. Built in a simple USB Flash Boot package. [Free Download](#)

#### 1.5.14Q: DO YOU OFFER AN ADMINISTRATOR MANUAL ?

You can download a free preview of the Administrator Manual [here 950k pdf](#)



---

## 2 FILTERING METHODS

---

An extremely common method of filtering is simply to block (or prevent autoplay of) Flash animation or image loading or Windows audio and video files. This can be done in most browsers easily. This crude technological method is refined by numerous [browser extensions](#). Every internet browser handles this task differently, but, in general, one alters the options, preferences or application extensions to filter specific media types. An additional add-on is usually required to differentiate between ads and non-ads using the same technology, or between wanted and unwanted ads or behaviors.

The more advanced filters allow fine-grained control of [advertisements](#) through features such as [blacklists](#), [whitelists](#), and [regular expression](#) filters. Certain security features also have the effect of disabling some ads. Some [antivirus](#) software can act as an ad blocker.

Filtering by intermediaries such as providers or national governments is increasingly common. See below especially re provider ad substitution and national root DNS.

### 2.1 BENEFITS OF AD FILTERING

To users, the benefits of ad blocking include quicker loading and cleaner looking Web pages free from advertisements, lower resource waste (bandwidth, CPU, memory, etc.), and privacy benefits gained through the exclusion of the tracking and profiling systems of ad delivery platforms. Blocking ads can also save minimal amounts of energy.<sup>[2]</sup>

Users who pay for total transferred bandwidth ("capped" or pay-for-usage connections) including most mobile users worldwide, have a direct financial benefit from filtering an ad before it is loaded. Streaming audio and video, even if they are not presented to the user interface, can rapidly consume gigabytes of transfer especially on a faster 4G connection. In Canada, where users without a data plan often pay C\$0.50/megabyte (\$500/gigabyte) for at least the first 50-100MB exceeding their data allowance, the cost of tolerating ads can be intolerable. Even fixed connections are often subject to usage

limits, especially the faster connections (100Mbit/s and up) which can quickly saturate a network if filled by streaming media. "The extent of unlimited bandwidth plans is often grossly over-estimated by US and European users and advertisers. This problem affects other countries, especially those with bandwidth limitations on their global Internet connections, or those that have poor regulatory or effective monopoly providers."

To advertisers, the benefits include not angering or annoying users into blocking, defaming or boycotting their products or websites. Few advertisers actually intend to anger end users. Very sophisticated filtering and [anti-spam](#) techniques can involve active defenses which can shut down an advertiser's domains or brokers, ban them from searches or target them for other countermeasures. Some countries have even considered banning the use of certain ports, e.g. South Korea's proposed ban on port 25 used by [SMTP](#).<sup>[3]</sup> Future countermeasures would be likely to include bans on ads South Koreans are unlikely to want or even ad brokering services. Ad substituting is also a legal and common practice already, for instance in Canadian cable TV where regulations permit showing a Canadian channel with Canadian ads instead of a US channel with US ads, where both are broadcasting the show simultaneously - this practice has spread to the web with some cable Internet providers uniformly substituting foreign ads for local ones, for which they receive a share of the revenue. Avoiding national, provider or technological interference with their ads is a priority for advertisers and especially brokers of advertising, to whom it could be fatal.

## 2.2 ECONOMIC CONSEQUENCES FOR ONLINE BUSINESS

One consequence of widespread ad blocking is decreased revenue to a website sustained by advertisements,<sup>[4]</sup> where this blocking can be detected.

A number of website operators, who use online advertisements to fund the hosting of their websites, argue that the use of ad-blocking software risks cutting off their revenue stream. While some websites have successfully implemented subscription and membership based systems for revenue, the majority of websites today rely on online advertising to function.

## 2.3 ADVERTISER OFFENSIVE COUNTERMEASURES AND JUSTIFICATIONS

Some websites have taken counter-measures against ad-blocking software, such as attempting to detect the presence of ad blockers and informing users of their views, or outright preventing users from accessing the content unless they disable the ad-blocking software. There have been several arguments supporting<sup>[5]</sup> and opposing<sup>[6]</sup> the assertion that blocking ads is wrong.<sup>[7]</sup>

## 2.4 BROWSER INTEGRATION



### [Wikitravel](#) with and without [Adblock Plus](#)

Almost all modern [web browsers](#) block unsolicited [pop-up ads](#) by default. [Opera](#), [Konqueror](#), [Maxthon 2](#), and [Internet Explorer 8](#)<sup>[8]</sup> also include content filtering, which prevents external files such as images or JavaScript files from loading. Content filtering can be added to [Mozilla Firefox](#) and related browsers with [Adblock Plus](#), and a number of sources provide regularly updated filter lists. For [Internet Explorer](#) there are several add-ons available like [Simple Adblock](#), and [Quero](#) that also allows users to temporarily unblock blocked content. A rudimentary content blocking feature is integrated in

[Opera](#) and does not require an add-on. For Google Chrome, which has had extensions available since v2.0, extensions are available, such as [AdBlock](#), AdSweep, FlashBlock, AdBlock Plus and AdBlockforChrome. Another method for filtering advertisements uses [CSS](#) rules to hide specific [HTML](#) and [XHTML elements](#).

## 2.5 EXTERNAL PROGRAMS

A number of external applications offer ad filtering as a primary or additional feature. A traditional solution is to customize an [HTTP proxy](#) (or web proxy) to filter content. These programs work by caching and filtering content before it is displayed in a user's browser. This provides an opportunity to remove not only ads but also content which may be offensive, inappropriate, or simply junk. Popular proxy software which blocks content effectively include [AdGuard](#), [Privoxy](#), [Squid](#), [Ad Muncher](#) and [Diladele Web Safety](#). The main advantage of the method is freedom from implementation limitations (browser, working techniques) and centralization of control (the proxy can be used by many users). The major drawback is that the proxy sees only raw content and thus it's difficult to handle [JavaScript](#)-generated content.

## 2.6 HOSTS FILE

Further information: [hosts file](#).

This method exploits the fact that most operating systems store a file with IP address, domain name pairs which is consulted by most browsers before using a DNS server to look up a domain name. By assigning the [loopback address](#) to each known [ad server](#), the user directs traffic intended to reach each [ad server](#) to the local machine. Running a suitable web server locally the ad content can be replaced with anything the user wishes.

## 2.7 DNS CACHE

This method operates by filtering and changing records of a DNS cache. On most operating systems the domain name resolution always goes via DNS cache. By changing records within the cache or preventing records from entering the cache, programs are allowed or prevented from accessing domain names. The external programs like [Portable DNS Cache and Firewall](#) <sup>[9]</sup> monitor internal DNS cache and import DNS records from a file. As a part of the domain name resolution process, a DNS cache lookup is performed before



contacting a DNS server. Thus its records take precedence over DNS server queries. Unlike the method of modifying a Hosts file, this method is more flexible as it uses more comprehensive data available from DNS cache records.

## 2.8 DNS FILTERING

Advertising can be blocked by using a DNS server which is configured to block access to domains or hostnames which are known to serve ads.<sup>[10]</sup>

Morally, while some argue that domain name holders are owners of property (and have been found to have such rights in most developed countries), it has also been one of the web's most basic features that DNS can be localized and run on client, LAN, provider and national services. China, for instance, runs, its own [root DNS](#) and the EU has considered the same. [Google](#) has required their [Google Public DNS](#) be used for some applications on its [Android](#) devices. Accordingly, DNS addresses / domains used for advertising may be extremely vulnerable to a broad form of ad substitution whereby a domain that serves ads is entirely swapped out with one serving more local ads to some subset of users. This is especially likely in countries, notably [Russia](#), [India](#) and [China](#), where advertisers often refuse to pay for clicks or page views. DNS-level blocking of domains for non-commercial reasons is already common in China.<sup>[11]</sup>

## 2.9 AD FILTERING BY EXTERNAL PARTIES AND INTERNET PROVIDERS

Internet providers, especially mobile operators frequently offer proxies designed to reduce network traffic. Even when not targeted at ad filtering specifically these will block many types of advertisements that are too large, bandwidth consuming or otherwise deemed unsuited for the specific internet connection or target device.

---

### 3 BA.NET ADBLOCK FILTER SERVER FLASHBOOT

---

Easy to use Content Filtering, Adblock and Malware Protection for businesses of all sizes.

BA.net Adblock DNS Server FlashBoot is a complete Software Appliance. Built in a simple USB Flash Boot package.



## Filter Server

BA.net Adblock DNS Server FlashBoot is a complete Software Appliance. Built in a simple USB Flash Boot package.

- Make your Internet **Faster** and Safer with free Adblock BA.net.
- Blocks Ads on any application on your network
- Blocks Malware
- Custom Corporate Blocked Sites List
- Small 125 MBytes Flash boot for USB PenDrives
- No installation needed - PenDrive contains OS, DNS, Adblock Code
- Can boot on most PCs or netbooks.
- Low requirements for CPU and Memory
- Can be installed on Hard Disk
- Business Internet Monitoring and Control
- Full Technical Support, DNS Filter List Update and Monitoring Available

BA.net Adblock DNS Server FlashBoot <http://ba.net/adblock-dns-server/>

Free DOWNLOAD from <http://ba.net/adblock-dns-server/download>

### 3.1.1 HOWTO INSTALL

- USB Flash Pen Drive install
- Download latest BA.net Adblock DNS Server FlashBoot from <http://wifi.com.ar/adblock-dns-server/download>
- Extract adblock-dns-server-rx.zip to your flash disk (FAT 16 or FAT 32 formatted).
- Make the flash disk bootable by running (from linux)  
/boot/bootinst.sh
- Or make the disk bootable by running (from windows)  
/boot/bootinst.bat

That is all the instalation needed!

Now boot from the USB Flash Pen Drive Make sure that the boot order tries the USB drive first. configure this on BIOS settings. Usually available pressing one of these keys during boot: F1, F2, DEL, ESC or F10

Initial root password is toor Have fun. adblock@ba.net

Optional: - Hard Disk Install -

Format your hard disk and create a single FAT32 partition

- Extract adblock-dns-server-rx.zip to your hard disk
- make the disk bootable by running (from linux)  
/boot/bootinst.sh
- make the disk bootable by running (from windows)  
/boot/bootinst.bat

[Free Download Version 2 \(125 MB\)](#)

[README.txt](#)

[INSTALL.txt](#)

[Documentation](#)

Boot from



Flash! **new**



**Free On-Line Demo Service**

[BA.net/adblock](http://BA.net/adblock)

**Adblock DNS Filter Server FlashBoot**

[Free Download](#)

**free Administrator Manual E-Book Preview**

[Free 950k PDF](#)

**AdBlock and Web Security Administrator Manual E-Book. 100 Pages, 30 Illustrations, Step by Step Configuration Examples**

[Buy with Paypal \\$79.90](#)



**BA.net Adblock DNS Filter Server FlashBoot**

Unlimited User License

Administrator Manual E-Book

One Year Email and SSH Technical Support

One Year Curated Filter Block List

One Year Server Monitoring

[Buy with Paypal \\$ 599.00](#)



## BA.net Adblock DNS Filter Server FlashBoot

CIPA Compliance

K12 Educational Discounts

Contact Us [adblock@ba.net](mailto:adblock@ba.net)

