Snort Install Manual

Snort, Apache, PHP, MySQL and Acid Install on RH9.0

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ACID: Analysis Console for Intrusion Detection

Introduction:

This document originated when a friend of mine asked me to put together this procedure for him so that he could install Snort and Acid. It is pretty basic and is for the Linux newbie, as well the snort newbie. This is not an ultra-secure end-all to Snort IDS deployment guide; this is a "How in the hell do I get this installed and working" guide. This document will walk you through installing a stand alone RedHat system (this is not for a dual boot system).

For text editors I would suggest using pico, it is very easy to use (it is part of the pine mail package). Type "pico <filename>" and it will open the file in the editor; all the commands are listed on the bottom. (Remember the ^ is for ctrl)

I have also added a troubleshooting section at the bottom of this document

Acknowledgments:

I would like to thank all my friends and the people on the snort-users list that proofed this for me. First of all, to my wife Kris, who puts up with me and my ever expanding lab. A special thanks to Nick Oliver. He downloaded and used the first document I wrote and volunteered to do test installs and proof the spelling and punctuation for this document. He has become quite proficient with Linux and snort in the past few months. Without him and his valuable input this document would not be as complete as it is.   Also a great thanks to the Snort team, where would we be without you.

Comments or Corrections:

Please e-mail any comments or corrections to mailto:Patrick@internetsecurityguru.com

Nick Oliver has also made himself available for contact if for any reason I may be unavailable or running behind on my large and ever growing inbox.
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The latest version of this document may be found at, Please try to use the most up to date version http://www.internetsecurityguru.com/documents/   I will do my best to keep it updated.

If you follow this doc line by line it will work for you. 90%+ of the e-mails I get are when people miss a step. I always welcome comments and questions and do my best to help when ever I can.

Info for the install:

IP Address	
Subnet Mask	
Gateway	
DNS Servers	
Hostname	

Other important reading:

Snort users manual http://www.snort.org/docs/writing_rules/
Snort FAQ http://www.snort.org/docs/faq.html
The snort user's mailing list http://lists.sourceforge.net/lists/listinfo/snort-users
(The place to get help AFTER you read the FAQ, ALL the documentation on the Snort website, AND have searched Google).
Also make sure to read the link below, before sending questions, so you know the rules. ☺
The Snort drinking game
http://www.theadamsfamily.net/~erek/snort/drinking_game.txt (Thanks Erek)
ACID FAQ http://www.andrew.cmu.edu/~rdanyliw/snort/acid_faq.html
ACID install guide http://www.andrew.cmu.edu/~rdanyliw/snort/acid_config.html
RedHat Support documents for version 9 -
http://www.redhat.com/support/resources/howto/rhl9.html

Websites to visit:
http://www.snort.org
http://www.cert.org/kb/acid/
http://www.mysql.com
http://www.php.net
http://www.redhat.com
http://www.chiark.greenend.org.uk/~sgtatham/putty/ (the putty ssh client)
http://www.bastille-linux.org (Hardening scripts for UNIX and Linux)
http://www.internetsecurityguru.com (my website)

Installing RedHat 9:

We will install a minimal number of packages, sufficient for a usable system. After the install we'll turn off anything that is not needed. It is an ideal dedicated IDS by hardening the OS and further securing the system. It is, however, also a system that can easily be added to for other uses. There are lots of good articles on how to secure a RedHat box on the web. Just go to http://www.google.com and search for "securing redhat".

Welcome:
Click next

Language:
English

Keyboard:
U.S. English

Mouse Configuration:
I always use the generic drivers for my mice (PS/2 or USB, depending on the system), but I am almost always working on a KVM. If you are on a KVM, use the generic drivers. If not, see if your mouse is on the list.

Install Type:
Choose custom

Disk Partitioning:
Choose to automatically partition the hard drive
Choose to remove all partitions from this hard drive (I am assuming that this not a dual boot box)
Make sure the review button is checked
The following is approximately how RedHat will set it up:
SWAP is twice the amount of ram
/boot is about 100 Meg
/ is the rest of the hard drive

Boot Loader:
Go with the default (if this is a dual boot system then go to google and search for info on how to install grub for dual booting)

Network Configuration:
Hit edit
Uncheck "Configure with DHCP"
Leave "Activate on boot"
Set a static IP and subnet mask for your network
Manually set the hostname
Then set a gateway and DNS address's

Always try to assign a static IP address here. I think it is best not to run Snort off of a Dynamic IP, however, if you need to, go ahead and do it, just make sure to point your $HOME_NET variable in your snort.conf to the interface name. You can get more info on that in the Snort FAQ. If this is a dedicated IDS then you do not need to have an IP on the interface that snort is monitoring (this is not covered in this document but there is lots of info on how to do that out on the web).

Firewall:
Security Level - Leave the default at Medium
Choose "Customize"
Trusted devices = BLANK
"Allow Incoming" SSH and WWW" and port 443 only

Additional Language:
Choose only US English

Time Setup:
Choose the closest city within your time zone

Root Password:
Set a strong root password here (a strong password has at least 8 characters with a combination of upper case, lower case, numbers and symbols. It will also not be or resemble anything that might be found in a dictionary of any language)

Authentication:
Use both MD5 and Shadow passwords (the default)
Leave the others as they are

Suggested Packages:
Take the defaults with the following exceptions. (Default is what ever it has when you choose custom; for example, gnome is checked by default and kde is not)

Desktops:
X Window System – click "details" and uncheck the following
- xisdnload (unless you are going to be directly connected to an ISDN line and want this)

Gnome Desktop Environment – Accept the default (checked)

KDE Desktop Environment - Accept the default (unchecked)

Applications:
Editors – Choose your favorites (pico is a very easy to use editor and is installed with the pine mail reader)

Engineering and Scientific – Accept the default (unchecked)

Graphical Internet – check this one and click "details". Check the following:
- evolution if you want to check e-mail with an Outlook-like client in X
- Mozilla
- Mozilla-psm

Text based internet – check this one and click "details". Check the following:
- Lynx – a text based web browser
- Pine – a text based e-mail client

Office/Productivity – Only xpdf should be selected

Sound and Video – None of this is needed

Authoring and Publishing – None of this is needed

Graphics – check this one and click "<u>details</u>". Check the following:
- Gimp – good to have if your using gnome
- Gimp data extras
- Gimp print plugin

Games and Entertainment – None of this is needed

Server Section:
Choose nothing from this entire section

Development:
Development tools – check this one and click "<u>details</u>" and check the following in addition to what is checked by default
- Expect
- Gcc-objc

Kernel development – check this one, everything is selected by default

X Software Development – check this one and click "<u>details</u>" and unselect everything under "optional packages"

Gnome Software Development – Leave this unchecked

KDE Software Development – Leave this unchecked

System:
Administration – Leave this unchecked

System Tools – check this one and click "<u>details</u>" and check only the following (some will need to be unchecked)
- Ethereal
- Ethereal gnome
- Nmap
- Nmap frontend

Printing support – Uncheck this (unless you need printing from this machine, then configure as needed)

Miscellaneous:
Choose nothing from this entire section

Remember - Do not install Apache, PHP or MySQL, we will install these from source. You will be walked through every step.

Hit next, then next again

The install will start. First it will format the drive(s) and then it will install the packages. This will take a little while, depending on the speed of the system you're on, so putting on a pot of coffee is good right about here.

Installing extra software:

You can install almost anything, as long as it is not in the servers section of the package's page. Remember, however, that if this system is located outside your firewall, is your production IDS, or if you want it really secure, you will need to install the least amount of software possible.

Each piece of software you install and forget to update and maintain is a vulnerability waiting to happen, and that goes for all systems. <u>To me this is one of the biggest rules for systems administration. Make sure you know what you have, and make sure you keep it patched so you do not contribute to the next worm or virus that threatens to shut down major portions of the internet</u>.

If this is a system you are using to learn Snort, Linux, and all the other cool Linux type things, and is not directly connected to the Internet (i.e. NAT'd behind a firewall/Router), then just have fun. Linux is a great operating system, and it can fully replace a Windows desktop or server. The 3 RedHat 9 CD's (as well as most other distributions) are all you need, right there, and they are free.

If this is a production system, please make sure you learn how to secure it.

After the packages install:

Boot Disk Creation:
Choose no

X Configuration:
Choose your card, monitor, and then the resolution and color depth you desire. Most everything I have used in the past few years is supported. (NOTE: In RedHat 9 you can no longer test your settings before continuing).

Congratulations:
Hit the exit button and the system will reboot.

<u>After the reboot:</u>

Welcome screen:
Click forward

User Account:
Add a user account for yourself here; make sure to give it a strong password

The root account should not be used for everyday use, if you need access to root functions then you can "su-" or "sudo" for root access.

Date and Time:
Set your date, time, time zone, as well as your NTP server, if you have one.

Sound card:
If you have a sound card and will be using it then you can test here, otherwise it will not be needed and can be skipped

Red Hat Network:
Register your system with RHN here so that you will be updated when new patches come out (assuming you have the entitlements).
- Choose yes, I want to register with RHN
- It will pop up a window
    - On the Retrieval/Installation tab make sure the Use GPG and enable RPM rollback is checked
    - On the Package Exception tab remove the *.kernel from the list
    - Click OK
- You will be warned that you do not have the RedHat Inc. key in your GPG ring, choose yes to import it.
- The "Welcome to Red Hat Update Agent" window will pop up, hit forward.
- Read the privacy statement and choose forward., then choose forward again at the step one page
- On the "step two" page choose "create new account" and enter your information and hit forward.
- On the next page enter the rest of your information and hit forward.
- You will now have a screen to register your new profile with RHN, hit forward
- It will now make a list of RPM's that you have installed so RHN will know when to notify you about updates.
- You will now have a list on the screen of all the RPM's you have installed, hit forward to register them. Hit forward
- You will now have a screen to actually send the information to RedHat, hit forward, then forward again.
- After this is done uploading, hit forward at the channels screen.
- On the next screen choose "select all packages" and hit forward. (this could take a while) When it is all finished it will begin to download the packages that you just selected.
- When it is done, click forward and it will begin to install the packages you just downloaded
- When this is done you will be at the login screen.

Login to the system:
Now we need to disable services that you will not need for this system.

First, login as root. Then click on the RedHat on the bottom left of the toolbar. Select System Settings, then Server Settings, then Services. This will bring up the list of services that start when the system boots up.
Disable the following:
apmd, cups, firstboot, isdn, netfs, nfslock, pcmcia, portmap, sgi_fam

Click on "Save" at the top of that window, and close the service configuration.

Reboot your system (you installed a new kernel when you updated the installation, so a reboot is necessary). You are now up to date with all the latest packages and you can start the Snort install.

You are now ready to start installing Snort and all of the software it needs. You can either use the desktop terminal window, or SSH into the server from another box, either way will work fine. For the novice it might be easier to do this from SSH so they can cut and paste the commands from this document into the session, instead of typing some of the long strings.

(You can cut and paste from the PDF by using the text select tool in Adobe Acrobat
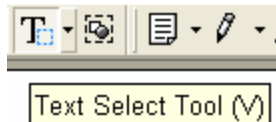
Download all the needed files:

Place all the downloaded files into a directory for easy access and consolidation. This directory will not be needed when you are finished with the installation and may be deleted at that time. I create a directory under /root called snortinstall. Use the mkdir command from the shell. Make sure you are in the /root directory (cd /root). You can check where you are currently by using the pwd command. Note: If you are not logged in as root, then you will need to execute "su –" ("su" gives you the super user or root account rights, the "–" loads the environmental variables of the root account for you) and then enter the root password.

If you're SSH'd into the box, you can use wget (wget will place the file you're downloading into the directory where you're currently located) to download these files. To use wget, type "wget <URL_to_file>", and it will begin the download to the directory that you are currently in. If you want to use a Windows box and need an SSH client, then you can go to the PuTTY http://www.chiark.greenend.org.uk/~sgtatham/putty/ home page and download a free one. You can also get a scp (secure copy) and a sftp (Secure FTP) client for Windows there, as well. *(For notes on quick ways to download see the bottom of this paper)*

Download Snort 2.0.1
http://www.snort.org/dl/snort-2.0.1.tar.gz

Download MySQL 4.0.14 Source
http://mysql.secsup.org/Downloads/MySQL-4.0/mysql-4.0.14.tar.gz

Download apache 2.0.47
http://www.apache.org/dist/httpd/httpd-2.0.47.tar.gz

Download PHP 4.3.2
http://www.php.net/distributions/php-4.3.2.tar.gz

Download ADODB v3.70
http://phplens.com/lens/dl/adodb370.tgz

Download Acid 0.9.6b23
http://acidlab.sourceforge.net/acid-0.9.6b23.tar.gz

Download Zlib 1.1.4
http://flow.dl.sourceforge.net/sourceforge/libpng/zlib-1.1.4.tar.gz

Download JPGraph 1.12.2
http://www.aditus.nu/jpgraph/downloads/jpgraph-1.12.2.tar.gz

Download LibPcap 0.7.2
http://www.tcpdump.org/release/libpcap-0.7.2.tar.gz

Preparing for the install:

Again, if you are not logged in as root, then you will need to su to root ("su -" will load
the environmental variables of root. Use that when you su.)

Ensure that you have downloaded all of the installation files before you start the install, it
will go smoother, trust me. Go to your download directory and start with the following
procedures. They will walk you through extracting the source files of the applications,
compiling, then installing and configuring them for use with Snort.

Securing SSH
In the /etc/ssh/sshd_config file change the following lines (if it is commented out remove
the #):
Protocol 2
PermitRootLogin no
PermitEmptyPasswords no

(you will need to SSH into the box with the user account you created after this as root
will no longer be accepted, just su to the root account)

Install zlib:

tar -xvzf zlib-1.1.4.tar.gz
cd zlib-1.1.4
./configure; make test
make install
cd ..

Install LibPcap:

tar –xvzf libpcap-0.7.2.tar.gz
cd libpcap-0.7.2
./configure
make
make install
cd ..

Install MySQL:

Create the user and group for MySQL with the following commands:
groupadd mysql
useradd -g mysql mysql

In /root edit the .bash_profile file so the PATH line to read as follows:
PATH=$PATH:$HOME/bin:/usr/local/mysql/bin

Go to the directory you downloaded everything to, and use the following commands to install and configure MySQL.

tar –xvzf mysql-4.0.14.tar.gz
cd mysql-4.0.14
./configure --prefix=/usr/local/mysql
make
make install

scripts/mysql_install_db

chown -R root /usr/local/mysql
chown -R mysql /usr/local/mysql/var
chgrp -R mysql /usr/local/mysql

cp support-files/my-medium.cnf /etc/my.cnf

Next, add the lines "/usr/local/mysql/lib/mysql" and "/usr/local/lib" to the /etc/ld.so.conf file.

After you add the lines, run "ldconfig –v", as root

Test to see if it worked:
/usr/local/mysql/bin/mysqld_safe --user=mysql &
(you might have to hit enter to get back to a shell prompt)

If you get no errors, type "ps –ef |grep mysql". You should see something like this:

```
[root@patrick-redhat mysql-4.0.13]# ps -ef |grep mysql
root    13297 2290 0 11:20 pts/0    00:00:00 /bin/sh /usr/local/mysql/bin/mysqld_safe --user=mysql
mysql   13319 13297 3 11:20 pts/0    00:00:00 /usr/local/mysql/libexec/mysqld --basedir=/usr/local/mysql
--datadir=/usr/local/mysql/var --user=mysql --pid-file=/usr/local/mysql/var/patrick-redhat.pid --skip-
locking
```

If it all worked, then go to the next step, which is to make MySQL start when the system boots up.

Set MySQL to start automatically.
Copy the file "mysql.server" from the support-files subfolder (it is under the source for mysql. If you downloaded everything to /root/snortinstall, then the path will be /root/snortinstall/mysql-4.0.13/support-files) to the /etc/init.d folder and call it mysql (the command to copy it from the support-files directory is "cp mysql.server /etc/init.d/mysql")

Use the following commands to create symbolic links in the startup folders for run levels 3 and 5. MySQL will now start automatically when you boot up.

cd /etc/rc3.d
ln -s ../init.d/mysql S85mysql
ln -s ../init.d/mysql K85mysql
cd /etc/rc5.d
ln -s ../init.d/mysql S85mysql
ln -s ../init.d/mysql K85mysql
cd ../init.d
chmod 755 mysql

Installing and configuring Apache with PHP:

This procedure will install the Apache web server in "/www". This is where I prefer to install it. You can, however, modify it for whatever location you wish.

Go back to the download directory and do the following to install apache and the module for PHP

tar -xvzf httpd-2.0.47.tar.gz
cd httpd_2.0.47
./configure --prefix=/www --enable-so
make

make install

type "/www/bin/apachectl start"
check the system to make sure the web server is working (go to the IP o fthat system in a web browser)
type "/www/bin/apachectl stop"

cd ..
tar -xvzf php-4.3.2.tar.gz
cd php-4.3.2

./configure --prefix=/www/php --with-apxs2=/www/bin/apxs --with-config-file-path=/www/php --enable-sockets --with-mysql=/usr/local/mysql --with-zlib-dir=/usr/local --with-gd (one line)

make
make install

cp php.ini-dist /www/php/php.ini

Now edit your httpd.conf files (it's in /www/conf) and add:
  LoadModule php4_module modules/libphp4.so (The new version of PHP seems to add it)
  AddType application/x-httpd-php .php
  DirectoryIndex index.php index.html index.html.var

IT WILL LOOK SOMETHING LIKE THIS WHEN YOU ARE DONE

    #
    # LoadModule foo_module modules/mod_foo.so
    LoadModule php4_module modules/libphp4.so

    # AddType allows you to tweak mime.types without actually editing it, or $
    # make certain files to be certain types.
    #
    AddType application/x-tar .tgz
    AddType image/x-icon .ico
    AddType application/x-httpd-php .php

    # The index.html.var file (a type-map) is used to deliver content-
    # negotiated documents. The MultiViews Option can be used for the
    # same purpose, but it is much slower.
    #
    DirectoryIndex index.php index.html index.html.var

Apache 2.0.46 is now installed in the /www dir. Go into the /www/bin dir and do the following commands:

cp apachectl /etc/init.d/httpd
cd /etc/rc3.d
ln -s ../init.d/httpd S85httpd
ln -s ../init.d/httpd K85httpd
cd /etc/rc5.d
ln -s ../init.d/httpd S85httpd
ln -s ../init.d/httpd K85httpd
(The above lines will add a start up script to the system for both run level 3 and 5)

To test the Apache – PHP install, create a file called test.php in the /www/htdocs directory. Place the following line in the file "<?php phpinfo(); ?>" (without the quotes). Start Apache using "/etc/rc5.d/S85httpd start". Now use a web browser to look at the file (http://IP_Addess/test.php). It should give you info on your system, Apache, and PHP. If you would like another test and a good little tool try using http://shat.net/php/nqt/nqt.php.txt. Copy the text into a file called index.php and place it in the /www/htdocs directory, it will look like the following:

Installing and setting up Snort and the Snort rules:

groupadd snort
useradd -g snort snort

mkdir /etc/snort
mkdir /var/log/snort
tar -xvzf snort-2.0.1.tar.gz
cd snort-2.0.1
./configure --with-mysql=/usr/local/mysql
make
make install

Installing the rules and conf file:
(From the Snort installation directory)
cd rules
cp * /etc/snort
cd ../etc
cp snort.conf /etc/snort
cp *.config /etc/snort

Modify your snort.conf file:
The snort.conf file is located in /etc/snort, make the following changes.

var HOME_NET 10.2.2.0/24 (make this what ever your internal network is)

Change the rule path variable
var RULE_PATH /etc/snort/

Tell it to log to the database (make sure this is on one line) "new_password is what ever you want as long as it is the same when you set up mysql)
output database: log, mysql, user=snort password=new_password dbname=snort host=localhost

Set snort to start automatically:
Use the script located in the contrib directory, S99snort. Copy it to /etc/init.d and call it snort. (cp contrib/S99snort /etc/init.d/snort) Change the following lines:
CONFIG=/etc/snort/snort.conf
#SNORT_GID=nogroup (comment this out)
$SNORT_PATH/snort -c $CONFIG -i $IFACE $OPTIONS
==(you are removing -g $SNORT_GID from this line)==

Then:
Change directory to /etc/init.d and type:
chmod 755 snort (the file you just created, or copied from the contrib folder and modified)
cd /etc/rc3.d
ln -s ../init.d/snort S99snort
ln -s ../init.d/snort K99snort
cd /etc/rc5.d
ln -s ../init.d/snort S99snort
ln -s ../init.d/snort K99snort

Setting up the database in MySQL:

I will put a line with a > in front of it so you will see what the output should be. (Note: In MySQL, a semi-colon " ; "character is mandatory at the end of each input line)
(new_password is whatever password you want to give)

/usr/local/mysql/bin/mysql
mysql> SET PASSWORD FOR root@localhost=PASSWORD('new_password');
>Query OK, 0 rows affected (0.25 sec)
mysql> create database snort;
>Query OK, 1 row affected (0.01 sec)
mysql> grant INSERT,SELECT on root.* to snort@localhost;
>Query OK, 0 rows affected (0.02 sec)
mysql> SET PASSWORD FOR snort@localhost=PASSWORD('new_password');
>Query OK, 0 rows affected (0.25 sec)
mysql> grant CREATE, INSERT, SELECT, DELETE, UPDATE on snort.* to snort@localhost;
>Query OK, 0 rows affected (0.02 sec)
mysql> grant CREATE, INSERT, SELECT, DELETE, UPDATE on snort.* to snort;

>Query OK, 0 rows affected (0.02 sec)
mysql> exit
>Bye

From the Snort 2.0.1 source directory execute the following command (when working with MySQL, if it asks for a password it is wanting the one you defined in the SQL statement "SET PASSWORD FOR root@localhost=PASSWORD('new_password');")

/usr/local/mysql/bin/mysql -u root -p < ./contrib/create_mysql snort
Enter password:

Then install the extra DB tables using the following command from the contrib directory (you will need to cd to contrib)
zcat snortdb-extra.gz |/usr/local/mysql/bin/mysql -p snort
Enter password:

Now you need to check and make sure that the snort DB was created correctly

/usr/local/mysql/bin/mysql –p
>Enter password:
mysql> SHOW DATABASES;
(You should see the following)
+------------+
| Database
+------------+
| mysql
| snort
| test
+------------+
3 rows in set (0.00 sec)

mysql> use snort
>Database changed
mysql> SHOW TABLES;
+------------------+
| Tables_in_snort
+------------------+
| data
| detail
| encoding
| event
| flags
| icmphdr
| iphdr
| opt
| protocols
| reference

| reference_system
| schema
| sensor
| services
| sig_class
| sig_reference
| signature
| tcphdr
| udphdr
+------------------+
19 rows in set (0.00 sec)>Bye

Install JPGraph:

Go back to your downloads directory

cp jpgraph-1.12.2.tar.gz /www/htdocs
cd /www/htdocs
tar –xvzf jpgraph-1.12.2.tar.gz
rm –rf jpgraph-1.12.2.tar.gz
cd jpgraph-1.12.2
rm -rf README
rm -rf QPL.txt

Installing ADODB:

Go back to your download directory

cp adodb370.tgz /www/htdocs/
cd /www/htdocs
tar -xvzf adodb370.tgz
rm –rf adodb370.tgz

Installing and configuring Acid:

Go back to your downloads directory

cp acid-0.9.6b23.tar.gz /www/htdocs
cd /www/htdocs
tar –xvzf acid-0.9.6b23.tar.gz
rm -rf acid-0.9.6b23.tar.gz

Configuring Acid:
Go to the /www/htdocs/acid/ directory and edit the acid_conf.php file. It should look like
this (except of course you will need your password):

```
$DBlib_path = "/www/htdocs/adodb";

/* The type of underlying alert database
 *
 * MySQL           : "mysql"
 * PostgresSQL     : "postgres"
 * MS SQL Server : "mssql"
 */
$DBtype = "mysql";

/* Alert DB connection parameters
 *   - $alert_dbname   : MySQL database name of Snort alert DB
 *   - $alert_host     : host on which the DB is stored
 *   - $alert_port     : port on which to access the DB
 *   - $alert_user     : login to the database with this user
 *   - $alert_password : password of the DB user
 *
 *  This information can be gleaned from the Snort database
 *  output plugin configuration.
 */
$alert_dbname   = "snort";
$alert_host     = "localhost";
$alert_port     = "";
$alert_user     = "snort";
$alert_password = "new_password";

/* Archive DB connection parameters */
$archive_dbname   = "snort";
$archive_host    = "localhost";
$archive_port    = "";
$archive_user    = "snort";
$archive_password = "new_password ";
```

And a little further down

```
$ChartLib_path = "/www/htdocs/jpgraph-1.12.2/src";

/* File format of charts ('png', 'jpeg', 'gif') */
$chart_file_format = "png";
```

Start Apache then go to http://yourhost/acid/acid_main.php . You will get a message that looks like this in your browser:

Analysis Console for Intrusion Databases

The underlying database snort@localhost appears to be incomplete/invalid.

The database version is valid, but the ACID DB structure (table: acid_ag) is not present. Use the **Setup page** to configure and optimize the DB.

Click on the "==Setup Page==" hyperlink to create the tables that Acid uses, then you will see the following.

ACID DB Setup

Home
Search | AG Maintenance

[Back]

Operation	Description	Status
ACID tables	Adds tables to extend the Snort DB to support the ACID functionality	Create ACID AG
Search Indexes	(Optional) Adds indexes to the Snort DB to optimize the speed of the queries	DONE

[Loaded in 0 seconds]

ACID v0.9.6b23 (by **Roman Danyliw** as part of the **AirCERT** project)

Then click the button that says "Create Acid AG"

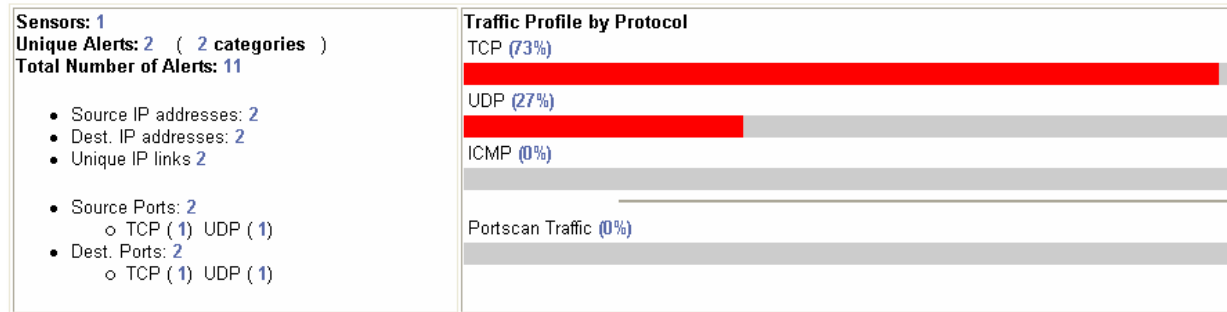Now when you go to http://yourhost/acid/ you should see the ACID homepage

Analysis Console for Intrusion Databases

Added 0 alert(s) to the Alert cache

Queried on : Fri May 02, 2003 12:47:26
Database: snort@localhost   (schema version: 106)
Time window: [2003-05-02 12:46:20] - [2003-05-02 12:46:35]

Sensors: 1
Unique Alerts: 2   (2 categories)
Total Number of Alerts: 11

- Source IP addresses: 2
- Dest. IP addresses: 2
- Unique IP links 2

- Source Ports: 2
  - TCP (1) UDP (1)
- Dest. Ports: 2
  - TCP (1) UDP (1)

Traffic Profile by Protocol
TCP (73%)

UDP (27%)

ICMP (0%)

Portscan Traffic (0%)

- Search
- Graph Alert data

- Snapshot
  - Most recent Alerts: any protocol, TCP, UDP, ICMP
  - Today's: alerts unique, listing; IP src / dst
  - Last 24 Hours: alerts unique, listing; IP src / dst

  - Most frequent 5 Alerts

  - Most Frequent Source Ports: any, TCP, UDP

Securing the Acid directory:

mkdir /www/passwords

/www/bin/htpasswd -c /www/passwords/passwords acid
<mark>(acid will be the username you will use to get into this directory, along with the password you choose)</mark>

It will ask you to enter the password you want for this user, this is what you will have to type when you want to view your acid page

Edit the httpd.conf and include the following under the section that starts with </Directory>

```
<Directory "/www/htdocs/acid">
   AuthType Basic
   AuthName "SnortIDS"
   AuthUserFile /www/passwords/passwords
   Require user acid
 </Directory>
```

Now restart the http service (/etc/init.d/httpd restart) and next time you go to the acid webpage you will get a prompt for a username and password.

Check to see if everything is working:

Reboot your system; watch to make sure everything starts. You can check by doing a "ps –ef |grep <service>" the service can be any running process. i.e. mysql, httpd, snort, etc.

If you want the machine to start at a text prompt instead of X, then change the default in the inittab file (/etc/inittab) from 5 to 3. Go to a shell as root and check everything important to see if it is running.

To check you can execute "ps –ef |grep <SERVICE>" where service is snort. httpd, or mysql.

Or use "ps –ef |grep httpd && ps –ef |grep mysql && ps –ef |grep snort"

Now it's time to test snort. I suggest using something free like CIS Scanner (http://www.cerberus-infosec.co.uk/CIS-5.0.02.zip) or Nessus (http://www.nessus.org) if you have it, and running it against your snort box. Check ACID when you're done and it should have a bunch or alerts. If you are on DSL or cable then you could already have a bunch in there right after you start it up. When you go to the acid screen in your browser now you should see alerts (And this is without running any programs against it)

Now you need to tune your IDS for your environment. This is an important step. Look at the Snort list archives and the other links listed above and you will find good tips on how to do that.

There is also a very good book out on Snort for those that want to learn more about it

http://www.amazon.com/exec/obidos/tg/stores/detail/-/books/1931836744/
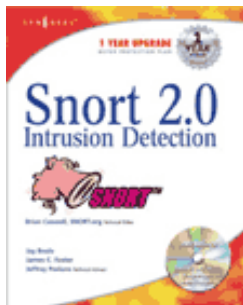
Download tip

When I want to download all of these real quick I take the following and create a file in the /root/snortinstall dir called get, edit it and put the following in it

```
wget http://www.snort.org/dl/snort-2.0.1.tar.gz
wget http://mysql.secsup.org/Downloads/MySQL-4.0/mysql-4.0.14.tar.gz
wget http://www.apache.org/dist/httpd/httpd-2.0.47.tar.gz
wget http://www.php.net/distributions/php-4.3.2.tar.gz
wget http://phplens.com/lens/dl/adodb370.tgz
wget http://acidlab.sourceforge.net/acid-0.9.6b23.tar.gz
wget http://flow.dl.sourceforge.net/sourceforge/libpng/zlib-1.1.4.tar.gz
wget http://www.aditus.nu/jpgraph/downloads/jpgraph-1.12.2.tar.gz
wget http://www.tcpdump.org/release/libpcap-0.7.2.tar.gz
```

Then I save the file and type chmod +x get, then ./get and it will download all the files for me.

Troubleshooting

If you are having trouble type the following
snort –c /etc/snort/sort.conf
It will give you output that will be helpful. It will tell you if you are having problems with rules or if you have a bad line in your conf file. If you do this and read the output you will be able to fix most of the problems I get e-mailed with.

Make sure that the line for MySQL in the snort.conf file is not wrapped or cut into two lines. I have seen this happen a lot.

Next, this is an end to end guide. I designed it to take a system from bare metal to functional IDS. If you follow it step by step you will get an IDS working, then you customize it more. I have the RedHat install listed the way I do because there are some parts that are needed.

Most of the problems people have had stem from them missing a step, one step somewhere. There are a lot of them and it is easy to do.

If you do have problems feel free to e-mail me, Nick, or the snort-users list.
There is a huge community of people that use this product that will help you out if you are in trouble.

Good luck and happy snorting.