

Nagios - Basics

- **Introduction:**

- Further read - [Table Of Contents · Nagios Core Documentation](#)
- IT Monitoring solution.
- Two products, Nagios Core (Open Source) & Nagios XI (Commercial)
- Enables monitoring of Servers (Windows , Linux) and Network Infrastructure.
- Nagios classifies services as
 - Private Services - CPU, Memory, Disk etc.
 - Need agent to be installed on the client. Two agents are normally used. NCPA (Nagios Cross Platform Agent) and NRPE (Nagios Remote Plugin Executor - Linux/Unix only).
 - NCPA - [Getting Started · NCPA \(nagios.org\)](#)
 - NRPE - [NRPE - Nagios Remote Plugin Executor - Nagios Exchange](#)
 - Below are the recommended methods (however, per other forums NCPA is recommended on Linux as well) :
 - ◇ Windows - NCPA Agent ([Monitoring Windows Machines · Nagios Core Documentation](#))
 - ◇ Linux - NRPE Agent ([Monitoring Linux/Unix Machines · Nagios Core Documentation](#))
 - Public Services - Services available / accessible over network (HTTP , FTP, SSH etc)
 - No agent required.
 - Service needs to be configured in the master node.
 - Further read - [Monitoring Publicly Available Services · Nagios Core Documentation](#)
 - Addons
 - Code modules that extend the functionality of Nagios. Available @ <http://exchange.nagios.org>.
 - Further read - [Nagios Core Addons · Nagios Core Documentation](#)
 - Monitoring:
 - Contains 3 info that needs to be defined. Defined using `cfg_file` or `cfg_dir` directive in the `nagios.cfg` file.
 - Host Definition : Name, IP address etc
 - Service Definition : What do we want to monitor (could use addnl plugins)
 - Command Definition : The actual command that is run as part of the service checks.
 - Example: (Nagios service might need to be restarted after this)
 - Host :

```
define host {
    use         generic-host      ; Inherit default values from a template
    host_name    remotehost        ; The name we're giving to this host
    alias        Some Remote Host  ; A longer name associated with the host
    address      192.168.1.50      ; IP address of the host
    hostgroups   allhosts          ; Host groups this host is associated with
}
```
 - Service:

```
define service {
    use         generic-service    ; Inherit default values from a template
    host_name    remotehost
    service_description HTTP
    check_command check_http
}
```
 - Command: (Only required if there is no existing command or the current Command needs to be fine tuned)
 - Definition of `check_http` in `commands.cfg` would look something like this:

```
define command {
    name        check_http
    command_name check_http
    command_line $USER1$/check_http -I $HOSTADDRESS$ $ARG1$
}
```
 - There is a grouping facility (for hosts , services) so that the same settings can be applied to a group instead of individually to a particular host or service.
 - Default down time interval for alerting is 10 seconds (i.e. it alerts after it notices that the service has been down for 10 seconds)
 - Thresholds / alert notifications/ notification audience etc are defined in the Service definition .
 - Further Read: [Object Definitions · Nagios Core Documentation](#)
 - Warning & Critical thresholds are set using the following format:
 - -w 15,10,5 -c 35,30,20 (basically denoting warning and critical thresholds)

- **Installing Nagios:**

- **Install Instructions :**
 - i. \$ `sudo apt update ; sudo apt upgrade`
 - ii. \$ `sudo apt install -y build-essential apache2 php openssl perl make php-gd libgd-dev libapache2-mod-php libperl-dev libssl-dev daemon wget apache2-utils unzip` -> Best to check if apache is working at this point before proceeding, check both webpage and service (to ensure firewalls and other setup is in place, especially if your instances are in the cloud).
 - iii. \$ `sudo useradd nagios`
 - iv. \$ `sudo groupadd nagcmd`
 - v. \$ `sudo usermod -a -G nagcmd nagios`
 - vi. \$ `sudo usermod -a -G nagcmd www-data`
 - vii. \$ `cd /tmp ; wget https://assets.nagios.com/downloads/nagioscore/releases/nagios-4.4.5.tar.gz`
 - viii. \$ `tar -zxvf /tmp/nagios-4.4.5.tar.gz`
 - ix. \$ `cd /tmp/nagios-4.4.5/`
 - x. \$ `sudo ./configure --with-nagios-group=nagios --with-command-group=nagcmd --with-httpd_conf=/etc/apache2/sites-enabled/`
 - xi. \$ `sudo make all`
 - xii. \$ `sudo make install`
 - xiii. \$ `sudo make install-init`
 - xiv. \$ `sudo make install-config`

- xv. \$ sudo make install-commandmode
- xvi. \$ sudo make install-webconf
- xvii. \$ cd /tmp/nagios-4.4.5
- xviii. \$ sudo htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
- xix. \$ sudo a2enmod cgi
- xx. \$ sudo systemctl restart apache2
- xxi. \$ cd /tmp
- xxii. \$ wget <https://nagios-plugins.org/download/nagios-plugins-2.3.3.tar.gz>
- xxiii. \$ tar -zxvf /tmp/nagios-plugins-2.3.3.tar.gz
- xxiv. \$ cd /tmp/nagios-plugins-2.3.3/
- xxv. \$ sudo ./configure --with-nagios-user=nagios --with-nagios-group=nagios
- xxvi. \$ sudo make
- xxvii. \$ sudo make install
- xxviii. \$ sudo /usr/local/nagios/bin/nagios -v /usr/local/nagios/etc/nagios.cfg
- xxix. \$ sudo systemctl enable nagios
- xxx. \$ sudo systemctl start nagios
 - Optional:
 - Remove comment for `cfg_dir=/usr/local/nagios/etc/servers` in `/usr/local/nagios/etc/nagios.cfg`
 - Create directory `sudo mkdir /usr/local/nagios/etc/servers`
 - Use this directory to host all individual server config notes (so that `nagios.cfg` might not be required to be modified every time)
 - Restart nagios - `sudo systemctl restart nagios`

○ **Install instructions explained**

Step b	Install dependency modules & apache (for web interface)
Step c-f	Create ID, group and add IDs to groups
Step g	Obtain the install files
Step h	Extract files
Step j	Provide primary configuration, Group, associate with apache etc
Step k-p	Create the build files
Step r	Setup web instance password
Step s - t	Enable cgi module and restart apache
Step v-w	Obtain nagios plugins and extract files
Step y	Configure plugin modules with runtime ID & group
Step z-aa	Create the build files
Step bb-dd	enable the nagios service for start on boot & start nagios service

• **Important Files**

/usr/local/nagios/etc/objects/contacts.cfg	• File to update for notifications (email ID etc)
/usr/local/nagios/etc/nagios.cfg	• Nagios Configuration File. • Contains paths for other configuration files. • Will need Nagios service to be restarted every time this file is modified