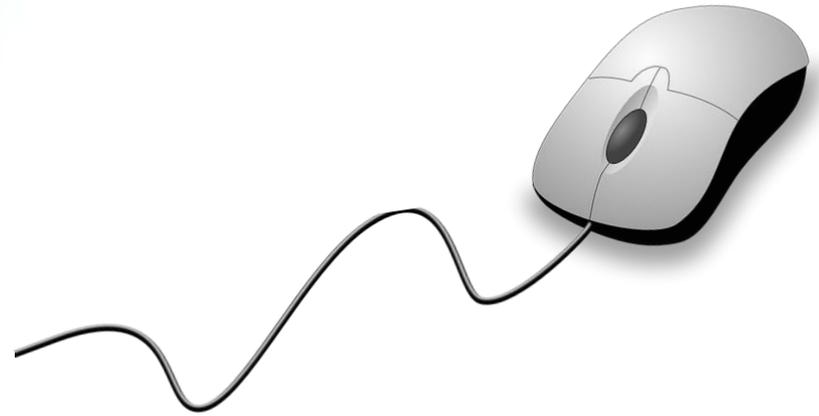


공개SW 솔루션 설치 & 활용 가이드

시스템SW > 자원관리



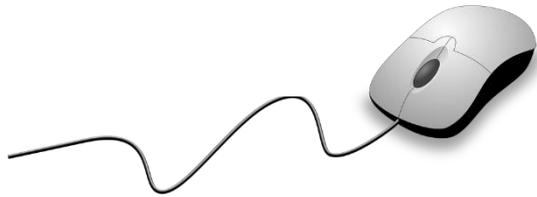
# Nagios®

## 제대로 배워보자

How to Use Open Source Software

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Open Source Software Installation & Application Guide



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# 1. 개요

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<b>소개</b>	<ul style="list-style-type: none"> <li>Nagios는 open source 기반의 시스템 및 네트워크 모니터링 응용프로그램</li> <li>Enterprise version을 구매하여 상업적 지원 가능 및 무료로 open source community version 사용 가능</li> <li>지정한 호스트, 서비스와 네트워크를 관찰하고 장애가 나거나 복구되었을 때 경보 발령</li> </ul>		
<b>주요기능</b>	<ul style="list-style-type: none"> <li>네트워크 서비스 모니터링/ 호스트 리소스 모니터링</li> <li>접속이 끊어진 호스트와 도달할 수 없는 호스트를 감지하고 구별</li> <li>자동 로그 파일 순환 가능/ 중복 모니터링 호스트 구현 지원</li> <li>현재 네트워크 상태, 알림 및 문제 기록, 로그 파일 등 확인 가능</li> </ul>		
<b>대분류</b>	시스템SW	<b>소분류</b>	자원관리
<b>라이선스형태</b>	GNU General Public License Ver 2	<b>사전설치 솔루션</b>	<ul style="list-style-type: none"> <li>A web server (preferably Apache)</li> <li>Thomas Boutell's gd library version 1.6.3 or higher</li> </ul>
<b>운영체제</b>	Cross-platform	<b>버전</b>	Nagios-4.3.3
<b>특징</b>	<ul style="list-style-type: none"> <li>Nagios는 Linux에서 실행되도록 디자인되었으나 대부분 다른 유닉스에서도 동작 가능</li> <li>인터넷 서비스 감시 (SMTP, POP3, HTTP, TCP, PING 등)</li> <li>모니터링 호스트 서비스 (cpu, 부하, io 상황 등)</li> <li>병렬 서비스 점검 메커니즘/ 자원 분산 제어</li> </ul>		
<b>보안취약점</b>	<ul style="list-style-type: none"> <li>취약점 ID : CVE-2016-8641</li> <li>심각도 : 6.1 MEDIUM(V3)</li> <li>취약점 설명 : Nagios는 로컬 권한 상승 취약점 발견, 로컬 공격자가이 문제를 악용하여 영향을 받는 시스템에서 상승 된 루트 권한을 얻을 수 있음</li> <li>대응방안 : 4.2.4 이상으로 업데이트</li> <li>참고경로 : <a href="https://security.gentoo.org/glsa/201702-26">https://security.gentoo.org/glsa/201702-26</a></li> </ul>		
<b>개발회사/커뮤니티</b>	Nagios Enterprise/ Nagios community		
<b>공식 홈페이지</b>	<a href="https://www.nagios.org">https://www.nagios.org</a>		



## 2. 기능요약

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주요기능	지원여부
네트워크 서비스 모니터링을 할 수 있다. (SMTP, POP3, HTTP, NNTP, PING, 등)	지원
호스트 자원 모니터링을 할 수 있다. (프로세서 부하, 디스크 사용량, 등)	지원
사용자의 서비스를 체크할 플러그인을 쉽게 개발할 수 있도록 플러그인의 디자인을 간략화 할 수 있다.	지원
병렬화된 서비스 체크가 가능하다.	지원
다운된 호스트와 통신이 되지 않는 호스트의 탐지와 구분을 가능하게 하는 트리구조의 네트워크 호스트 구조정의 기능이 있다.	지원
서비스 또는 호스트의 문제가 발생하거나 해결되었을 때 통보해준다. (이메일, SMS, 사용자정의 방법)	지원
서비스 또는 호스트 이벤트의 사전 문제 해결 시 실행될 이벤트 핸들러 정의기능이 있다.	지원

# 3. 실행환경

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## 1. OS

CentOS Linux release 7.3.1611 (Core) 환경

## 2. 사전 설치 솔루션

php-5.4.16-42.el7.x86\_64

httpd-2.4.6-45.el7.centos.4.x86\_64

gd-2.0.35-26.el7.x86\_64

gd-devel-2.0.35-26.el7.x86\_64

gcc-4.8.5-11.el7.x86\_64

glibc-2.17-157.el7\_3.5.x86\_64

glibc-common-2.17-157.el7\_3.5.x86\_64

openssl-1.0.1e-60.el7.x86\_64

perl-5.16.3-291.el7.x86\_64

perl-devel-5.16.3-291.el7.x86\_64

make-3.82-23.el7.x86\_64

## 3. Nagios package

nagios-4.3.2

nagios-plugins-2.2.1



# 4. 설치 및 실행

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## 세부 목차

- 4.1 Create Nagios user
- 4.2 Install Apache, PHP and other dependencies
- 4.3 Download Nagios package
- 4.4 Untar the Downloaded Nagios package
- 4.5 Compiling Nagios
- 4.6 Copy directory and change ownership
- 4.7 Reset nagiosadmin password
- 4.8 Start httpd and Nagios server
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- 4.11 Access the Nagios Dashboard
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- 4.13 Compiling Nagios plugin
- 4.14 Open HTTP port for Nagios Dashboard access



# 4. 설치 및 실행

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## 4.1 Create Nagios user, nagcmd group

- Nagios package를 설치하기 위한 nagios 사용자 및 nagcmd 그룹을 생성
  - useradd nagios
  - groupadd nagcmd
  - usermod -a -G nagcmd nagios

```
[root@localhost ~]# useradd nagios
[root@localhost ~]# groupadd nagcmd
[root@localhost ~]# usermod -a -G nagcmd nagios
[root@localhost ~]#
```



# 4. 설치 및 실행

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## 4.2 Install Apache, PHP and other dependencies

- nagios 설치에 꼭 필요한 패키지
- gcc는 소스컴파일 관련 패키지, glibc는 라이브러리 관련 패키지, gd는 그래픽 관련 패키지
- yum install httpd php gd gd-devel gcc glibc glibc-common openssl perl perl-devel make

```
root@localhost ~]# yum install httpd php gd gd-devel gcc glibc glibc-common openssl perl perl-devel make
DB2053 Freeing read locks for locker 0x76e: 13040/140035603855168
DB2053 Freeing read locks for locker 0x770: 13040/140035603855168
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: ftp.kaist.ac.kr
* extras: ftp.kaist.ac.kr
* updates: ftp.kaist.ac.kr
Package gd-2.0.35-26.el7.x86_64 already installed and latest version
Package 4:perl-5.16.3-291.el7.x86_64 already installed and latest version
Package 1:make-3.82-23.el7.x86_64 already installed and latest version
Resolving Dependencies
-> Running transaction check
--> Package gcc.x86_64 0:4.8.5-11.el7 will be installed
-> Processing Dependency: cpp = 4.8.5-11.el7 for package: gcc-4.8.5-11.el7.x86_64
-> Processing Dependency: glibc-devel >= 2.2.90-12 for package: gcc-4.8.5-11.el7.x86_64
-> Processing Dependency: libmpc.so.3()(64bit) for package: gcc-4.8.5-11.el7.x86_64
--> Package gd-devel.x86_64 0:2.0.35-26.el7 will be installed
```



# 4. 설치 및 실행



## 4.3 Download Nagios package

- <http://nagios.org>에서 Nagios core package를 다운로드
  - `wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.3.2.tar.gz`

```
[root@localhost ~]# wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.3.2.tar.gz
--2017-08-04 13:51:41-- http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-4.3.2.tar.gz
Resolving prdownloads.sourceforge.net (prdownloads.sourceforge.net)... 216.34.181.59
Connecting to prdownloads.sourceforge.net (prdownloads.sourceforge.net)|216.34.181.59|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.3.2/nagios-4.3.2.tar.gz [following]
--2017-08-04 13:51:41-- http://downloads.sourceforge.net/project/nagios/nagios-4.x/nagios-4.3.2/nagios-4.3.2.tar.gz
Resolving downloads.sourceforge.net (downloads.sourceforge.net)... 216.34.181.59
Connecting to downloads.sourceforge.net (downloads.sourceforge.net)|216.34.181.59|:80... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://jaist.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.3.2/nagios-4.3.2.tar.gz [following]
--2017-08-04 13:51:42-- https://jaist.dl.sourceforge.net/project/nagios/nagios-4.x/nagios-4.3.2/nagios-4.3.2.tar.gz
Resolving jaist.dl.sourceforge.net (jaist.dl.sourceforge.net)... 150.65.7.130, 2001:df0:2ed:feed::feed
Connecting to jaist.dl.sourceforge.net (jaist.dl.sourceforge.net)|150.65.7.130|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11096863 (11M) [application/x-gzip]
Saving to: 'nagios-4.3.2.tar.gz'

100%[=====>] 11,096,863  4.57MB/s  in 2.3s

2017-08-04 13:51:45 (4.57 MB/s) - 'nagios-4.3.2.tar.gz' saved [11096863/11096863]
```



# 4. 설치 및 실행

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## 4.4 Untar the Downloaded Nagios package

- 다운로드한 Nagios package를 압축 해제
  - tar -zxvf nagios-4.3.2.tar.gz

```
[root@localhost ~]# tar -zxvf nagios-4.3.2.tar.gz
nagios-4.3.2/
nagios-4.3.2/.gitignore
nagios-4.3.2/Changelog
nagios-4.3.2/INSTALLING
nagios-4.3.2/LEGAL
nagios-4.3.2/LICENSE
nagios-4.3.2/Makefile.in
nagios-4.3.2/README
nagios-4.3.2/README.asciidoc
nagios-4.3.2/THANKS
nagios-4.3.2/UPGRADING
nagios-4.3.2/base/
nagios-4.3.2/base/.gitignore
nagios-4.3.2/base/Makefile.in
nagios-4.3.2/base/broker.c
nagios-4.3.2/base/checks.c
nagios-4.3.2/base/commands.c
nagios-4.3.2/base/config.c
nagios-4.3.2/base/events.c
nagios-4.3.2/base/flapping.c
```



# 4. 설치 및 실행



## 4.5 Compiling Nagios(1/2)

- Nagios 소스 코드를 컴파일

- cd nagios-4.0.8

- ./configure --with-command-group=nagcmd (configure는 소스파일에 대한 환경설정을 해주는 명령어이다. 서버 환경에 맞춰 makefile을 생성해주는 과정이다.)

- make all (make는 소스를 컴파일 하는 명령어이다.)

- make install (make를 통해 만들어진 설치파일을 설치하는 명령어이다.)

```
[root@localhost nagios-4.3.2]# ./configure --with-command-group=nagcmd
checking for a BSD-compatible install... /usr/bin/install -c
checking build system type... x86_64-pc-linux-gnu
checking host system type... x86_64-pc-linux-gnu
checking for gcc... gcc
checking whether the C compiler works... yes
checking for C compiler default output file name... a.out
checking for suffix of executables...
checking whether we are cross compiling... no
checking for suffix of object files... o
checking whether we are using the GNU C compiler... yes
checking whether gcc accepts -g... yes
```

1

```
[root@localhost nagios-4.3.2]# make all
cd ./base && make
make[1]: Entering directory `/root/nagios-4.3.2/base'
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nagios.o nagios.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o broker.o broker.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nebmods.o nebmods.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o ../common/shared.o ../common/shared.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o nerd.o nerd.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o query-handler.o query-handler.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o workers.o workers.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o checks.o checks.c
gcc -Wall -I. -g -O2 -DHAVE_CONFIG_H -DNSCORE -c -o config.o config.c
```

2

```
[root@localhost nagios-4.3.2]# make install
cd ./base && make install
make[1]: Entering directory `/root/nagios-4.3.2/base'
make install-basic
make[2]: Entering directory `/root/nagios-4.3.2/base'
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagios /usr/local/nagios/bin
/usr/bin/install -c -m 774 -o nagios -g nagios nagiosstats /usr/local/nagios/bin
make[2]: Leaving directory `/root/nagios-4.3.2/base'
make strip-post-install
make[2]: Entering directory `/root/nagios-4.3.2/base'
/usr/bin/strip /usr/local/nagios/bin/nagios
/usr/bin/strip /usr/local/nagios/bin/nagiosstats
make[2]: Leaving directory `/root/nagios-4.3.2/base'
make[1]: Leaving directory `/root/nagios-4.3.2/base'
```

3



# 4. 설치 및 실행

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## 4.5 Compiling Nagios(2/2)

- make install-init -> /etc/init.d 에 등록됨
- make install-commandmode -> nagios라는 user가 없으면 여기서 에러 발생
- make install-config -> /usr/local/nagios 에 설정파일이 생성됨
- make install-webconf -> /etc/httpd/conf.d/nagios.conf 생성됨

```
[root@localhost nagios-4.3.2]# make install-init
/usr/bin/install -c -m 755 -d -o root -g root /etc/rc.d/init.d
/usr/bin/install -c -m 755 -o root -g root daemon-init /etc/rc.d/init.d/nagios
```

```
*** Init script installed ***
```

```
[root@localhost nagios-4.3.2]# make install-config
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc
/usr/bin/install -c -m 775 -o nagios -g nagios -d /usr/local/nagios/etc/objects
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/nagios.cfg /usr/local/nagios/etc/nagios.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/cgi.cfg /usr/local/nagios/etc/cgi.cfg
/usr/bin/install -c -b -m 660 -o nagios -g nagios sample-config/resource.cfg /usr/local/nagios/etc/resource.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/templates.cfg /usr/local/nagios/etc/objects/templates.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/commands.cfg /usr/local/nagios/etc/objects/commands.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/contacts.cfg /usr/local/nagios/etc/objects/contacts.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/timeperiods.cfg /usr/local/nagios/etc/objects/timeperiods.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/localhost.cfg /usr/local/nagios/etc/objects/localhost.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/windows.cfg /usr/local/nagios/etc/objects/windows.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/printer.cfg /usr/local/nagios/etc/objects/printer.cfg
/usr/bin/install -c -b -m 664 -o nagios -g nagios sample-config/template-object/switch.cfg /usr/local/nagios/etc/objects/switch.cfg
```

```
*** Config files installed ***
```

Remember, these are \*SAMPLE\* config files. You'll need to read the documentation for more information on how to actually define services, hosts, etc. to fit your particular needs.

```
[root@localhost nagios-4.3.2]# make install-commandmode
/usr/bin/install -c -m 775 -o nagios -g nagcmd -d /usr/local/nagios/var/rw
chmod g+s /usr/local/nagios/var/rw
```

```
*** External command directory configured ***
```

```
[root@localhost nagios-4.3.2]# make install-webconf
/usr/bin/install -c -m 644 sample-config/httpd.conf /etc/httpd/conf.d/nagios.conf
if [ 0 -eq 1 ]; then \
    ln -s /etc/httpd/conf.d/nagios.conf /etc/apache2/sites-enabled/nagios.conf; \
fi
```

```
*** Nagios/Apache conf file installed ***
```



# 4. 설치 및 실행

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## 4.6 Copy directory and change ownership

- eventhandlers director를 /usr/local/nagios/libexec/ directory에 복사
  - cp -rvf contrib/eventhandlers/ /usr/local/nagios/libexec/

```
[root@localhost nagios-4.3.2]# cp -rvf contrib/eventhandlers/ /usr/local/nagios/libexec/
'contrib/eventhandlers/' -> '/usr/local/nagios/libexec/eventhandlers'
'contrib/eventhandlers/disable_active_service_checks' -> '/usr/local/nagios/libexec/eventhandlers/disable_active_service_checks'
'contrib/eventhandlers/enable_notifications' -> '/usr/local/nagios/libexec/eventhandlers/enable_notifications'
'contrib/eventhandlers/enable_active_service_checks' -> '/usr/local/nagios/libexec/eventhandlers/enable_active_service_checks'
'contrib/eventhandlers/distributed-monitoring' -> '/usr/local/nagios/libexec/eventhandlers/distributed-monitoring'
'contrib/eventhandlers/distributed-monitoring/submit_check_result_via_nasca' -> '/usr/local/nagios/libexec/eventhandlers/distributed-monitoring/submit_check_result_via_nasca'
'contrib/eventhandlers/distributed-monitoring/obsessive_svc_handler' -> '/usr/local/nagios/libexec/eventhandlers/distributed-monitoring/obsessive_svc_handler'
'contrib/eventhandlers/submit_check_result' -> '/usr/local/nagios/libexec/eventhandlers/submit_check_result'
'contrib/eventhandlers/redundancy-scenario1' -> '/usr/local/nagios/libexec/eventhandlers/redundancy-scenario1'
'contrib/eventhandlers/redundancy-scenario1/handle-master-host-event' -> '/usr/local/nagios/libexec/eventhandlers/redundancy-scenario1/handle-master-host-event'
'contrib/eventhandlers/redundancy-scenario1/handle-master-proc-event' -> '/usr/local/nagios/libexec/eventhandlers/redundancy-scenario1/handle-master-proc-event'
'contrib/eventhandlers/disable_notifications' -> '/usr/local/nagios/libexec/eventhandlers/disable_notifications'
[root@localhost nagios-4.3.2]#
```

- 복사한 eventhandler directory의 소유권 변경
  - chown -R Nagios:Nagios /usr/local/nagios/libexec/eventhandlers

```
[root@localhost nagios-4.3.2]# chown -R nagios:nagios /usr/local/nagios/libexec/eventhandlers
[root@localhost nagios-4.3.2]#
```



# 4. 설치 및 실행

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## 4.7 Reset nagiosadmin password

- Nagios Dashboard에 로그인할 때, 사용할 password 입력
  - ID : nagiosadmin
  - PW : 사용자지정
  - `htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin`

```
[root@localhost nagios-4.3.2]# htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin
New password:
Re-type new password:
Adding password for user nagiosadmin
[root@localhost nagios-4.3.2]# █
```



# 4. 설치 및 실행



### 4.8 Start httpd and Nagios server

- httpd 및 nagios 서비스 시작(기본적으로 웹서버가 올라와 있어야 함)
  - Systemctl start httpd.service
  - Systemctl enable Nagios.service
  - Systemctl start Nagios.service
  - Systemctl status httpd.service -> (Active : active (running) 상태면 서비스 시작이 성공이다.)
  - Systemctl status Nagios.service -> (Active : active (running) 상태면 서비스 시작이 성공이다.)

```
[root@localhost nagios-4.3.2]# systemctl start httpd.service
[root@localhost nagios-4.3.2]# systemctl enable nagios.service
nagios.service is not a native service, redirecting to /sbin/chkconfig.
Executing /sbin/chkconfig nagios on
[root@localhost nagios-4.3.2]# systemctl start nagios.service
[root@localhost nagios-4.3.2]#
```

```
[root@localhost nagios-4.3.2]# systemctl status httpd.service
● httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Fri 2017-08-04 14:03:55 KST; 1min 26s ago
     Docs: man:httpd(8)
           man:apachectl(8)
  Main PID: 16631 (httpd)
   Status: "Total requests: 0; Current requests/sec: 0; Current traffic:  0 B/sec"
    CGroup: /system.slice/httpd.service
            └─16631 /usr/sbin/httpd -DFOREGROUND
              └─16636 /usr/sbin/httpd -DFOREGROUND
                └─16637 /usr/sbin/httpd -DFOREGROUND
                  └─16638 /usr/sbin/httpd -DFOREGROUND
                    └─16639 /usr/sbin/httpd -DFOREGROUND
                      └─16640 /usr/sbin/httpd -DFOREGROUND

Aug 04 14:03:55 localhost.localdomain systemd[1]: Starting The Apache HTTP Server...
Aug 04 14:03:55 localhost.localdomain httpd[16631]: AH00558: httpd: Could not reliably determine the server's fully qualified domain name,
Aug 04 14:03:55 localhost.localdomain systemd[1]: Started The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
[root@localhost nagios-4.3.2]# systemctl status nagios.service
● nagios.service - LSB: Starts and stops the Nagios monitoring server
   Loaded: loaded (/etc/rc.d/init.d/nagios; bad; vendor preset: disabled)
   Active: active (running) since Fri 2017-08-04 14:04:52 KST; 37s ago
     Docs: man:systemd-sysv-generator(8)
```



# 4. 설치 및 실행

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## 4.9 Open HTTP port for Nagios Dashboard access

- Nagios dashboard를 접근하기 위한 http port 열기
  - firewall-cmd --zone=public --add-port=80/tcp --permanent
  - firewall-cmd --reload

```
[root@localhost nagios-4.3.2]# firewall-cmd --zone=public --add-port=80/tcp --permanent
success
[root@localhost nagios-4.3.2]# firewall-cmd --reload
success
[root@localhost nagios-4.3.2]# █
```

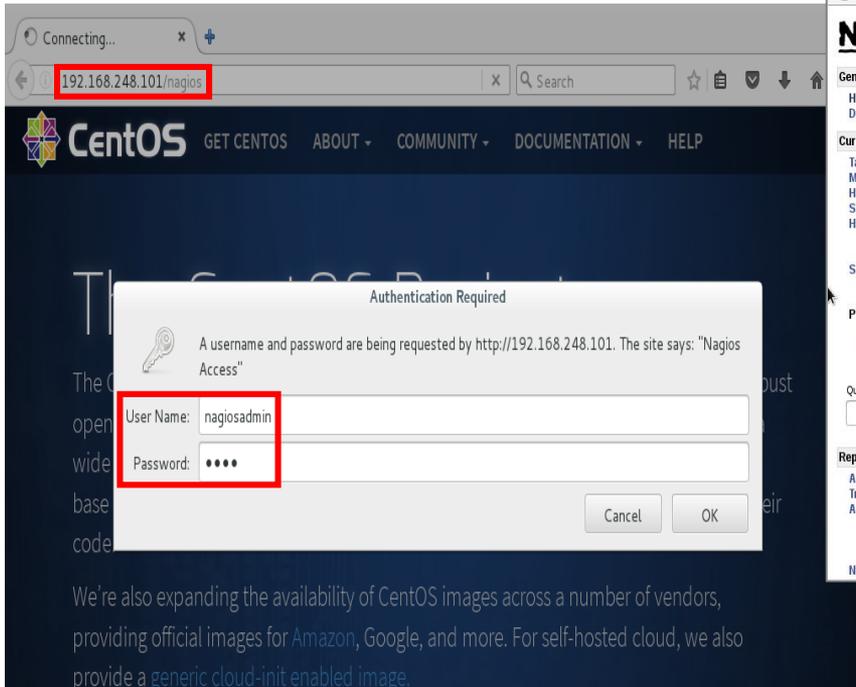


# 4. 설치 및 실행



## 4.10 Access the Nagios Dashboard(1/2)

- 서버의 IP 주소를 사용하여 Nagios dashboard에 접근
  - http://192.168.248.101(Server IP address)/Nagios
- HTTP authentication Required Box 생성
  - Username : nagiosadmin
  - Password : 사용자가 지정한 password



# 4. 설치 및 실행



## 4.10 Access the Nagios Dashboard(2/2)

- 왼쪽 사이드 바에서 'Services' 링크를 클릭하면 Nagios dashboard에서 서비스 내역을 확인
- Plugin을 설치하지 않으면 critical로 되어 다음과 같이 경고 표시가 뜨기 때문에 반드시 설치

Nagios Core on 192.168.248.101 - Mozilla Firefox

192.168.248.101/nagios/

### Nagios®

Current Network Status  
Last Updated: Fri Aug 4 19:28:00 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.2 - www.nagios.org  
Logged in as nagiosadmin

View History For all hosts  
View Notifications For All Hosts  
View Host Status Detail For All Hosts

#### Host Status Totals

Up	Down	Unreachable	Pending
0	1	0	0

All Problems All Types

1	1
---	---

#### Service Status Totals

Ok	Warning	Unknown	Critical	Pending
0	0	0	8	0

All Problems All Types

8	8
---	---

#### Service Status Details For All Hosts

Limit Results: 100

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	CRITICAL	08-04-2017 19:25:29	0d 5h 12m 31s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_load, ...) failed. errno is 2: No such file or directory
	Current Users	CRITICAL	08-04-2017 19:26:07	0d 5h 11m 53s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_users, ...) failed. errno is 2: No such file or directory
	HTTP	CRITICAL	08-04-2017 19:26:44	0d 5h 11m 16s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_http, ...) failed. errno is 2: No such file or directory
	PING	CRITICAL	08-04-2017 19:27:22	0d 5h 10m 38s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_ping, ...) failed. errno is 2: No such file or directory
	Root Partition	CRITICAL	08-04-2017 19:22:59	0d 5h 10m 1s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_disk, ...) failed. errno is 2: No such file or directory
	SSH	CRITICAL	08-04-2017 19:23:37	0d 5h 9m 23s	3/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_ssh, ...) failed. errno is 2: No such file or directory
	Swap Usage	CRITICAL	08-04-2017 19:24:14	0d 5h 13m 46s	2/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_swap, ...) failed. errno is 2: No such file or directory
	Total Processes	CRITICAL	08-04-2017 19:24:52	0d 5h 13m 8s	2/4	(No output on stdout) stderr: execvp(/usr/local/nagios/libexec /check_procs, ...) failed. errno is 2: No such file or directory

Results 1 - 8 of 8 Matching Services

Page Tour

192.168.248.101/nagios/cgi-bin/status.cgi?host=all

# 4. 설치 및 실행



## 4.11 Download Nagios plugin

- [http:// www.nagios-plugins.org](http://www.nagios-plugins.org)에서 Nagios plugin을 다운로드
  - 현재 최신 package는 nagios-plugins-2.0.3 이다.
  - `wget http://www.nagios-plugins.org/download/nagios-plugins-2.0.3.tar.gz`

```
[root@localhost ~]# wget http://www.nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz
--2017-08-04 19:32:40-- http://www.nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz
Resolving www.nagios-plugins.org (www.nagios-plugins.org)... 72.14.186.43
Connecting to www.nagios-plugins.org (www.nagios-plugins.org)|72.14.186.43|:80... connected.
HTTP request sent, awaiting response... 301 Moved Permanently
Location: http://nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz [following]
--2017-08-04 19:32:41-- http://nagios-plugins.org/download/nagios-plugins-2.2.1.tar.gz
Resolving nagios-plugins.org (nagios-plugins.org)... 72.14.186.43
Reusing existing connection to www.nagios-plugins.org:80.
HTTP request sent, awaiting response... 200 OK
Length: 2728818 (2.6M) [application/x-gzip]
Saving to: 'nagios-plugins-2.2.1.tar.gz'

100%[=====] 2,728,818 302KB/s in 12s

2017-08-04 19:32:53 (231 KB/s) - 'nagios-plugins-2.2.1.tar.gz' saved [2728818/2728818]
```



# 4. 설치 및 실행

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## 4.12 Untar the Downloaded Nagios plugin

- 다운로드한 Nagios plugin을 압축 해제
  - tar -zxvf nagios-plugins-2.2.1.tar.gz

```
[root@localhost ~]# tar -zxvf nagios-plugins-2.2.1.tar.gz
nagios-plugins-2.2.1/
nagios-plugins-2.2.1/perlmods/
nagios-plugins-2.2.1/perlmods/Config-Tiny-2.14.tar.gz
nagios-plugins-2.2.1/perlmods/parent-0.226.tar.gz
nagios-plugins-2.2.1/perlmods/Test-Simple-0.98.tar.gz
nagios-plugins-2.2.1/perlmods/Makefile.in
nagios-plugins-2.2.1/perlmods/version-0.9903.tar.gz
nagios-plugins-2.2.1/perlmods/Makefile.am
nagios-plugins-2.2.1/perlmods/Module-Runtime-0.013.tar.gz
nagios-plugins-2.2.1/perlmods/Module-Metadata-1.000014.tar.gz
nagios-plugins-2.2.1/perlmods/Params-Validate-1.08.tar.gz
nagios-plugins-2.2.1/perlmods/Class-Accessor-0.34.tar.gz
nagios-plugins-2.2.1/perlmods/Try-Tiny-0.18.tar.gz
nagios-plugins-2.2.1/perlmods/Module-Implementation-0.07.tar.gz
nagios-plugins-2.2.1/perlmods/Makefile
nagios-plugins-2.2.1/perlmods/Perl-OSType-1.003.tar.gz
nagios-plugins-2.2.1/perlmods/install_order
nagios-plugins-2.2.1/perlmods/Nagios-Plugin-0.36.tar.gz
nagios-plugins-2.2.1/perlmods/Math-Calc-Units-1.07.tar.gz
nagios-plugins-2.2.1/perlmods/Module-Build-0.4007.tar.gz
nagios-plugins-2.2.1/ABOUT-NLS
nagios-plugins-2.2.1/configure.ac
nagios-plugins-2.2.1/Makefile.in
nagios-plugins-2.2.1/config.h.in
nagios-plugins-2.2.1/ChangeLog
nagios-plugins-2.2.1/AUTHORS
nagios-plugins-2.2.1/lib/
nagios-plugins-2.2.1/lib/parse_ini.h
nagios-plugins-2.2.1/lib/extra_opts.c
nagios-plugins-2.2.1/lib/Makefile.in
nagios-plugins-2.2.1/lib/utils_cmd.h
nagios-plugins-2.2.1/lib/utils_tcp.h
nagios-plugins-2.2.1/lib/Makefile.am
```



# 4. 설치 및 실행

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## 4.13 Compiling Nagios plugin

- Nagios 소스 코드를 컴파일
  - cd Nagios-plugins-2.2.1
  - ./configure --with-command-user=nagios --with-command-group=nagcmd (configure는 소스파일에 대한 환경설정을 해주는 명령어이다. 서버 환경에 맞춰 makefile을 생성해주는 과정이다.)
  - make all (make는 소스를 컴파일 하는 명령어이다.)
  - make install (make를 통해 만들어진 설치파일을 설치하는 명령어이다.)

```
[root@localhost ~]# cd nagios-plugins-2.2.1/  
[root@localhost nagios-plugins-2.2.1]# ./configure --with-nagios-user=nagios --with-nagios-group=nagcmd
```

```
[root@localhost nagios-plugins-2.2.1]# make
```

```
[root@localhost nagios-plugins-2.2.1]# make install  
Making install in gl  
make[1]: Entering directory `/root/nagios-plugins-2.2.1/gl'  
make install-recursive  
make[2]: Entering directory `/root/nagios-plugins-2.2.1/gl'  
make[3]: Entering directory `/root/nagios-plugins-2.2.1/gl'  
make[4]: Entering directory `/root/nagios-plugins-2.2.1/gl'  
if test yes = no; then \  
  case 'linux-gnu' in \  
    darwin[56]*) \  
      need_charset_alias=true ;; \  
    darwin* | cygwin* | mingw* | pw32* | cegcc*) \  
      need_charset_alias=false ;; \  
    *) \  
      need_charset_alias=true ;; \  
  esac ; \  
else \  
  need_charset_alias=false ; \  
fi
```



# 4. 설치 및 실행



## 4.14 Open HTTP port for Nagios Dashboard access

- plugin 설치 이후 재 접속 시 몇 분 후에 Status가 OK로 변경된 것을 확인
- plugin 반영은 수 분 정도 소요될 수 있다.

**Current Network Status**  
Last Updated: Fri Aug 4 19:44:15 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.2 - www.nagios.org  
Logged in as nagiosadmin

**Host Status Totals**  
Up: 1, Down: 0, Unreachable: 0, Pending: 0  
All Problems: 0, All Types: 1

**Service Status Totals**  
Ok: 7, Warning: 1, Unknown: 0, Critical: 0, Pending: 0  
All Problems: 1, All Types: 8

**Service Status Details For All Hosts**

Host	Service	Status	Last Check	Duration	Attempt	Status Information
localhost	Current Load	OK	08-04-2017 19:40:29	0d 0h 3m 46s	1/4	OK - load average: 0.63, 0.39, 0.20
	Current Users	OK	08-04-2017 19:41:07	0d 0h 3m 8s	1/4	USERS OK - 4 users currently logged in
	HTTP	WARNING	08-04-2017 19:42:44	0d 0h 2m 31s	4/4	HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.000 second response time
	PING	OK	08-04-2017 19:42:22	0d 0h 1m 53s	1/4	PING OK - Packet loss = 0%, RTA = 0.13 ms
	Root Partition	OK	08-04-2017 19:42:59	0d 0h 1m 16s	1/4	DISK OK - free space: / 34885 MB (87.13% inode=95%):
	SSH	OK	08-04-2017 19:43:37	0d 0h 5m 38s	1/4	SSH OK - OpenSSH_6.6.1 (protocol 2.0)
	Swap Usage	OK	08-04-2017 19:39:14	0d 0h 5m 1s	1/4	SWAP OK - 100% free (8191 MB out of 8191 MB)
	Total Processes	OK	08-04-2017 19:39:52	0d 0h 4m 23s	1/4	PROCS OK: 53 processes with STATE = RSZDT

Results 1 - 8 of 8 Matching Services

# 5. 기능소개

## 세부 목차

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5.1 Log file

5.1 Status file

5.1 Config file

5.1 Nagios test scheduling

5.1 Tactical Overview

5.1 Alert History

5.1 Process Info

5.1 Performance Info

5.1 Scheduling Queue

# 5. 기능소개

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## 5.1 Log file

- **Log file (/usr/local/nagios/var/nagios.log)**

- nagios가 만드는 main log file로 nagios가 실행 될 때부터 종료 될 때까지의 모든 작업들을 기록한다.
- nagios web interface에서 이 파일을 이용하여 alerts history, notifications, Event log를 확인할 수 있다.
- 설정에 따라 하루, 일주일 등으로 구분하여 파일을 저장하는 것이 가능하다.

(/var/archives/nagios-날.log의 형식으로 저장)

```
[root@localhost ~]# cat /usr/local/nagios/var/nagios.log
[1501824368] Nagios 4.3.2 starting... (PID=4945)
[1501824368] Local time is Fri Aug 04 14:26:08 KST 2017
[1501824368] LOG VERSION: 2.0
[1501824368] qh: Socket '/usr/local/nagios/var/rw/nagios.qh' successfully initialized
[1501824368] qh: core query handler registered
[1501824368] nerd: Channel hostchecks registered successfully
[1501824368] nerd: Channel servicechecks registered successfully
[1501824368] nerd: Channel opathchecks registered successfully
[1501824368] nerd: Fully initialized and ready to rock!
[1501824368] wproc: Successfully registered manager as @wproc with query handler
[1501824368] wproc: Registry request: name=Core Worker 4950;pid=4950
[1501824368] wproc: Registry request: name=Core Worker 4947;pid=4947
[1501824368] wproc: Registry request: name=Core Worker 4948;pid=4948
[1501824368] wproc: Registry request: name=Core Worker 4949;pid=4949
[1501824369] Successfully launched command file worker with pid 4955
[1501824480] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;1;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.002 second response time
[1501824540] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;2;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.001 second response time
[1501824600] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;3;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.003 second response time
[1501824660] SERVICE ALERT: localhost;HTTP;WARNING;HARD;4;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.006 second response time
```



# 5. 기능소개



## 5.2 Status file

- **Status file (/usr/local/nagios/var/status.dat)**

- Nagios가 종료될 때까지 현재 상태, comment, 예약 종료 시간 정보 등을 저장하기 위해 쓰이는 파일이다.
- CGI가 웹 인터페이스를 통해 현재 모니터링 정보를 수집하는데 사용한다.
- 필요한 정보를 데몬에서 사용하는 데이터 파일로 사용자가 임의로 수정하면 안 된다.

```
[root@localhost ~]# cat /usr/local/nagios/var/status.dat
#####
#
# NAGIOS STATUS FILE
#
# THIS FILE IS AUTOMATICALLY GENERATED
# BY NAGIOS. DO NOT MODIFY THIS FILE!
#####

info {
    created=1501825188
    version=4.3.2
    last_update_check=1501824369
    update_available=0
    last_version=4.3.2
    new_version=4.3.2
}

programstatus {
    modified_host_attributes=0
    modified_service_attributes=0
    nagios_pid=4945
    daemon_mode=1
    program_start=1501824368
    last_log_rotation=0
    enable_notifications=1
    active_service_checks_enabled=1
    passive_service_checks_enabled=1
    active_host_checks_enabled=1
    passive_host_checks_enabled=1
    enable_event_handlers=1
    obsess_over_services=0
    obsess_over_hosts=0
    check_service_freshness=1
}
```



# 5. 기능소개



## 5.3 Config file

- **Config file** (/usr/local/nagios/etc/nagios.cfg)

→ nagios의 메인 config파일로 nagios가 필요한 각종 config 위치, 설정 값들을 셋팅 할 수 있다.

```
[root@localhost ~]# vi /usr/local/nagios/etc/nagios.cfg
#####
#
# NAGIOS.CFG - Sample Main Config File for Nagios 4.3.2
#
# Read the documentation for more information on this configuration
# file. I've provided some comments here, but things may not be so
# clear without further explanation.
#
#
#####

# LOG FILE
# This is the main log file where service and host events are logged
# for historical purposes. This should be the first option specified
# in the config file!!!

log_file=/usr/local/nagios/var/nagios.log

# OBJECT CONFIGURATION FILE(S)
# These are the object configuration files in which you define hosts,
# host groups, contacts, contact groups, services, etc.
# You can split your object definitions across several config files
# if you wish (as shown below), or keep them all in a single config file.

# You can specify individual object config files as shown below:
cfg_file=/usr/local/nagios/etc/objects/commands.cfg
cfg_file=/usr/local/nagios/etc/objects/contacts.cfg
cfg_file=/usr/local/nagios/etc/objects/timeperiods.cfg
```



# 5. 기능소개

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## 5.4 Nagios test scheduling

- Nagios test scheduling

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

→ /usr/local/nagios/bin/nagios -s /usr/local/nagios/etc/nagios.cfg

```
[root@localhost bin]# ./nagios -s ../etc/nagios.cfg

Nagios Core 4.3.2
Copyright (c) 2009-present Nagios Core Development Team and Community Contributors
Copyright (c) 1999-2009 Ethan Galstad
Last Modified: 2017-05-09
License: GPL

Website: https://www.nagios.org
Timing information on object configuration processing is listed
below. You can use this information to see if precaching your
object configuration would be useful.

Object Config Source: Config files (uncached)

OBJECT CONFIG PROCESSING TIMES      (* = Potential for precache savings with -u opt)
-----
Read:                               0.000970 sec
Resolve:                             0.000022 sec *
Recomb Contactgroups: 0.000008 sec *
Recomb Hostgroups:    0.000003 sec *
Dup Services:         0.000018 sec *
Recomb Servicegroups: 0.000001 sec *
Duplicate:             0.000002 sec *
Inherit:               0.000001 sec *
Register:              0.000038 sec
Free:                  0.000013 sec
=====
TOTAL:                  0.001076 sec * = 0.000014 sec (1.28%) estimated savings

Timing information on configuration verification is listed below.

CONFIG VERIFICATION TIMES
-----
Object Relationships: 0.000009 sec
Circular Paths:      0.000001 sec
Misc:                0.000269 sec
=====

HOST SCHEDULING INFORMATION
-----
Total hosts:                1
Total scheduled hosts:     1
Host inter-check delay method: SMART
Average host check interval: 300.00 sec
Host inter-check delay:    300.00 sec
Max host check spread:     30 min
First scheduled check:     Fri Aug 4 15:11:36 2017
Last scheduled check:     Fri Aug 4 15:11:36 2017

SERVICE SCHEDULING INFORMATION
-----
Total services:            8
Total scheduled services: 8
Service inter-check delay method: SMART
Average service check interval: 300.00 sec
Inter-check delay:        37.50 sec
Interleave factor method: SMART
Average services per host: 8.00
Service interleave factor: 8
Max service check spread: 30 min
First scheduled check:     Fri Aug 4 15:12:13 2017
Last scheduled check:     Fri Aug 4 15:16:36 2017

CHECK PROCESSING INFORMATION
-----
Average check execution time: 2.00s (pessimistic guesstimate)
Estimated concurrent checks: 1 (1.00 per cpu core)
Max concurrent service checks: Unlimited

PERFORMANCE SUGGESTIONS
-----
I have no suggestions - things look okay.
```



# 5. 기능소개

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## 5.5 Tactical Overview

### • Tactical Overview

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

The screenshot shows the Nagios Core web interface. The 'Tactical Overview' section is highlighted with a red box in the left sidebar. The main content area displays various monitoring metrics:

- Tactical Monitoring Overview:** Last Updated: Fri Aug 4 16:10:25 KST 2017, Updated every 90 seconds, Nagios® Core™ 4.3.2 - www.nagios.org, Logged in as nagiosadmin
- Monitoring Performance:**
  - Service Check Execution Time: 0.00 / 4.00 / 0.510 sec
  - Service Check Latency: 0.00 / 0.00 / 0.001 sec
  - Host Check Execution Time: 4.01 / 4.01 / 4.009 sec
  - Host Check Latency: 0.00 / 0.00 / 0.001 sec
  - # Active Host / Service Checks: 1 / 8
  - # Passive Host / Service Checks: 0 / 0
  - Checks:
- Network Outages:** 0 Outages
- Network Health:** Host Health: Service Health:
- Hosts:** 0 Down, 0 Unreachable, 1 Up, 0 Pending
- Services:** 0 Critical, 1 Warning, 0 Unknown, 7 Ok, 0 Pending
- Monitoring Features:**

Flap Detection	Notifications	Event Handlers	Active Checks	Passive Checks
✓ All Services Enabled	✓ 2 Services Disabled	✓ All Services Enabled	✓ All Services Enabled	✓ All Services Enabled
No Services Flapping	All Hosts Enabled	All Hosts Enabled	All Hosts Enabled	All Hosts Enabled
All Hosts Enabled				
No Hosts Flapping				



# 5. 기능소개



## 5.6 Alert History

### Alert History

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

The screenshot shows the Nagios Core web interface. The browser address bar indicates the URL is 192.168.248.101/nagios/. The page title is 'Nagios Core on 192.168.248.101'. The main content area is titled 'Alert History' and shows a list of alerts. The alerts are as follows:

- [08-04-2017 15:45:59] Lockfile '/usr/local/nagios/var/nagios.lock' looks like its already held by another instance of Nagios (PID 4945). Bailing out...
- [08-04-2017 15:07:45] Lockfile '/usr/local/nagios/var/nagios.lock' looks like its already held by another instance of Nagios (PID 4945). Bailing out...
- [08-04-2017 14:31:00] SERVICE ALERT: localhost;HTTP;WARNING;HARD;4;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.006 second response time
- [08-04-2017 14:30:00] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;3;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.003 second response time
- [08-04-2017 14:29:00] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;2;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.001 second response time
- [08-04-2017 14:28:00] SERVICE ALERT: localhost;HTTP;WARNING;SOFT;1;HTTP WARNING: HTTP/1.1 403 Forbidden - 5179 bytes in 0.002 second response time
- [08-04-2017 14:26:08] Nagios 4.3.2 starting... (PID=4945)

The sidebar on the left contains the following navigation links:

- General
  - Home
  - Documentation
- Current Status
  - Tactical Overview
  - Map (Legacy)
  - Hosts
  - Services
  - Host Groups
    - Summary
    - Grid
  - Service Groups
    - Summary
    - Grid
  - Problems
    - Services (Unhandled)
    - Hosts (Unhandled)
    - Network Outages
  - Quick Search:
- Reports
  - Availability
  - Trends (Legacy)
  - Alerts
    - History
    - Summary
    - Histogram (Legacy)

# 5. 기능소개



## 5.6 Process Info

- Process Info

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

**Nagios Core on 192.168.248.101**

192.168.248.101/nagios/

**Nagios®**

**Nagios Process Information**  
Last Updated: Fri Aug 4 16:06:32 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.2 - www.nagios.org  
Logged in as nagiosadmin

**General**  
Home  
Documentation

**Current Status**  
Tactical Overview  
Map (Legacy)  
Hosts  
Services  
Host Groups  
  Summary  
  Grid  
Service Groups  
  Summary  
  Grid  
Problems  
  Services (Unhandled)  
  Hosts (Unhandled)  
  Network Outages  
Quick Search:  
[ ]

**Process Information**

Program Version:	4.3.2
Program Start Time:	08-04-2017 14:26:08
Total Running Time:	0d 1h 40m 24s
Last Log File Rotation:	N/A
Nagios PID	4945
Notifications Enabled?	YES
Service Checks Being Executed?	YES
Passive Service Checks Being Accepted?	YES
Host Checks Being Executed?	YES
Passive Host Checks Being Accepted?	YES
Event Handlers Enabled?	Yes
Obsessing Over Services?	No
Obsessing Over Hosts?	No
Flap Detection Enabled?	Yes
Performance Data Being Processed?	No

**Process Commands**

- Shutdown the Nagios process
- Restart the Nagios process
- Disable notifications
- Stop executing service checks
- Stop accepting passive service checks
- Stop executing host checks
- Stop accepting passive host checks
- Disable event handlers
- Start obsessing over services
- Start obsessing over hosts
- Disable flap detection
- Enable performance data

**Reports**  
Availability  
Trends (Legacy)  
Alerts  
  History  
  Summary  
  Histogram (Legacy)  
Notifications  
Event Log

**System**  
Comments  
Downtime  
**Process Info**

# 5. 기능소개



## 5.8 Performance Info

- Performance Info

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

The screenshot shows the Nagios Performance Information page. The left sidebar contains navigation links: Home, Documentation, Current Status (Tactical Overview, Map (Legacy), Hosts, Services, Host Groups, Service Groups, Problems), Reports (Availability, Trends (Legacy), Alerts, Notifications, Event Log), and System (Comments, Downtime, Process Info, Performance Info, Scheduling Queue, Configuration). The main content area is titled 'Performance Information' and includes 'Program-Wide Performance Information' with several tables for Services, Hosts, and Check Statistics. The 'Performance Info' link in the sidebar is highlighted with a red box.

**Performance Information**  
Last Updated: Fri Aug 4 16:09:28 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.2 - www.nagios.org  
Logged in as nagiosadmin

**Program-Wide Performance Information**

Time Frame	Services Checked	Metric	Min.	Max.	Average
<= 1 minute:	2 (25.0%)	Check Execution Time:	0.00 sec	4.00 sec	0.511 sec
<= 5 minutes:	8 (100.0%)	Check Latency:	0.00 sec	0.00 sec	0.001 sec
<= 15 minutes:	8 (100.0%)	Percent State Change:	0.00%	3.75%	0.47%
<= 1 hour:	8 (100.0%)				
Since program start:	8 (100.0%)				

Time Frame	Services Checked	Metric	Min.	Max.	Average
<= 1 minute:	0 (0.0%)	Percent State Change:	0.00%	0.00%	0.00%
<= 5 minutes:	0 (0.0%)				
<= 15 minutes:	0 (0.0%)				
<= 1 hour:	0 (0.0%)				
Since program start:	0 (0.0%)				

Time Frame	Hosts Checked	Metric	Min.	Max.	Average
<= 1 minute:	0 (0.0%)	Check Execution Time:	4.01 sec	4.01 sec	4.009 sec
<= 5 minutes:	1 (100.0%)	Check Latency:	0.00 sec	0.00 sec	0.001 sec
<= 15 minutes:	1 (100.0%)	Percent State Change:	0.00%	0.00%	0.00%
<= 1 hour:	1 (100.0%)				
Since program start:	1 (100.0%)				

Time Frame	Hosts Checked	Metric	Min.	Max.	Average
<= 1 minute:	0 (0.0%)	Percent State Change:	0.00%	0.00%	0.00%
<= 5 minutes:	0 (0.0%)				
<= 15 minutes:	0 (0.0%)				
<= 1 hour:	0 (0.0%)				
Since program start:	0 (0.0%)				

Type	Last 1 Min	Last 5 Min	Last 15 Min
Active Scheduled Host Checks	0	1	3
Active On-Demand Host Checks	0	1	3
Parallel Host Checks	0	1	3
Serial Host Checks	0	0	0
Cached Host Checks	0	1	3
Passive Host Checks	0	0	0
Active Scheduled Service Checks	1	8	24
Active On-Demand Service Checks	0	0	0
Cached Service Checks	0	0	0
Passive Service Checks	0	0	0
External Commands	0	0	0

Type	In Use	Max Used	Total Available
External Commands	0	0	0



# 5. 기능소개



## 5.9 Scheduling Queue

- Scheduling Queue

→ 현재 config 파일을 기반으로 예상 / 권장 check scheduling 및 기타 진단 정보를 볼 수 있다.

**Check Scheduling Queue**  
Last Updated: Fri Aug 4 16:07:39 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.2 - www.nagios.org  
Logged in as nagiosadmin

Entries sorted by next check time (ascending)

Host	Service	Last Check	Next Check	Type	Active Checks	Actions
localhost	PING	08-04-2017 16:03:38	08-04-2017 16:08:38	Normal	ENABLED	✖ ⌚
localhost	Root Partition	08-04-2017 16:04:15	08-04-2017 16:09:15	Normal	ENABLED	✖ ⌚
localhost	SSH	08-04-2017 16:04:53	08-04-2017 16:09:53	Normal	ENABLED	✖ ⌚
localhost	Swap Usage	08-04-2017 16:05:30	08-04-2017 16:10:30	Normal	ENABLED	✖ ⌚
localhost	HTTP	08-04-2017 16:06:00	08-04-2017 16:11:00	Normal	ENABLED	✖ ⌚
localhost	Total Processes	08-04-2017 16:06:08	08-04-2017 16:11:08	Normal	ENABLED	✖ ⌚
localhost	Current Load	08-04-2017 16:06:45	08-04-2017 16:11:45	Normal	ENABLED	✖ ⌚
localhost	Current Users	08-04-2017 16:07:23	08-04-2017 16:12:23	Normal	ENABLED	✖ ⌚
localhost		08-04-2017 16:07:29	08-04-2017 16:12:33	Normal	ENABLED	✖ ⌚

# 6. 활용예제

**Nagios**<sup>®</sup>



## 세부 목차

- 6.1 예제 소개
- 6.2 Add the epel repository
- 6.3 Install nrpe and nagios-plugins
- 6.4 Configure Nagios Client and Start nrpe service on client
- 6.5 Add the clients in the configuration file on Nagios server
- 6.6 Create a servers directory and configure file
- 6.7 Refresh nagios admin console in the browser



# 6. 활용예제

**Nagios**<sup>®</sup>



## 6.1 예제 소개

- 본 예제는 Nagios를 사용하여 여러 대의 서버를 연결하여 모니터링할 수 있도록 구성하는 것을 목표로 한다.
- 성능이 수집되어야 할 서버에 Client를 설치해서 Nagios 서버로 전송하는 방식을 사용
- Nrpe를 사용하여 서버가 원격에 있는 스크립트를 수행하여 결과를 전송 받는 형태  
-> nrpe : 원격 서버를 모니터링 할 수 있다. 모니터링 할 서버의 nrpe.cfg 를 보고 그 항목을 감시할 수 있다.
- OS 환경 구성
  - **Nagios server** ( 앞서 설치한 Nagios로 사용하기 때문에 설치과정은 생략한다. )  
Operating system : CentOS Linux release 7.3.1611 (Core)  
IP Address : 192.168.248.104/22
  - **Nagios client**  
Operating System : CentOS Linux release 7.3.1611 (Core)  
IP Address : 192.168.248.103/22



# 6. 활용예제



## 6.2 Add the epel repository

- **add the epel repository and install nrpe, nagios-plugins**

→ 공식 CentOS와 Red Hat Enterprise Linux의 저장소에 포함되지 않은 패키지를 설치하기 위해 EPEL repository를 설치한다.

- yum install epel-release -y

```
[root@localhost ~]# yum install epel-release
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: ftp.daumkakao.com
 * extras: ftp.daumkakao.com
 * updates: ftp.daumkakao.com
Resolving Dependencies
--> Running transaction check
--> Package epel-release.noarch 0:7-9 will be installed
--> Finished Dependency Resolution
```



# 6. 활용예제

**Nagios**<sup>®</sup>



## 6.3 Install nrpe and nagios-plugins

- **install nrpe, nagios-plugins**

→ 모니터링 할 Nagios client를 추가한다.

→ nrpe와 nagios-plugins는 monitoring target에 추가하기 위해 필요하다.

- yum install nrpe nagios-plugins nagios-plugins-users nagios-plugins-load nagios-plugins-swap nagios-plugins-disk nagios-plugins-procs -y

```
[root@localhost ~]# yum install nrpe nagios-plugins nagios-plugins-users nagios-plugins-load nagios-plugins-swap nagios-plugins-disk nagios-plugins-procs
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
* base: ftp.daumkakao.com
* epel: mirror.premi.st
* extras: ftp.daumkakao.com
* updates: ftp.daumkakao.com
```



# 6. 활용예제



## 6.4 Configure Nagios Client and Start nrpe service on client

- **Configure nagios client**

→ /etc/nagios/nrpe.cfg 파일을 편집하고 Nagios server IP 주소를 추가한다.

- vi /etc/nagios/nrpe.cfg

- allowed\_hosts = 127.0.0.1 **192.168.248.104 (Nagios server IP)**

```
[root@localhost ~]# vi /etc/nagios/nrpe.cfg  
[root@localhost ~]#
```

```
allowed_hosts=127.0.0.1,192.168.248.104
```

→ client에서 nrpe 서비스를 재시작한다.

- systemctl restart nrpe.service

```
[root@localhost ~]# systemctl restart nrpe.service  
[root@localhost ~]#
```



# 6. 활용예제



## 6.5 Add the clients in the configuration file on Nagios server

- **Add the clients in the configuration file on Nagios server**

→ Nagios server (192.168.248.104)에서 설정파일에 client 추가한다.

- vi /usr/local/nagios/etc/nagios.cfg
- cfg\_dir=/usr/local/nagios/etc/servers <- 주석을 제거한다.

```
[root@localhost ~]# vi /usr/local/nagios/etc/nagios.cfg  
[root@localhost ~]#
```

```
cfg_dir=/usr/local/nagios/etc/servers  
#cfg_dir=/usr/local/nagios/etc/printers  
#cfg_dir=/usr/local/nagios/etc/switches  
#cfg_dir=/usr/local/nagios/etc/routers
```



# 6. 활용예제



## 6.6 Create a servers directory and configure file

- **Create a servers directory and configure file**

→ /usr/local/nagios/etc/ 에 servers 라는 directory를 생성한다.

- mkdir /usr/local/nagios/etc/servers `[root@localhost ~]# mkdir /usr/local/nagios/etc/servers`

→ config file을 생성한 뒤, 모니터링 할 client 정보를 입력한다.

- vi /usr/local/nagios/etc/servers/client.cfg `[root@localhost ~]# vi /usr/local/nagios/etc/servers/client.cfg`

```
- define host{
use                linux-server
host_name          schoi (사용자임의)
alias              schoi (사용자임의)
address            192.168.248.103 (client IP)
max_check_attempts 5
check_period       24x7
notification_interval 30
notification_period 24x7
}
```

```
define host{
use                linux-server
host_name          schoi
alias              schoi
address            192.168.248.103
max_check_attempts 5
check_period       24x7
notification_interval 30
notification_period 24x7
}
```

→ Nagios 서버 재시작한다.

- systemctl restart nagios `[root@localhost ~]# systemctl restart nagios`



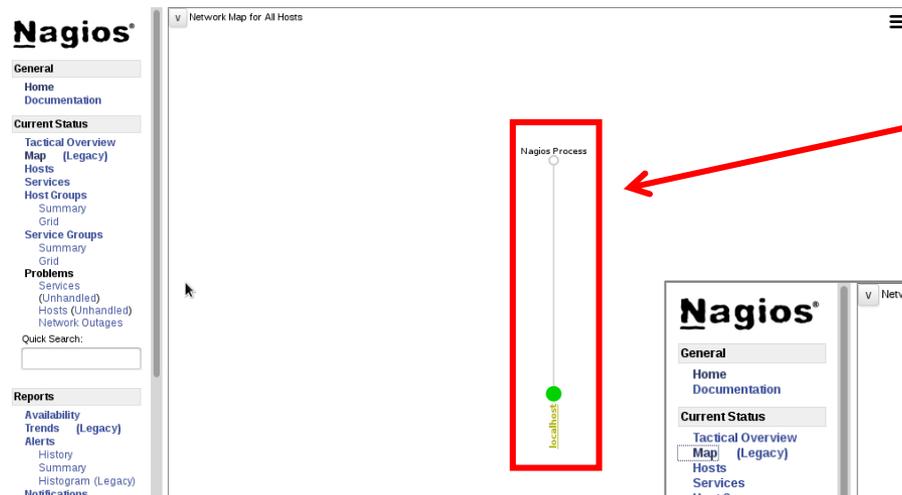
# 6. 활용예제



## 6.7 Refresh nagios admin console in the browser(1/2)

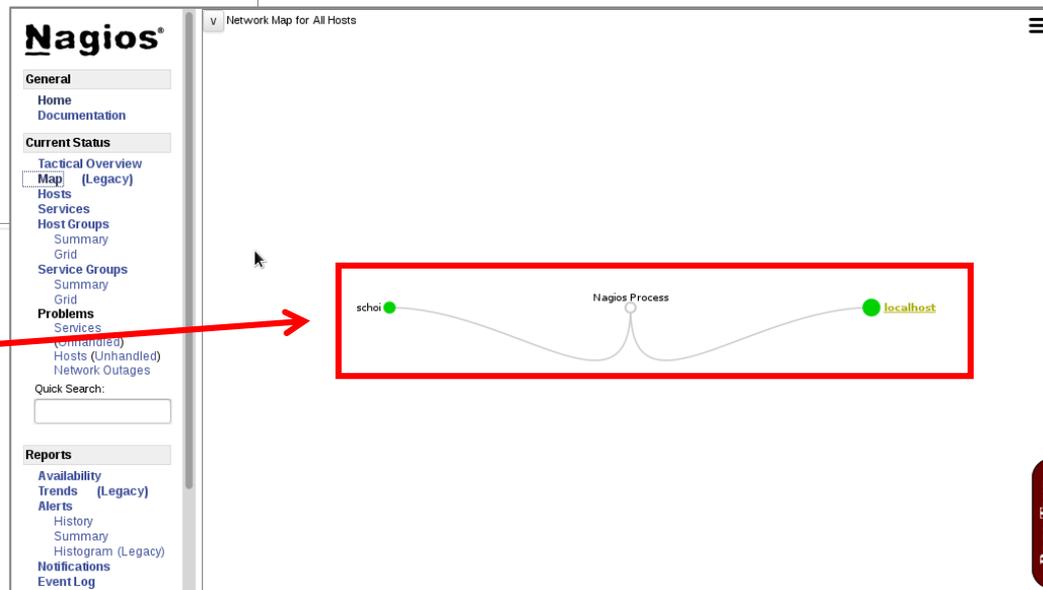
- Refresh nagios admin console in the browser

- 브라우저를 이용하여 [http://192.168.248.104\(serverIP\)/nagios](http://192.168.248.104(serverIP)/nagios) 접속한다.



기존 nagios 화면이다.

Client 추가한 뒤 nagios 화면이다.  
schoi host 가 추가된 것을 확인 가능하다.



# 6. 활용예제



## 6.7 Refresh nagios admin console in the browser(2/2)

- Refresh nagios admin console in the browser

  - 브라우저를 이용하여 Host Statue 를 확인할 수 있다.

**Current Network Status**  
Last Updated: Mon Aug 7 18:51:09 KST 2017  
Updated every 90 seconds  
Nagios® Core™ 4.3.4 - www.nagios.org  
Logged in as *nagiosadmin*

**Host Status Totals**

Up	Down	Unreachable	Pending
2	0	0	0

*All Problems All Types*

0	2
---	---

**Service Status Totals**

Ok	Warning	Unknown	Critical	Pending
7	1	0	0	0

*All Problems All Types*

1	8
---	---

**Host Status Details For All Host Groups**

Limit Results: 100

Host	Status	Last Check	Duration	Status Information
localhost	UP	08-07-2017 18:48:28	0d 1h 9m 48s	PING OK - Packet loss = 0%, RTA = 0.04 ms
schoi	UP	08-07-2017 18:48:27	0d 0h 28m 2s+	PING OK - Packet loss = 0%, RTA = 0.61 ms

Results 1 - 2 of 2 Matching Hosts



**Q** 설치시 libexec/ 서브 디렉토리가 생략되었으면, 플러그인들은 전부 어디에 있습니까?

&

**A** 플러그인은 Nagios의 별도 프로젝트로 배포되며, Nagios 설치 후 플러그인을 다운로드하고 설치해야 합니다.

플러그인 다운로드 링크( <http://www.nagios.org/download> )

**Q** 설치시 etc/ 서브 디렉토리가 생략되었다면?

&

**A** 정상적으로 설치된 상태이며, etc/ 서브 디렉토리는 'make install'을 할 때 자동으로 생성되지 않습니다. Nagios를 위한 샘플 설정 파일을 설치하기를 원한다면, 'make install-config' 명령어를 사용하면 됩니다.



# 8. 용어정리



용어	설명
PHP	<ul style="list-style-type: none"><li>• PHP(Hypertext Preprocessor)는 범용성을 지닌 널리 사용되는 오픈소스 스크립트 언어로 웹 개발 및 HTML에 포함하기에 적합하다.</li><li>• PHP는 명령 줄 인터페이스 방식의 자체 인터프리터를 제공하여 이를 통해 범용 프로그래밍 언어로도 사용할 수 있으며 그래픽 애플리케이션을 제작할 수도 있다.</li><li>• PHP는 PHP 사용 허가서의 규정을 따라 릴리즈된 자유 소프트웨어지만 PHP 사용 허가서는 PHP라는 단어의 사용에 제한을 두는 규정을 가지고 있기 때문에 GNU 일반 공중 사용 허가서와 호환되지 않는다.</li></ul>
Cross-platform	<ul style="list-style-type: none"><li>• 크로스 플랫폼(cross-platform) 또는 멀티 플랫폼(multi-platform)은 컴퓨터 프로그램, 운영 체제, 컴퓨터 언어, 프로그래밍 언어, 컴퓨터 소프트웨어 등이 여러 종류의 컴퓨터 플랫폼에서 동작할 수 있다는 것을 뜻하는 용어다.</li><li>• 크로스 플랫폼 응용 프로그램은 둘 이상의 플랫폼에서 실행할 수 있고, 이러한 종류의 소프트웨어는 멀티플랫폼 소프트웨어라고도 한다.</li></ul>
NNTP	NNTP(Network News Transfer Protocol) 는 인터넷 상의 뉴스 서버 간 뉴스를 주고 받기 위한 역할을 하는 프로토콜이다.



# Open Source Software Installation & Application Guide

**nipa** 공개SW역량프라자



이 저작물은 크리에이티브 커먼즈 [저작자표시-비영리-동일조건 변경허락 2.0 대한민국 라이선스]에 따라 이용하실 수 있습니다.