Nagios

服务名	协议	端口号	简要说明
Apache	TCP	80	以 CGI 加 php 提供Web服务，展示前端界面
Nagios	TCP		后台监控服务

一. 安装环境

```
# 安装编译环境
rpm -ivh cpp-4.4.6-3.el6.x86_64.rpm
rpm -ivh gcc-c++.x86_64 libgcc.x86_64 gcc.x86_64 libstdc++-devel

# 安装 zlib
tar zxvf zlib-1.2.5.tar.gz
cd zlib-1.2.5
./configure --prefix=/
make && make install

# 安装 jpeg
tar zxvf jpegsrc.v8d.tar.gz
cd jpegsrc-v8d
./configure
make && make install

# 安装 png
tar zxvf libpng-1.5.10.tar.gz
cd libpng-1.5.10
./configure --prefix=/usr
make && make install

# 安装 gd
tar zxvf gd-2.0.33.tar.gz
cd gd-2.0.33
./configure
make && make install

# 安装 pcre
tar zxvf pcre-8.3.0.tar.gz
cd pcre-8.3.0
./configure --enable-utf8
```

```
make && make install

# 安装 SSL 环境
yum install libssl0.9.8 openssl

# 安装 httpd （最新的 apache 2.4.2 存在兼容性问题无法使用）
tar zxf httpd-2.2.22.tar.gz
cd httpd-2.2.22
./configure --prefix=/usr/local/apache --enable-cgi --enable-so --with-pcre
make
make install

# 安装 php
tar zxf php-5.4.3
cd php-5.4.3
./configure --prefix=/usr/local/php --with-gd --with-png-dir --with-jpeg-dir --with-zlib
--with-pcre-dir --with-config-file-path=/usr/local/php/lib --with-
apxs2=/usr/local/apache/bin/apxs
make
make install
cp php.ini-production /usr/local/php/lib/php.ini

# 上面 php 会自动集成至 apache， 按下例检查： vim /usr/local/apache/conf/httpd.conf
54 #LoadModule authz_svn_module   modules/mod_authz_svn.so
55 LoadModule php5_module        modules/libphp5.so

# 取消如下一行的注释
 AddHandler cgi-script .cgi

# 增加默认首页 index.php
<IfModule dir_module>
    DirectoryIndex index.php index.html
</IfModule>

# 编辑 apache 配置文件，末尾加入如下内容：vim /usr/local/apache/conf/httpd.conf
AddType application/x-httpd-php .php .phtml .php3 .inc
AddType application/x-httpd-php-source .phps

/usr/local/apache/bin/apachectl -k start        -- 启动 apache
```

二. 添加帐号

```
# 添加 nagios 组和 nagios 帐号
groupadd nagios
groupadd nagcmd
useradd nagios -g nagios -s /bin/bash
usermod -a -G nagcmd nagios
usermod -a -G nagcmd daemon
```

三. 下载软件

```
# 下载Nagios所需的Nagios及 nagios-plugins
wget http://prdownloads.sourceforge.net/sourceforge/nagios/nagios-3.4.1.tar.gz
wget http://prdownloads.sourceforge.net/sourceforge/nagiosplug/nagios-plugins-1.4.15.tar.gz
```

四. 安装软件

```
# 安装 nagios
tar zxf nagios-4.0.6.tar.gz
cd nagios
./configure --with-command-group=nagcmd

make all
make install
make install-init
make install-config
make install-commandmode
make install-webconf
# 安装主题 ， 也可以安装新式主题 ： make install-exfoliation
make install-classicui

# 开始安装Nagios_plugins
tar zxf nagios-plugins-2.0.1.tar.gz
cd nagios-plugins-2.0.1
./configure --with-nagios-user=nagios --with-nagios-group=nagios
make
make install
```

五. 前端配置

```
# 建立密码配置文件，输入密码，以作登录Nagios之用
 htpasswd -c /usr/local/nagios/etc/htpasswd.users nagiosadmin

# 虚拟目录配置实例如下，末尾添加 ： vim /etc/apache/conf/httpd.conf

 ScriptAlias /nagios/cgi-bin "/usr/local/nagios/sbin"
 <Directory "/usr/local/nagios/sbin">
       #  SSLRequireSSL
          Options ExecCGI
          AllowOverride None
          Order allow,deny
          Allow from all
       #  Order deny,allow
       #  Deny from all
       #  Allow from 127.0.0.1
       #  AuthName "Nagios Access"
       #  AuthType Basic
       #  AuthUserFile /usr/local/nagios/etc/htpasswd.users
       #  Require valid-user
</Directory>
```

```
Alias /nagios "/usr/local/nagios/share"
<Directory "/usr/local/nagios/share">
          Options None
          AllowOverride None
          Order allow,deny
          Allow from all
       #  Order deny,allow
       #  Deny from all
       #  Allow from 127.0.0.1
       #  AuthName "Nagios Access"
       #  AuthType Basic
       #  AuthUserFile /usr/local/nagios/etc/htpasswd.users
       #  Require valid-user
</Directory>
```

六. 重载配置

```
# 重载 Apache 配置文件
/usr/local/apache/bin/apachectl -k restart

# 重启动 Nagios 服务端
/etc/init.d/nagios restart

# 取消认证 : vim /usr/local/nagios/etc/cgi.cfg
 # Setting this value to 0 will cause the CGIs to *not* use
 # authentication (bad idea), while any other value will make them
 # use the authentication functions (the default).

 use_authentication=0
```

七. 监控配置

```
# 常用配置文件说明:
/usr/local/nagios/etc/objects/templates.cfg                # 模板文件
/usr/local/nagios/etc/objects/commands.cfg                 # 定义命令
/usr/local/nagios/etc/objects/116.228.36.19.cfg            # 定义需远程监控的主机
/usr/local/nagios/etc/nagios.cfg                           # 主配置文件

# 主配置文件需要作的优化
vim /usr/local/nagios/etc/nagios.cfg
status_update_interval=10         # 状态更新频率
command_check_interval=10s        # 命令检查频率 10 秒,默认-1 尽可能频繁
interval_length=1                 # 定义每周期为 1 秒
log_rotation_method=m             # 以月为单位进行日志回滚
date_format=iso8601               # 按 2010-07-08 19: 00: 00 时间格式
use_timezone=Asia/Shanghai        # 设置时区为上海

 # 模板文件配置实例
vim /usr/local/nagios/etc/objects/templates.cfg
# 联系人模板, 定义通知相关设置
```

```
define contact{
        name                            generic-contact
        service_notification_period     24x7            # 服务通知默认时间段
        host_notification_period        24x7            # 主机通知默认时间段
        service_notification_options    w,u,c,r,f,s     # 服务通知状态
        host_notification_options       d,u,r,f,s       # 主机通知状态
        service_notification_commands   notify-service-by-spark,notify-service-by-email
        host_notification_commands      no-notify       # 不通知，在 commands.cfg 中定义
        register                        0               # 声明这是一个模板
        }

# Host 主机段模板

define host{
        name                            generic-host     # 模板名称
        notifications_enabled           1                # 启用通知
        event_handler_enabled           1                #
        flap_detection_enabled          1                # 抖动检测
        failure_prediction_enabled      1                #
        process_perf_data               1                # 收集性能数据
        retain_status_information       1                #
        retain_nonstatus_information    1                #
        notification_period             none             # 通知的时间段
        check_period                    none             # 检查的时间段
        check_command                   check-host-alive # 检查命令，在 commands.cfg 中定义
        register                        0                # 声明这是一个模板
        }

define host{
        name                            linux-server
        use                             generic-host
        check_period                    24x7             # 在 timeperiods.cfg  定义，可为 none
        check_interval                  10               # 检查频率 10 个周期
        retry_interval                  5                # 失败重试等待 5 个周期
        max_check_attempts              5                # 最大重试次数，以确定状态失败
        check_command                   check-host-alive #
        notification_period             24x7             # 状态通知时间段，同样可以为 none
        checks_enabled                  0                # 0 禁用检查，1 启用检查
        notification_enabled            1                # 1 启用通知，0 禁用通知
        notification_interval           0                # 0 一次性通知
        notification_options            d,u,r            # 通知状态
        contact_groups                  admins           # 通知联系人组
        register                        0                # 声明这是一个模板
        }

# Services 服务段模板

define service{
        name                            generic-service
        active_checks_enabled           1
        passive_checks_enabled          1
        parallelize_check               1
        obsess_over_service             1
        check_freshness                 0
        notifications_enabled           1               # 1 启用通知，0 不通知
        event_handler_enabled           1
        flap_detection_enabled          1
        failure_prediction_enabled      1
        process_perf_data               1
        retain_status_information       1
        retain_nonstatus_information    1
        is_volatile                     0
        check_period                    24x7            # 检查的时间段
        max_check_attempts              3               # 重试次数，以确定状态
        normal_check_interval           10              # 正常检查频率为每 10 个周期
        retry_check_interval            3               # 状态变化时重试检查的间隔,直到状态确定
        contact_groups                  admins
        notification_options            w,u,c,r
        notification_interval           0              # 重复通间隔, 0 代表不重复通知
        notification_period             24x7           # 发送通知的时间段
        register                        0
        }

define service{
        name                            anxin-service
        active_checks_enabled           1              # 主动检查
        passive_checks_enabled          1              # 被动检查
        parallelize_check               1
        obsess_over_service             1
        check_freshness                 1
        notifications_enabled           1              # 1 启用通知, 0 不通知
        event_handler_enabled           1
        flap_detection_enabled          1
        failure_prediction_enabled      1
        retain_status_information       1
        retain_nonstatus_information    1
        is_volatile                     0
        check_period                    24x7           # 检查的时间段
        max_check_attempts              5              # 确定状态最大次数
        normal_check_interval           10             # 正常检查频率为每 10 个周期
        retry_check_interval            3              # 状态变化时重试检查的间隔,直到状态确定
        contact_groups                  anxins         # 通知组
        notification_options            w,u,c,r        # warning|unknown|critical|recovery
        notification_interval           0              # 重复通间隔, 0 代表不重复通知
        notification_period             24x7           # 通知时间段
        register                        0
        }

# 定义服务与主机分组

 define hostgroup{
        hostgroup_name          linux-servers
        alias                   Linux Servers
        }
 define servicegroup{
        servicegroup_name       services-groupa
       }
```

# 联系人文件配置实例

```
vim /usr/local/nagios/etc/objects/contacts.cfg

define contact{
        contact_name              ping.bao
        use                       generic-contact
        alias                     18017811641
        email                     ping.bao@gmail.com
        }
define contact{
        contact_name              jing.tian
        use                       generic-contact
        alias                     13666666666
        email                     jing.tian@gmail.com
        }
define contactgroup{
        contactgroup_name         anxins
        alias                     anxin Administrators
        members                   ping.bao,jing.tian
        }
```

# 命令文件配置实例

```
vim /usr/local/nagios/etc/objects/commands.cfg

define command{
        command_name    no-notify
        command_line    /bin/echo                                       # 相当于不通知
        }

define command{
        command_name    notify-host-by-email
        command_line    /usr/bin/sendemail -u "** $NOTIFICATIONTYPE$ Host Alert: $HOSTNAME$
is $HOSTSTATE$ **" -t $CONTACTEMAIL$ -m "***** Nagios *****\n\nNotification Type:
$NOTIFICATIONTYPE$\nHost: $HOSTNAME$\nState: $HOSTSTATE$\nAddress: $HOSTADDRESS$\nInfo:
$HOSTOUTPUT$\n\nDate/Time: $LONGDATETIME$\n"
        }                                                               # 主机状态邮件通知

define command{
        command_name    notify-service-by-email
        command_line    /usr/bin/sendemail -m "***** Nagios *****\n\nNotification Type:
$NOTIFICATIONTYPE$\n\nService: $SERVICEDESC$\nHost: $HOSTALIAS$\nAddress:
$HOSTADDRESS$\nState: $SERVICESTATE$\n\nDate/Time: $LONGDATETIME$\n\nAdditional
Info:\n\n$SERVICEOUTPUT$" -u "** $NOTIFICATIONTYPE$ Service Alert: $HOSTALIAS$/
$SERVICEDESC$ is $SERVICESTATE$ **" -t $CONTACTEMAIL$
        }                                                               # 服务状态邮件通知

define command{
        command_name    notify-service-by-sms
        command_line    /usr/bin/sendsms $CONTACTALIAS$ "Service:$SERVICEDESC$,Host:
$HOSTALIAS$,State:$SERVICESTATE$,Time:$LONGDATETIME$,Info:$SERVICEOUTPUT$"
        }                                                              # 服务状态短信通知

define command{
        command_name    notify-service-by-spark
        command_line    /usr/bin/sendspark $CONTACTNAME$ "\\nNotification Type :
$NOTIFICATIONTYPE$\\n\\nService : $SERVICEDESC$\\nHost : $HOSTALIAS$\\nState :
$SERVICESTATE$\\n\\nDate/Time : $LONGDATETIME$\\n\\nAdditional Info : \\n$SERVICEOUTPUT$"
        }                                                              # 服务状态 Spark 通知

define command{
        command_name    check_nrpe
        command_line    $USER1$/check_nrpe -H $HOSTADDRESS$ -c $ARG1$
        }
define command{
        command_name    check_mysql
        command_line    $USER1$/check_mysql -H $HOSTADDRESS$ -u $ARG1$ -p $ARG2$
        }
define command{
        command_name    check_gfund_realtime
        command_line    $USER1$/check_gfund_realtime.pl
        }
define command{
        command_name    check_ntp_peer
        command_line    $USER1$/check_ntp_peer -H $HOSTADDRESS$
        }
define command {
        command_name    check_dns
        command_line    $USER1$/check_dns -H $ARG1$ -s $HOSTADDRESS$
        }

# 监控点主机配置

vim /usr/local/nagios/etc/objects/116.228.36.19.cfg

define host{
        use                     linux-server
        host_name               116.228.36.19
        alias                   116.228.36.19
        address                 116.228.36.19
        hostgroups              linux-servers
        checks_enabled          1
        }
```

```
define service{
        use                       anxin-service          # 使用服务模板名
        host_name                 116.228.36.19          # 关联的主机
        service_description       116.228.36.19:8888     # 此说明将显示于web界面
        check_command             check_http! -H 116.228.36.19 -p 8888 -u /jsw_crm/main.do
        servicegroups             services-groupa        # 所在服务组
        contact_groups            anxins                 # 如果不特意指定，将取模板中用户组
        notifications_enabled     1                      # 启用通知，不指定则取服务模板设置
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       PING
        check_command             check_ping!800.0,20%!1200.0,60%
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       SSH
        check_command             check_tcp!22             # 检查tcp 端口22
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       DNS
        check_command             check_dns!www.baidu.com  # 检查域名解析
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       NTP
        normal_check_interval     180
        check_command             check_ntp_peer           # 检查时间同步服务器
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       Root Partition
        check_command             check_nrpe!check_disk    # 使用 nrpe 检查磁盘空间
        }

define service{
        use                       generic-service
        host_name                 116.228.36.19
        service_description       116.228.36.19:convert    # 显示于web界面中的服务名称
        normal_check_interval     180                      # 每180个周期检查一次
        max_check_attempts        1                        # 1次确定最终状态
        servicegroups             services-groupa          # 服务所在的分组
        check_command             check_nrpe! check_reports
        check_period              4x5                      # 4x5时间段timeperiods.cfg
        notifications_enabled     1                        # 启用通知
        notification_period       24x7                     # 如时间段内不检查则不会有通知
        contact_groups            anxins
        notification_options      w,u,c
        }

# 监控Windows主机配置,需在Windows端安装NSClient++-0.3.9-Win32.msi

define host{
        use                       windows-server
        host_name                 192.168.1.121
        alias                     192.168.1.121
        address                   192.168.1.121
        }

define service{
        use                      generic-service
        host_name                192.168.1.121
        service_description      C
        check_command            check_nt!USEDDISKSPACE! -w 80 -c 90 -l c -s 123456
       }

# 定义时间段

vim /usr/local/nagios/etc/objects/timeperiods.cfg

define timeperiod{
        timeperiod_name 4x5                        -- 此处定义时间段名称， 供 services 调用
        alias           4 Hours A Day, 5 Days A Week
        monday          09:30-11:30,13:00-15:00
        tuesday         09:30-11:30,13:00-15:00
        wednesday       09:30-11:30,13:00-15:00
        thursday        09:30-11:30,13:00-15:00
        friday          09:30-11:30,13:00-15:00
       }

define timeperiod{
       timeperiod_name          none
       alias                    No Time Is A Good Time
       }

define timeperiod{
       name                     us-holidays
       timeperiod_name          us-holidays
       alias                    U.S. Holidays

       january 1                00:00-00:00
       monday -1 may            00:00-00:00
       july 4                   00:00-00:00
       monday 1 september       00:00-00:00
       thursday -1 november     00:00-00:00
       december 25              00:00-00:00
      }
define timeperiod{
       timeperiod_name workhours
       alias           Normal Work Hours
       monday          09:00-18:00
       tuesday         09:00-18:00
       wednesday       09:00-18:00
       thursday        09:00-18:00
       friday          09:00-18:00
      }
```

八. 异常信息

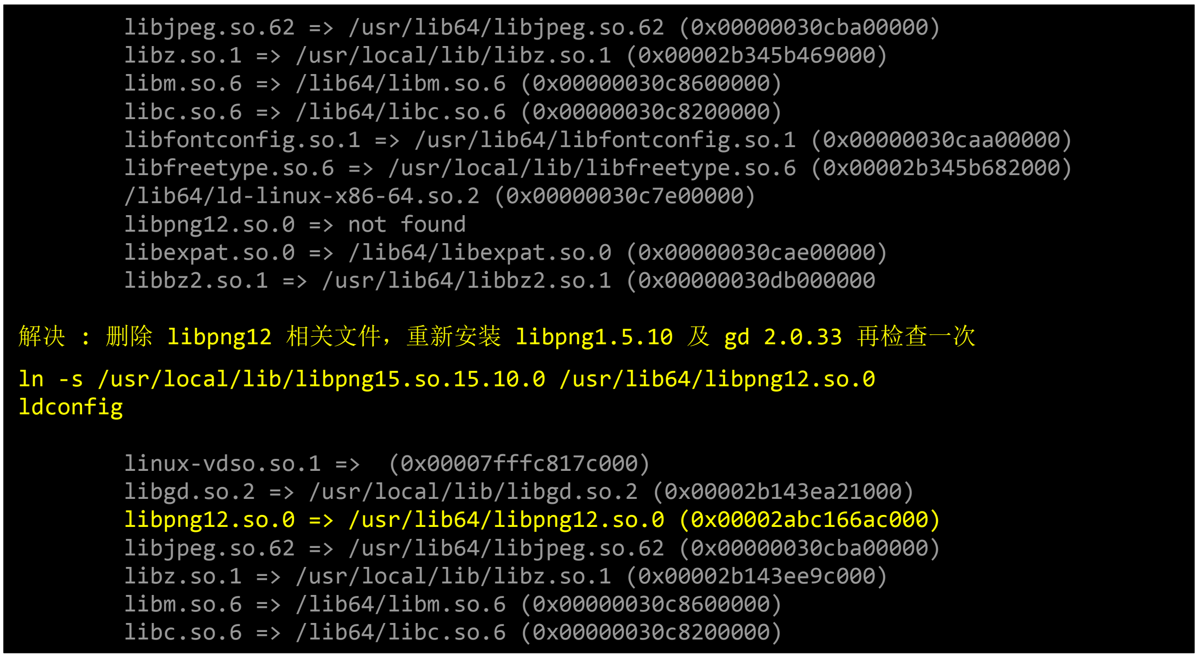
1. 错误信息 ： 界面上 Map 链接出现错误 Internal Server Error

   解决办法 ：

```
日志 : /usr/local/apache/logs/

/usr/local/nagios/sbin/statusmap.cgi: error while loading shared libraries:
libpng12.so.0: cannot open shared object file: No such file or directory, referer:
http://172.16.0.99:8080/nagios/side.php

分析 : ldd /usr/local/nagios/sbin/statusmap.cgi
        linux-vdso.so.1 =>  (0x00007fff141d3000)
        libgd.so.2 => /usr/local/lib/libgd.so.2 (0x00002b345b215000)
        libpng12.so.0 => not found
```



```
        libjpeg.so.62 => /usr/lib64/libjpeg.so.62 (0x00000030cba00000)
        libz.so.1 => /usr/local/lib/libz.so.1 (0x00002b345b469000)
        libm.so.6 => /lib64/libm.so.6 (0x00000030c8600000)
        libc.so.6 => /lib64/libc.so.6 (0x00000030c8200000)
        libfontconfig.so.1 => /usr/lib64/libfontconfig.so.1 (0x00000030caa00000)
        libfreetype.so.6 => /usr/local/lib/libfreetype.so.6 (0x00002b345b682000)
        /lib64/ld-linux-x86-64.so.2 (0x00000030c7e00000)
        libpng12.so.0 => not found
        libexpat.so.0 => /lib64/libexpat.so.0 (0x00000030cae00000)
        libbz2.so.1 => /usr/lib64/libbz2.so.1 (0x00000030db000000
```

解决 : 删除 libpng12 相关文件，重新安装 libpng1.5.10 及 gd 2.0.33 再检查一次

```
ln -s /usr/local/lib/libpng15.so.15.10.0 /usr/lib64/libpng12.so.0
ldconfig
```

```
        linux-vdso.so.1 =>  (0x00007fffc817c000)
        libgd.so.2 => /usr/local/lib/libgd.so.2 (0x00002b143ea21000)
        libpng12.so.0 => /usr/lib64/libpng12.so.0 (0x00002abc166ac000)
        libjpeg.so.62 => /usr/lib64/libjpeg.so.62 (0x00000030cba00000)
        libz.so.1 => /usr/local/lib/libz.so.1 (0x00002b143ee9c000)
        libm.so.6 => /lib64/libm.so.6 (0x00000030c8600000)
        libc.so.6 => /lib64/libc.so.6 (0x00000030c8200000)
```