NAGIOS CORE:

* Nagios is a tool for monitoring system; nagios watches computers and devices on the network and makes sure they are working as expected.
* System Monitoring in Nagios is divided into two parts:
  + Hosts: Represent the physical machine, VM, server on the network.
  + Services: these are the particular functionalities for specific hosts. Each service is associated with a host on which it’s running.
* Nagios only checks a service in 4 different states ok, Warning, critical & unknown.
* Nagios performs all of its checks using plugins. These are external plugins to which nagios passes information to on what should be checked and what are the threshold limits for the critical, warning states.
* Main Features: Nagios is very flexible and can be configured as per the requirements.
  + **Commands:** these are definitions on how nagios should perform certain type of checks. Commands are an abstraction layer on top of plugins and allow us to group similar type of actions together.
  + **Time Periods:** these are time periods over a certain action should or should not be performed.
  + **Hosts and Host Groups:** these are devices along with the possibility of grouping; a single host may be a part of multiple groups.
  + **Services:**  Functionalities or resources to be monitored on a HOST.
  + **Contact and Contact Groups:** People who should be notified when a services or host goes down or state is changed. A single contact can be a member of multiple groups
  + **Notifications:** These define who be notified of what
  + **Escalations:** These are extension of notifications. They define if a certain service is a state for a specific time then other people should be notified for the same.
* **Soft and Hard States:** nagios works on checking the state of the service and storing its value. If a service goes down, nagios performs a check on it several times to make sure this new state is permanent; this new state is termed as soft state. Once nagios is sure that this new state is permanent, it changes the state to hard state and sends out the notification to the contacts.
* **Installation of Nagios (CentOS 7):** The installation is done from the compiling the source code. Any customization made for changing the default directory for installation will be highlighted. For this installation I have used CentOS7 as base operating system and created a **sudo user nagios** 
  + **Pre-Requisites:   
    yum install gcc make imake binutils cpp postgresql-devel mysql-libs mysql-devel openssl openssl-devel pkgconfig gd gd-devel gd-progs libpng libpng-devel libjpeg libjpeg-devel perl perl-devel net-snmp net-snmp-devel net-snmp-perl net-snmp-utils httpd php**