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# Nagios XI & UCME-IT Integration

## User Guide

Version 2018



Control See Software Solutions Ltd.

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## 1. Overview

The main purpose of this document is to provide system requirements, the steps to install and integrate both the two different vendor products **Nagios XI** (Nagios Enterprises) and **UCME-IT** (Control See). Both products functionalities and purpose given below.

### 1.1 Nagios XI

**Nagios®** is a trademark of Nagios Enterprises.

**Nagios XI** provides monitoring of all mission-critical infrastructure components including applications, services, operating systems, network protocols, systems metrics, and network infrastructure. Hundreds of third-party addons provide for monitoring of virtually all in-house and external applications, services, and systems.

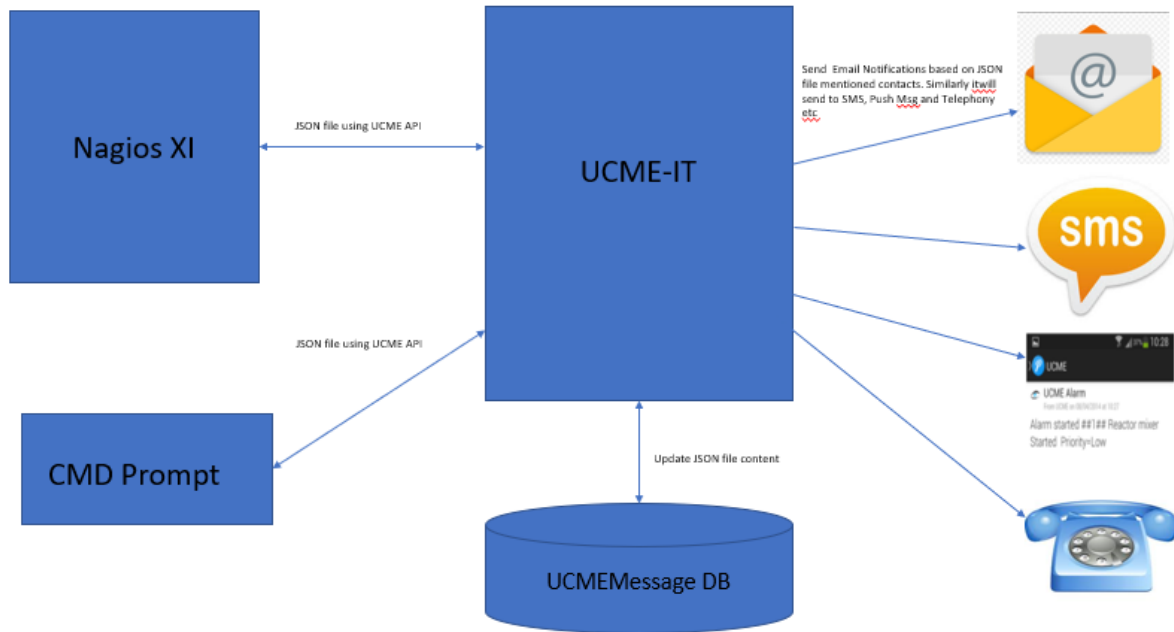
### 1.2 UCME-IT

**UCME-IT®** is a trademark of Control See Software Solutions Ltd.

**UCME-IT™** is a notification server software that enables developers to build SMS, Push, Mail & Voice communications using simple JSON or XML APIs. **UCME-IT™** runs on the customer's server. **UCME-IT™** runs on MS Windows™ operating system.

- **UCME-IT** is an event driven and multi-threaded application. It waits for messages coming from 3<sup>rd</sup> party systems via its APIs and only then it starts its notification activity.
- **UCME-IT** enables you to send alarm notification via: Phone, SMS, Email and Push.
- **UCME-IT** enables you to analyze alarms in real-time. When the alarm starts, **UCME-IT** takes a snapshot of all relevant parameters (tags) and sends them straight to your cell phone, offering you a complete picture of the system.
- In addition, **UCME-IT** enables users to perform bi-directional communication with their application by calling **UCME-IT** via phone or sending SMS command messages to **UCME-IT**.
- **UCME-IT** may dial up to 4 telephone lines concurrently, play voice messages.
- **UCME-IT** may use a cellular modem to send SMS messages and receive SMS commands. **UCME-IT** may send alarms by Email to any Email recipient.

### 1.3 Nagios XI and UCME-IT integrated diagram



## 2. System requirements

### 2.1 Nagios XI

Nagios XI has both Software and Hardware minimum system requirements. These requirements must be met in order for the software to work properly.

#### 2.1.1 Software Requirements

- Operating System: CentOS or Redhat Enterprise Linux (RHEL) versions 6, or 7
- Database: MySQL/MariaDB, plus PostgreSQL if running versions less than XI 5 or if upgrading from a pre-5 version

#### 2.1.2 Hardware Requirements

- Hard Drive: 20 GB
- Memory: 2 GB
- CPU: Dual core, 2.4 GHz

The table below provides hardware recommendations based on a node (host) to service ratio of 1:5.

Monitored Nodes / Hosts	Monitored Services	Hard Drive Space	CPU Cores	RAM
50	250	40 GB	1 – 2	1 – 4 GB
100	500	80 GB	2 – 4	4 – 8 GB
> 500	> 2500	120 GB	> 4	> 8 GB

## 2.2 UCME-IT

**UCME-IT** has both Software and Hardware minimum system requirements. These requirements must be met in order for the software to work properly.

### 2.2.1 Software Requirements

The server requires, at a minimum, the following software:

- Microsoft Windows® 7, Microsoft Windows® 8, Microsoft Windows® 8.1, Microsoft Windows® 10, Microsoft Windows® 2008 Server, Microsoft Windows® Server 2012, Microsoft Windows® Server 2016.
- Microsoft IIS® server version 6.0 or higher (In case you intend to use the web features of **UCME-IT**)
- Intel/Dialogic drivers SR 6.0 Redistributable Edition (for Telephony only)
- Internet Explorer 6.0 (in case you intend to use the web features of **UCME-IT**) or higher.
- Microsoft SQL-Server® or Microsoft SQL-Server Express version 2008 R2, 2012 (or higher version). SQL-Server is required in case you intend to log your historical data to MS-SQL database.

### 2.2.2 Hardware Requirements

**UCME-IT** requires, at a minimum, the following hardware:

- Intel Pentium III or better
- 1GB RAM
- Dialogic telephony board (D/4PCIUF) in case you intend to use the telephony features of **UCME-IT**.
- Supported cellular modems: Siemens/Cinterion/Gemalto: BGS5T, TC35iT, TC65, MC52i, MC52, MC55. Wavecom: Fastrack. 2G Sierra Wireless: GL6100 Serial 2G, GL6110 USB 2G, GL8200 serial, FX30 USB 3G, AirLink LS300 Ethernet 3G, AirLink RV50 Ethernet 4G. MultiTech: Multi-Modem 2G, MultiConnect Cell-100 3G
- SIM card (in case you intend to use the SMS features of **UCME-IT**)
- Available serial, USB or Ethernet port for the modem connection (in case you intend to use the SMS features of **UCME-IT**)
- Internet connection (in case you intend to use the HTTP-SMS protocol and an SMS Broker service)

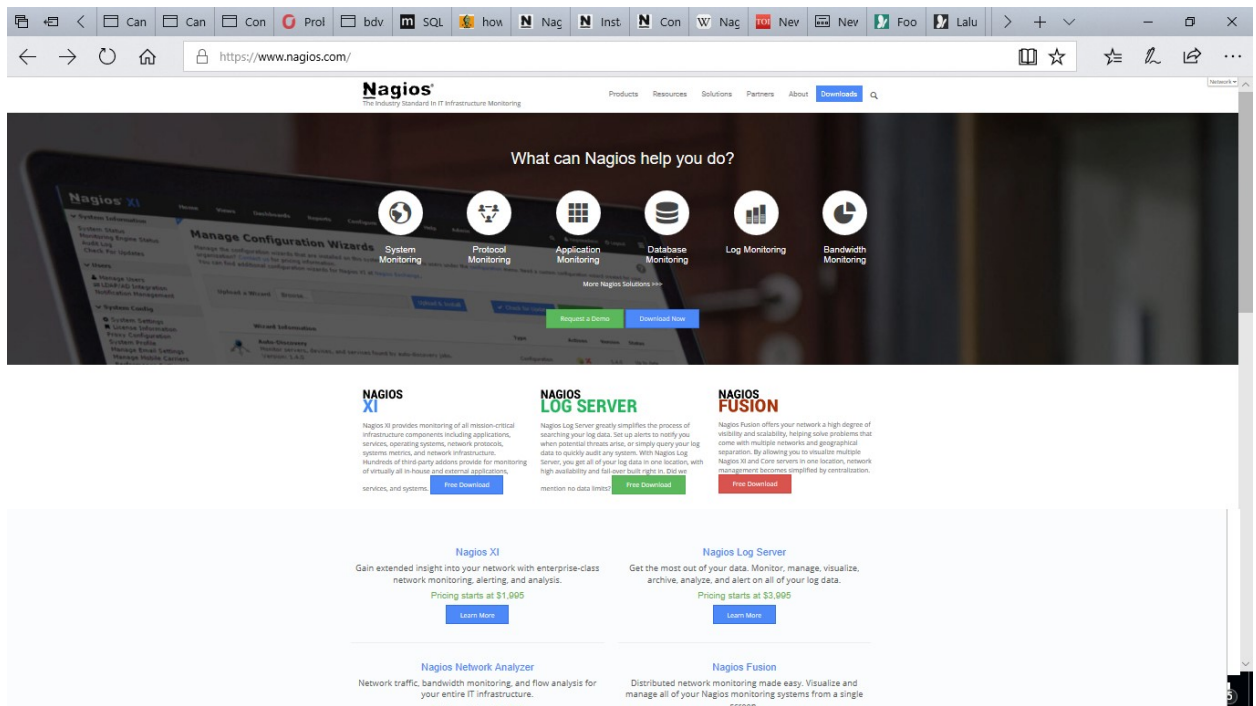
## 3. Software & Hardware Installation

### 3.1 Nagios XI Installation

#### 3.1.1 Software Installation

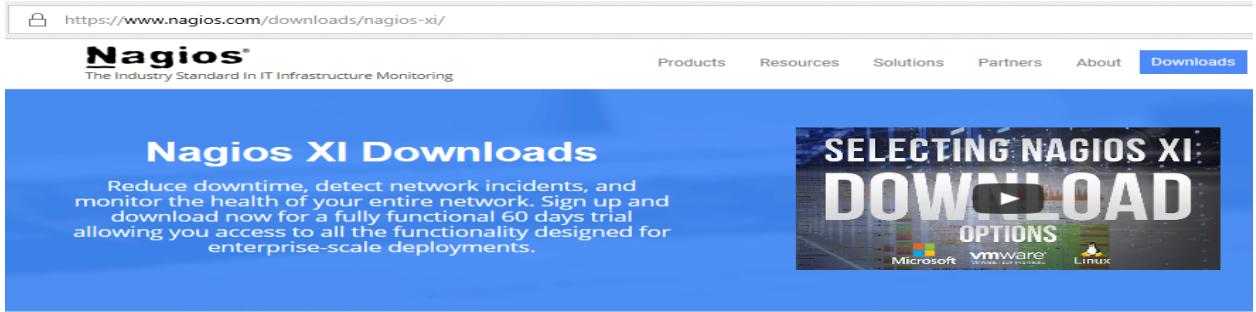
1. Go to the below Nagios website and download **Nagios XI** application.

<https://www.nagios.com/>



2. Select (**Open Virtualization Format / Hyber-V**) based on your OS installed and installed as **Installation Guide** link provided.

**Nagios XI Installation Guide:** [https://assets.nagios.com/downloads/nagiosxi/docs/Installing-Nagios-XI-with-VMware-Workstation-Player.pdf#\\_ga=2.262928140.1651268498.1516884644-569104265.1514962040](https://assets.nagios.com/downloads/nagiosxi/docs/Installing-Nagios-XI-with-VMware-Workstation-Player.pdf#_ga=2.262928140.1651268498.1516884644-569104265.1514962040)



The screenshot shows the Nagios XI Downloads page. The URL in the browser is <https://www.nagios.com/downloads/nagios-xi/>. The page features the Nagios logo and tagline "The Industry Standard In IT Infrastructure Monitoring". A navigation menu includes "Products", "Resources", "Solutions", "Partners", "About", and "Downloads". The main heading is "Nagios XI Downloads" with a sub-heading "Reduce downtime, detect network incidents, and monitor the health of your entire network. Sign up and download now for a fully functional 60 days trial allowing you access to all the functionality designed for enterprise-scale deployments." A video thumbnail titled "SELECTING NAGIOS XI: DOWNLOAD OPTIONS" shows logos for Microsoft, VMware, and Linux.

Select which platform you will be installing on.



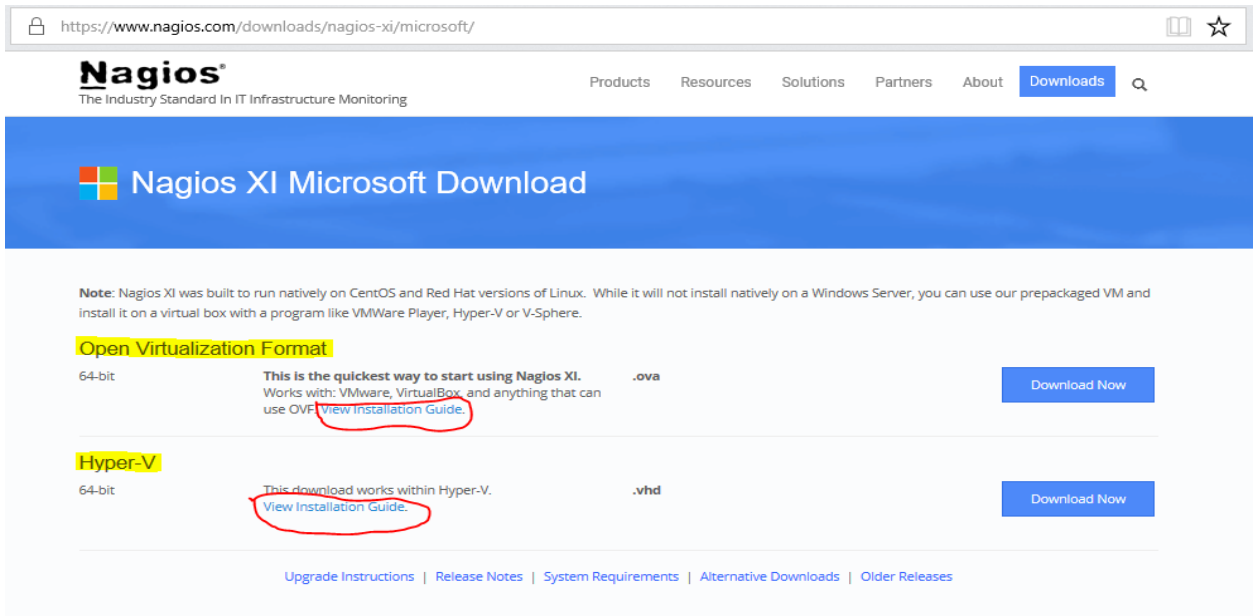
Download Now



Download Now

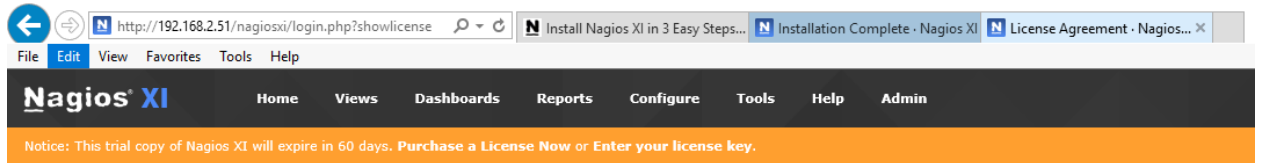
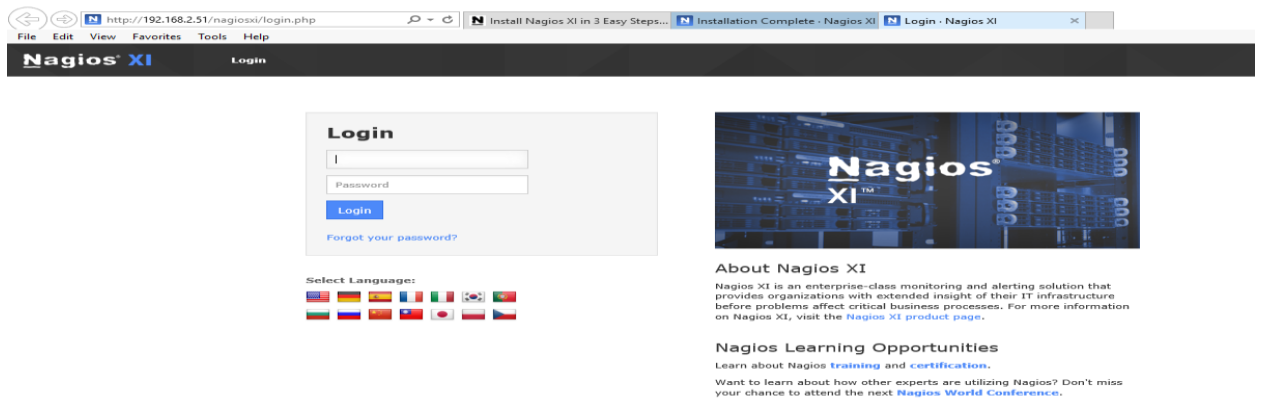
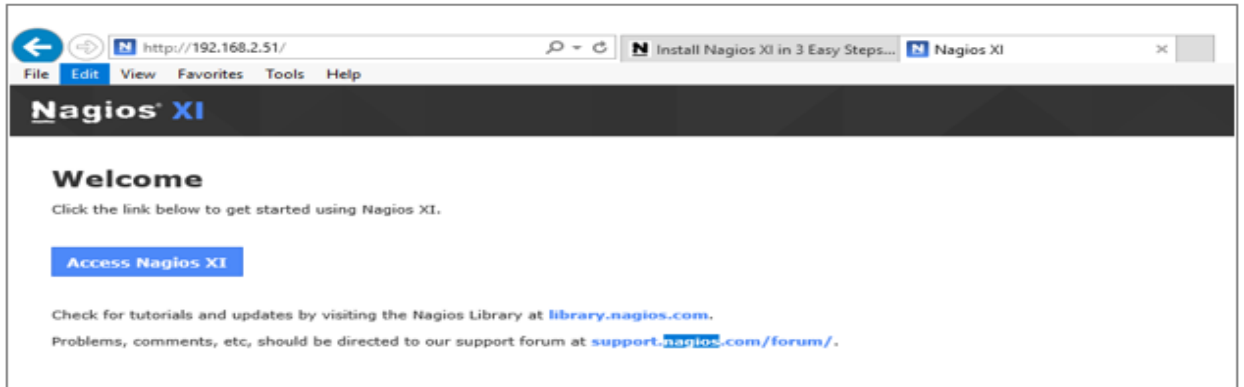


Download Now



The screenshot shows the Nagios XI Microsoft Download page. The URL in the browser is <https://www.nagios.com/downloads/nagios-xi/microsoft/>. The page features the Nagios logo and tagline "The Industry Standard In IT Infrastructure Monitoring". A navigation menu includes "Products", "Resources", "Solutions", "Partners", "About", and "Downloads". The main heading is "Nagios XI Microsoft Download". A note states: "Note: Nagios XI was built to run natively on CentOS and Red Hat versions of Linux. While it will not install natively on a Windows Server, you can use our prepackaged VM and install it on a virtual box with a program like VMWare Player, Hyper-V or V-Sphere." Two download options are listed: "Open Virtualization Format" (64-bit, .ova) and "Hyper-V" (64-bit, .vhd). Both options include a "Download Now" button and a "View Installation Guide" link. The "View Installation Guide" link for the Hyper-V option is circled in red.

3. Launch the Nagios XI and login into using credential created (**Refer Nagios XI installation Guide**) while installed.



## License Agreement

You must agree to the Nagios Software License Terms and Conditions before continuing using this software.

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1 DEFINITIONS

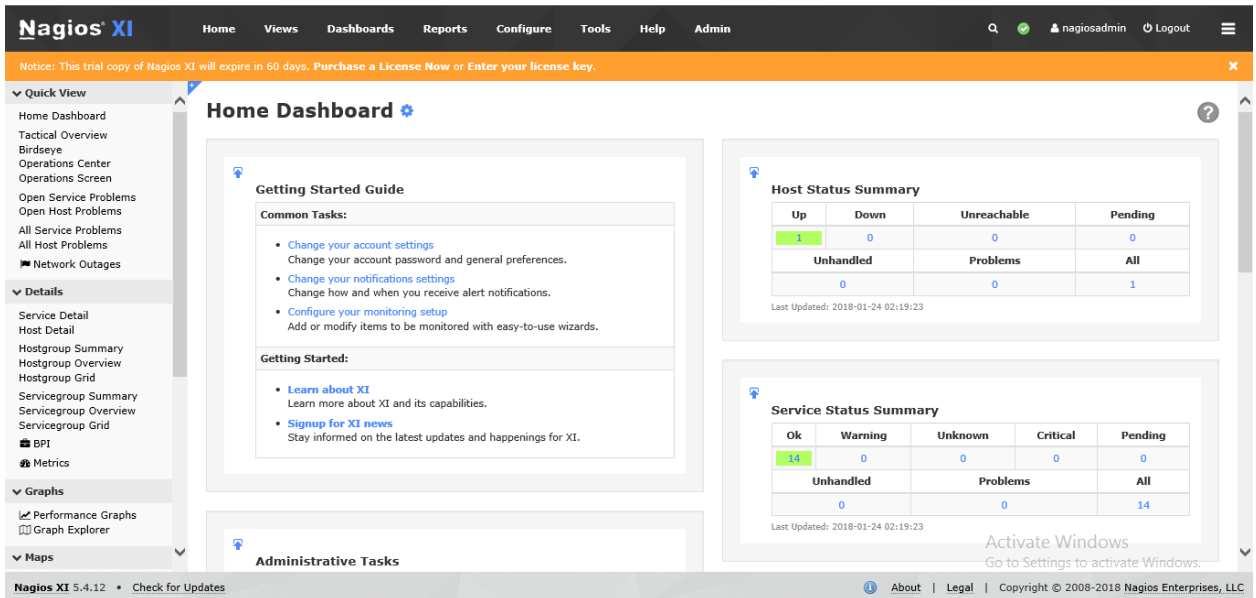
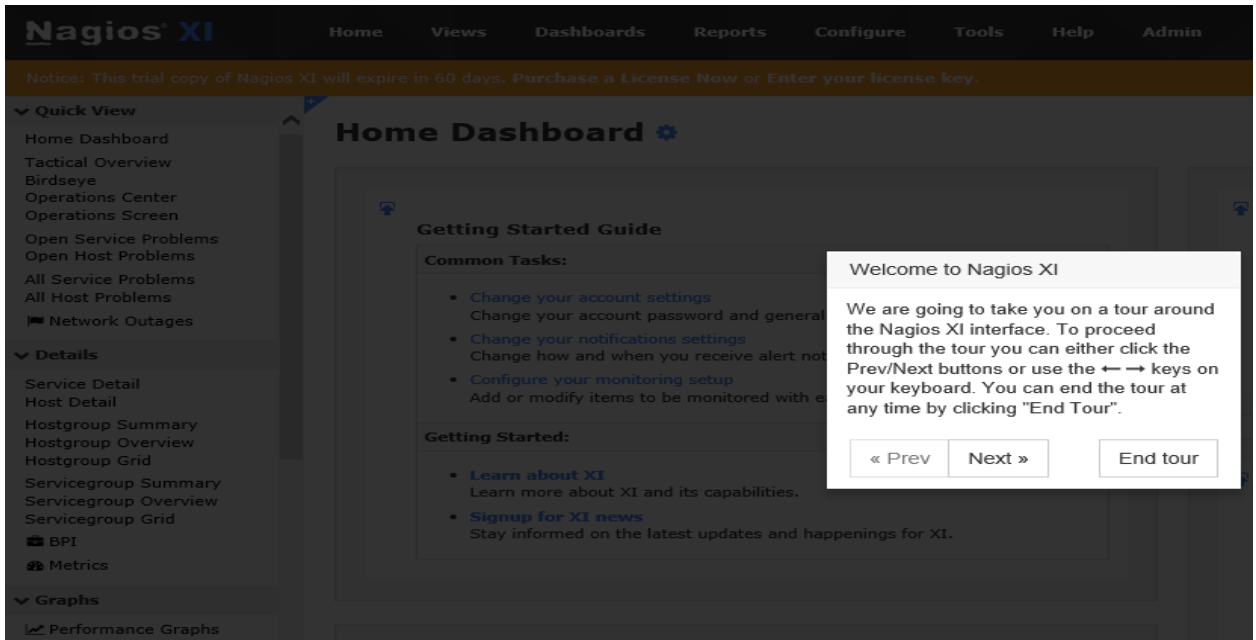
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I have read, understood, and agree to be bound by the terms of the license above.





### 3.1.2 Hardware Installation

Not required any specific hardware for Nagios XI regular installation.

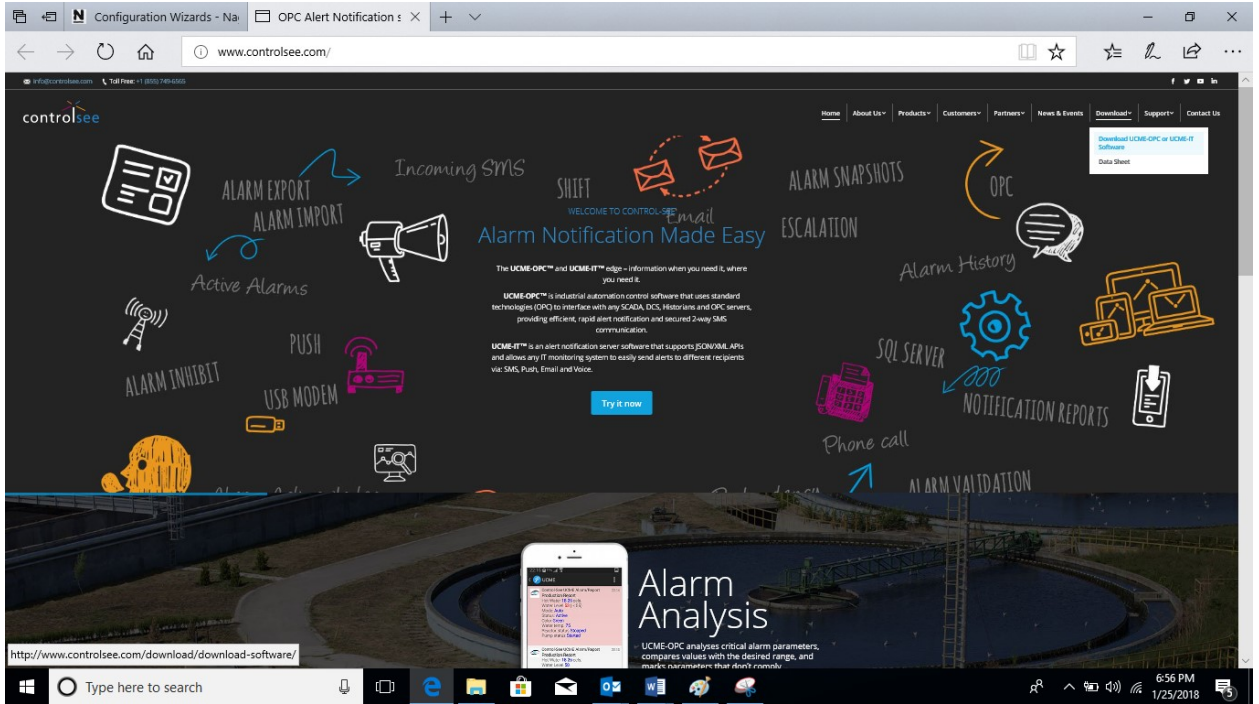
**Important Note:** *If any specific hardware details required, please refer Nagios XI Setup Guide under Installation section.*

Nagios Support Guide: <https://support.nagios.com/kb/category.php?id=83>

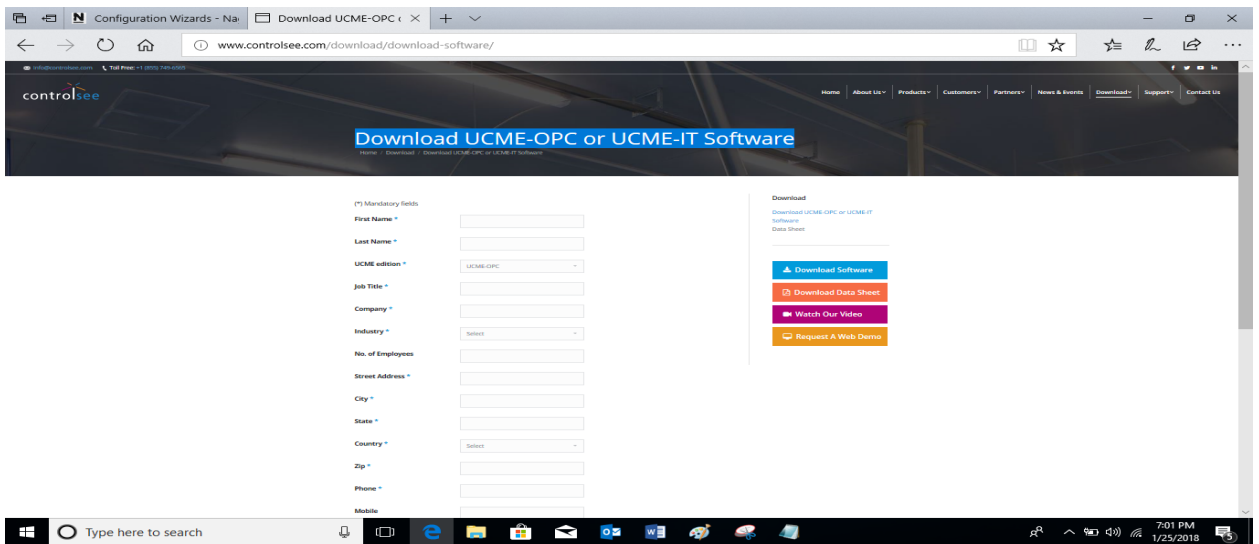
## 3.2 UCME-IT Installation

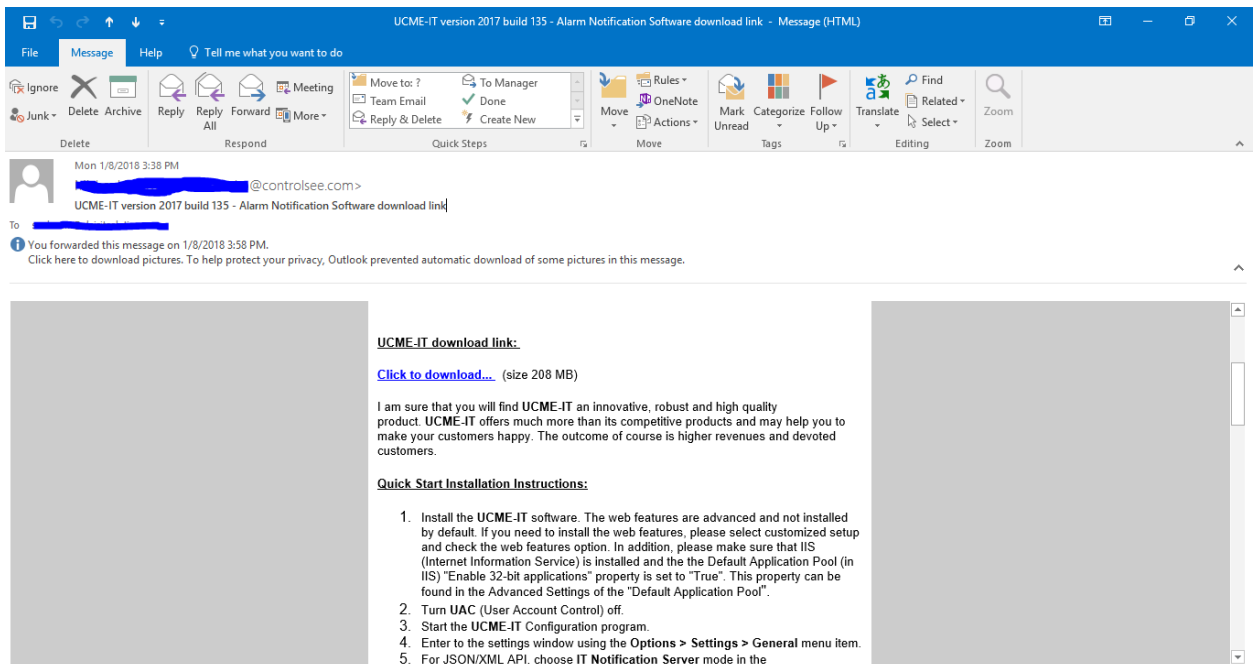
### 3.2.1 UCME-IT Software Installation

1) Go to <http://www.controlsee.com/> website and download **UCME-IT Software** by clicking **Download-> Download UCME-OPC or UCME-IT Software**.



2) After filling and submitting the below form you will get **UCME-IT** version 2017 build 137 - Alarm Notification Software download link along with Quick Installation Instructions.

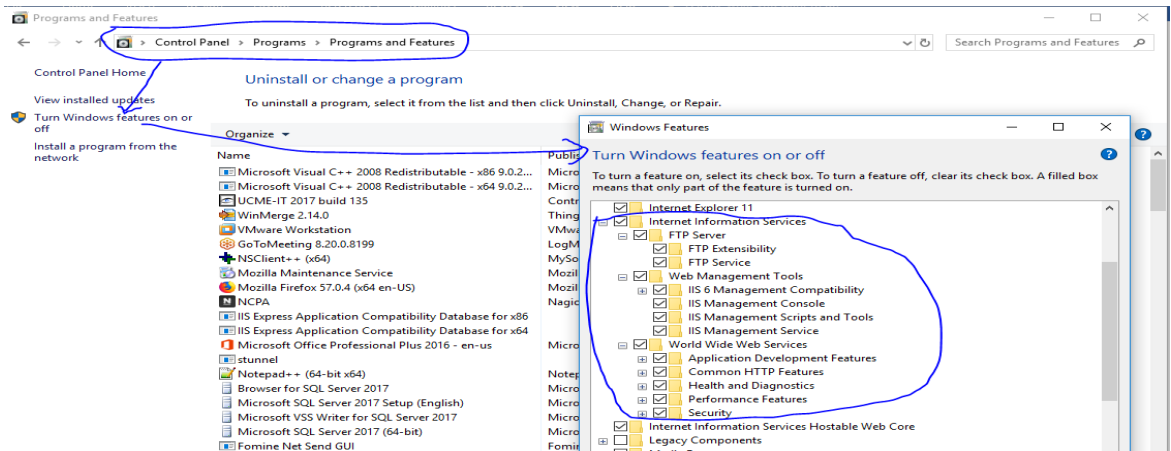




3) Make sure **Install Internet Information Service (IIS) Manager** available in your system if not already installed then follow below steps. This should be mandatory for UCME-IT Web feature support.

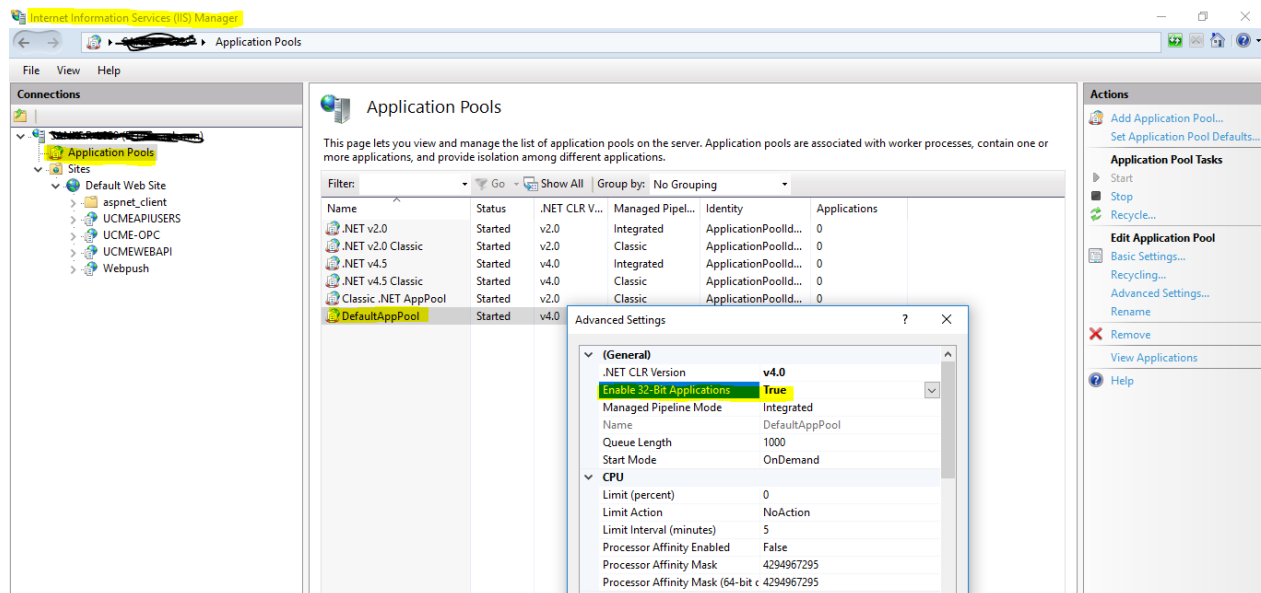
3.1) Go to **Start->Run** and type **inetmgr** and press Enter.

3.2) Click 'Turn Windows Feature on or off' and select all under 'Internet Information Service' (Refer Screen Shot)



4) Install the UCME-IT software. The web features are advanced and not installed by default. If you need to install the web features, please select customized setup and check the web features option. In addition, please make sure that IIS (Internet Information Service) is installed and the Default Application Pool (in IIS) "Enable 32-bit applications" property is set to "True". This property can be

found in the Advanced Settings of the "Default Application Pool". (Found it at Application pool → Advanced Settings)



5) To integrate **UCME-IT** with **Nagios XI**, **Web feature must be installed**. When you install **UCME-IT**, the web features will be installed by default.

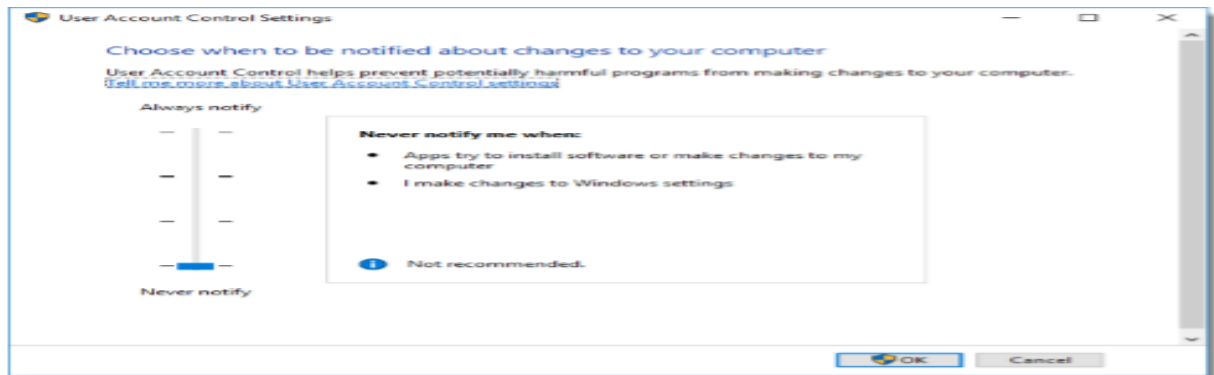
6) Turn UAC (User Account Control) off.

After **UCME-IT** is installed, UAC (User Account Control) must be turned off. This feature is enabled by default. When UAC is enabled, files created by applications are stored in a dedicated location called Virtual Store. For example: instead of creating files in the **UCME-IT** folder (C:\Program Files\Control-See\UCME-IT), the operating system will create the files in C:\Users\user\AppData\Local\VirtualStore\Program Files\Control-See\UCME-IT (where user is logged in user).

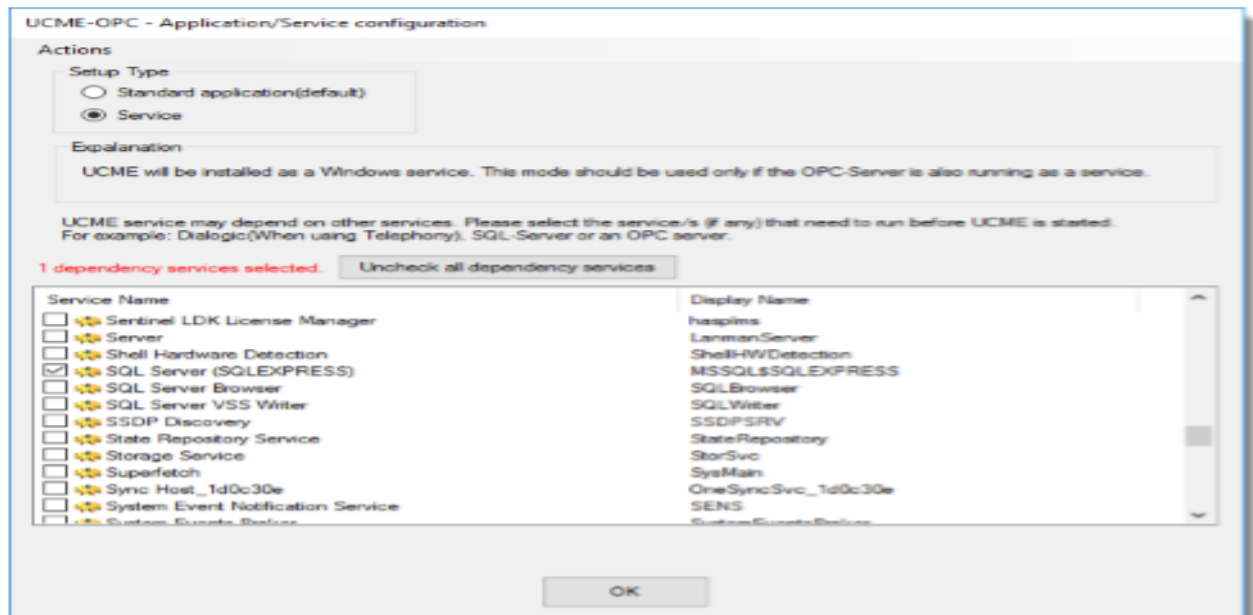
To disable UAC in Windows 7, there are several methods to access the User Account Control settings page:

1. Go to Start Menu -> Control Panel -> User Accounts and Family Safety -> User Account.
2. Go to Start Menu -> Control Panel -> System and Security -> Action Center.
3. Click or right click on Flag icon in notification area (system tray), and then Open Action Center.
4. Type "MsConfig" in Start Search to start System Configuration, then go to Tools tab, select Change UAC Settings, then click on Launch button.

1. Click on User Account Control settings link.
2. Slide the slider bar to the lowest value (towards Never Notify), with description showing Never notify.
3. Click OK to make the change effective.
4. Restart the computer to turn off User Access Control.



- 7) Installing UCME-IT as a Windows service.



Select Standard application (default) or Service. If you choose that **UCME-IT** will be installed as a Windows service, you may select the dependency services. The dependency services are services that need to be running before the **UCME-IT** service is running. For example: if you are using the Dialogic telephony features, you will need to select the Dialogic service as a dependency service. Click OK. The setup process is now completed.

You may later change this configuration by using the **UCME-IT** Service Configuration program. Installing **UCME-IT** as a Windows service has several advantages. First, **UCME-IT** will be started automatically after a computer reboot. There is no need to login to start it. Second, users can login and logoff the computer without interrupting the server. Third, you can setup recovery actions if the service fails, such as restarting the service automatically or restarting the computer.

**Important Note:** For more details, please refer **UCME-IT** User's Guide **Installation – Software** Section.

### 3.2.2 UCME-IT Hardware Installation

For more details, please refer **UCME-IT** User's Guide **Installation – Hardware** Section.

## 3.3 Nagios Agent

Download the below any one/both of the **Nagios** Agent and installed both in **Nagios** and **UCME-IT** systems. Better run NSClient++ in **UCME-IT** System and NCPA run in **Nagios** XI System.

### 3.3.1 NSClient++

This program is mainly used to monitor Windows machines. Being installed on a remote system NSClient++ listens to port TCP 12489. The Nagios plugin that is used to collect information from this addon is called `check_nt`. As NRPE, NSClient++ allows to monitor the so-called 'private services' (memory usage, CPU load, disk usage, running processes, etc.) Nagios is a host and service monitor which is designed to inform you of network problems.

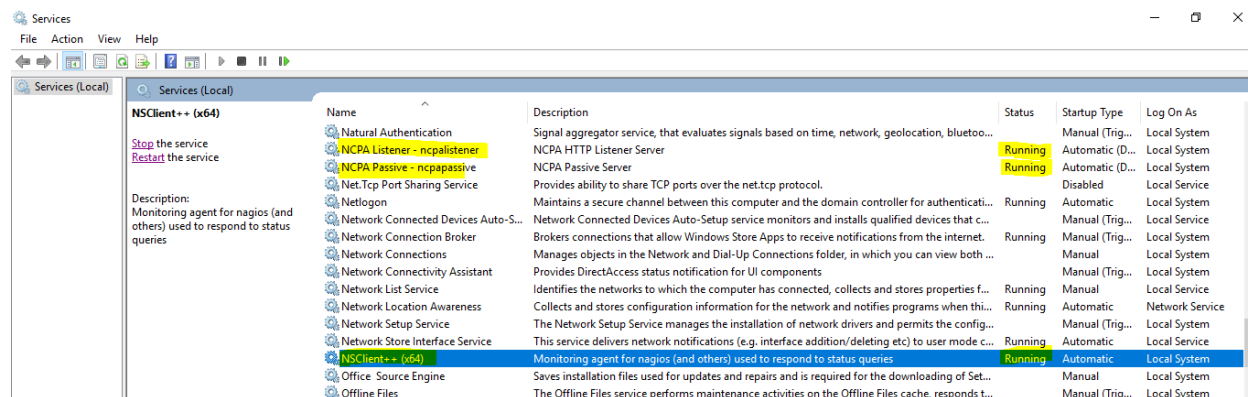
#### NSClient++ Installation Guide:

<https://www.nsclient.org/download/thank-you/?file=https%3A%2F%2Fgithub.com%2Fmickem%2Fnsclient%2Fdownloads%2F0.5.2.35%2FNSClient-0.5.2.35-x64.msi>

### 3.3.2 NCPA

The Nagios Cross Platform Agent is an [open source](#) project maintained by Nagios Enterprises.<sup>[7]</sup> NCPA installs on Windows, Linux, and Mac OS X. Created as a scale-able API that allows flexibility and simplicity in monitoring hosts. NCPA allows multiple checks such as memory usage, CPU usage, disk

usage, processes, services, and network usage. Active checks are queried through the [API](#) of the "NCPA Listener" service while passive checks are sent via the "NCPA Passive" service.



## 4.JSON file Preparation

JSON Alert type is used for alert notification, to send JSON file to **UCME-IT**. Sample JSON files can be found in C:\Program Files (x86)\Control-See\UCME-IT\APIs – See below.

Alert JSON file:

```
{ "UCMEMsg": { "MsgID": "1", "MsgType": "1", "Token": "BXRQMcsFRU1z4HQ2DfW52rtatxYV3", "Text": "Alert message text (JSON)", "Priority": "1", "VoiceFile": "voice file name", "Categories": { "N1": "category-1", "N2": "category-2", "N3": "category-3" }, "AlarmStatus": "1", "Escalation": "0", "EscalationTO": "100", "PhoneAskForPassword": "0", "PhoneAskForHashKey": "1", "MMPlayToSpeaker": "0", "Recipients": [ { "Name": "Recipient 1", "Type": "1", "Data": "18881111111", "SMSProtocolType": "1" }, { "Name": "Recipient 2", "Type": "2", "Data": "info@controlsee.com", "SMSProtocolType": "2" } ] }
```

### XML/JSON fields:

<MsgID> – A numerical message ID (Integer) that is assigned to the message. Range 1 to 32767.

<MsgType> – Use "1" for Alert and "2" for Command.

<Token> - A valid API Token. Default token is: "BXRQMcsFRU1z4HQ2DfW52rtatxYV3". You may other API tokens that will be used to identify the customer.



<Text> – Message text. Max length 500 characters. <Priority> – 1=Low, 2=Normal, 3=High, 4=Emergency

<VoiceFile> – Voice file name (string) for Telephony and multimedia. Max length 60 characters.

<Categories> – Three categories per message. Max length 20 characters.

<AlarmStatus> – Numeric. Alarm status. Use “1” for “Alarm started” or “0” for “Alarm ended” Escalation – Numeric. Use “1” for escalated notification or “0” for non-escalated notification. If “1” is defined, you should also set the Escalation-Timeout field – <EscalationTO>.

<EscalationTO> – Numeric. Escalated notification timeout. Number of minutes between each escalation.

<PhoneAskForPassword> – Numeric. Use “1” if you wish that the phone recipient is required to enter his password when the phone call is answered. Use “0” if password is not required.

<PhoneAskForHashKey> – Numeric. Use “1” if you wish that the phone recipient will be asked to press on the “#” key to acknowledge the alarm. Use “0” if this is not required.

<MMPlayToSpeaker> - Numeric. Use “1” if you wish that the voice file specified in the VoiceFile field will be played to the local loudspeakers. Use “0” if this is not required.

<Recipients>

<Count> – Number of recipients. Numeric. Minimum value: 1. Maximum value: 100.

<N1> </N1> First recipient/group name.

<N2> </N2> Second recipient/group name ...

<Nx> </Nx> Last recipient/group name

<Name> – Recipient or group name. String. Maximum length: 32. For group name is the \$Group naming convention.

<Type> – Recipient type. Numeric. Use “1” for SMS, “2” for email, “3” for Telephony and “4” for Push.

<Data> - Email address/Phone number/Push User Key. String. Max length is 100 characters.

<SMSProtocolType> - SMS protocol type. Numeric. Use “1” for “GSM-Modem”, Use “2” for “HTTP-SMS”, Use “3” for “Cellular-TEXT”.

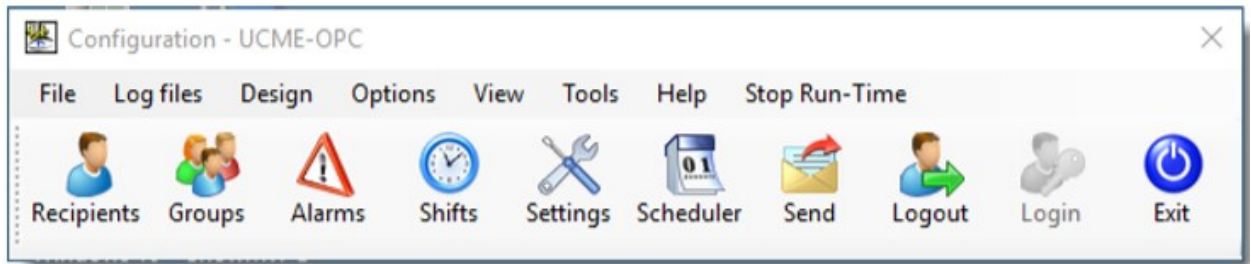
## 5. Configuration Settings

### 5.1 UCME-IT Configuration

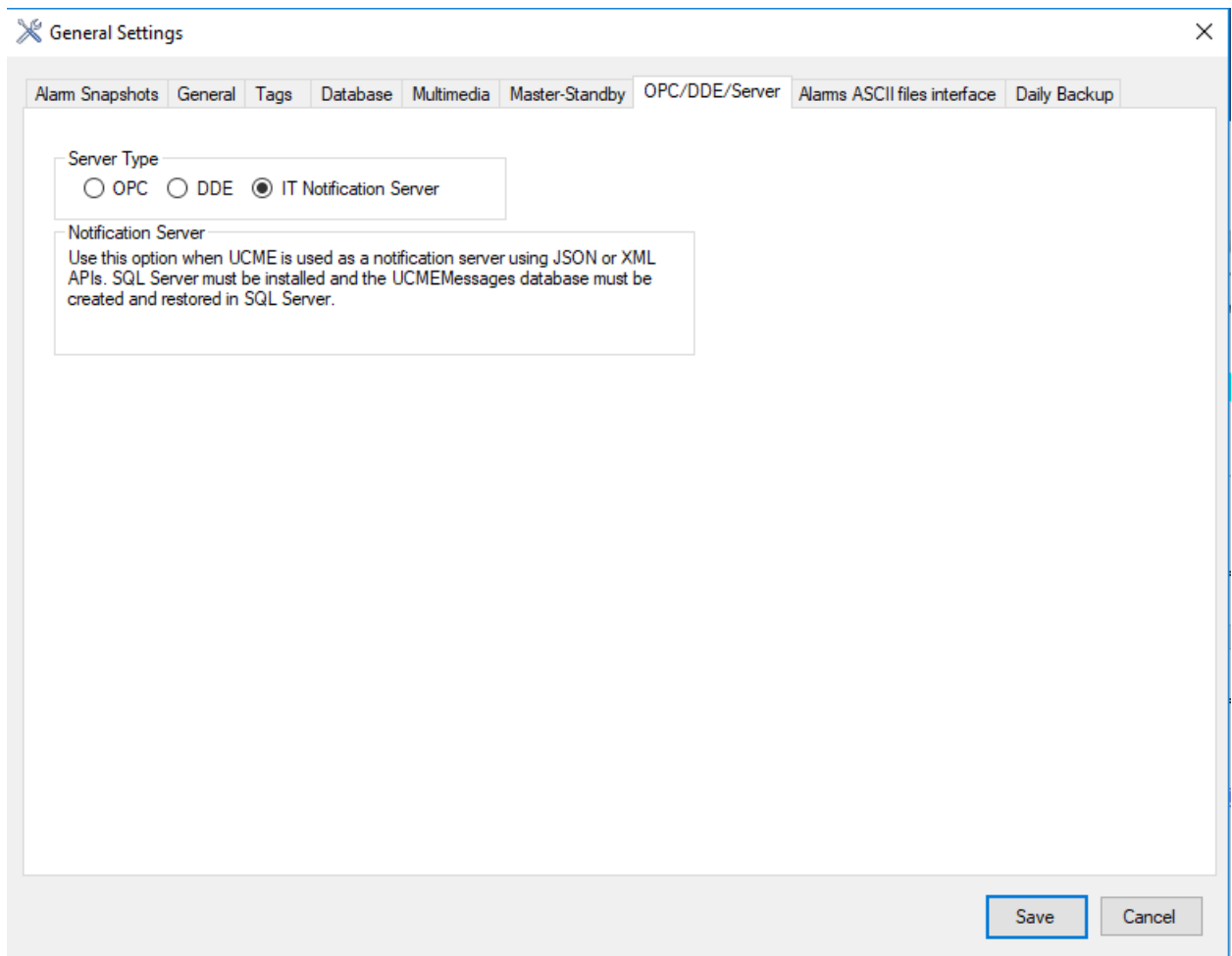
1. Click on the “Start ► All Programs ► Control-See ► UCME-IT ► Configuration” menu item to start the configuration program.



The following window will be displayed. You may use the toolbar to easily navigate between the most commonly used windows. To access other windows, use the **UCME-IT** menu.



2. You may optionally create **UCME-IT** credential by clicking on Design > Users Authorizations menu item.
3. Login to **UCME-IT** and enter to the settings window using the **Options > Settings > General** menu item.
4. For JSON/XML API, choose **IT Notification Server** mode in the **OPC/DDE/Server** tab.



5. Add Database Details **Options > Settings > General -> Database**

General Settings

Alarm Snapshots | General | Tags | Database | Multimedia | Master-Standby | OPC/DDE/Server | Alarms ASCII files interface | Daily Backup

Database Type:  Microsoft SQL Server

Automatic Data Deletion:  Never,  Older than 7 days

Add SMS, Email and Phone alarm notification events to database

Add acknowledge information to the database

MS-SQL Server settings

Username: sa

Password: [masked]

Data source: L029\SQLEXPRESS

Provider: SQLNCLI10

Note: For Windows Authentication leave Username and Password empty.

Note: UCME-OPC maintains a database of alarm snapshots and notification events only when the UCME-PRO license is in use. You should also enable web snapshots.

Save Cancel

6. Configure Mail Server details in **Options > Settings > Email**. (UCME-IT sends Email/SMS/Push Messages through this mail sever only whenever JSON file received from Nagios XI.)

Email Settings

Enable Email

Primary mail server | Secondary mail server

Mail server: [redacted]@hosting.com

"From" email address: [redacted]@.com

Port: 25

Timeout (milliseconds): 4000

E-mail size (bytes): 3000

Max retries: 3

Use SMTP Authentication (AUTH Login)

User name: [redacted]@.com

Password: [masked]

Properties

Email Encoding

Delete old Email at startup

Switch to Secondary mail server after NN send errors: 10

Log messages: All errors

Email Subject fields | Email Body Fields

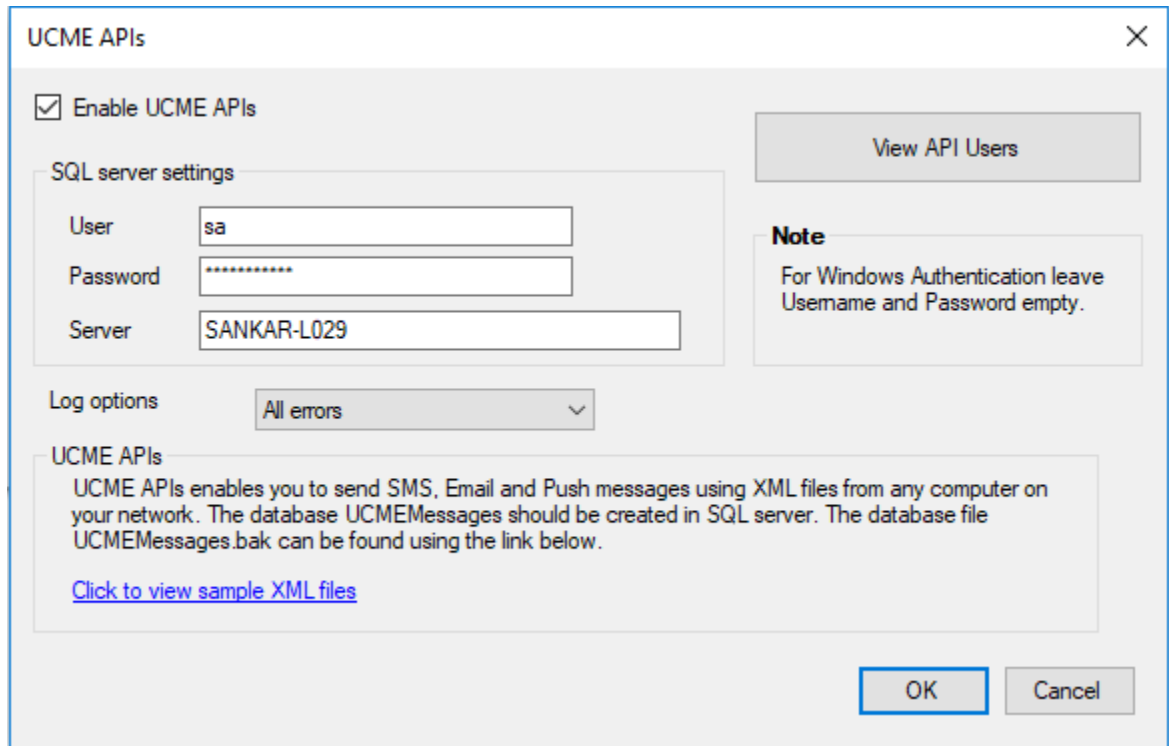
Available Fields: Alarm-Time, Category-1, Category-2, Category-3, Reminder, Tag-Value, Alarm-Condition

Show these fields in this order: Alarm-ID, Alarm-Date, Alarm-Status, Priority, Alarm-Text

Add Remove Move Up Move Down

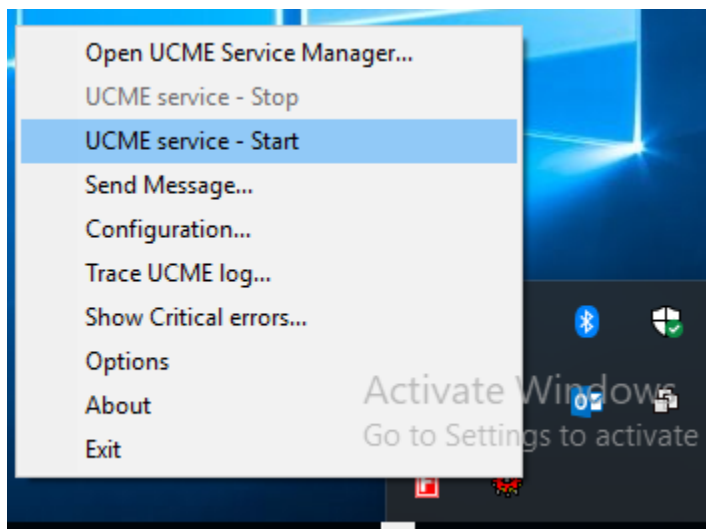
OK Cancel

7. Define SMS protocol using the **Options > SMS Protocols** menu item (assuming you have a cellular GSM or CDMA modem). Use **PDU7bit** data encoding for **English**.
8. Click on Options ► Settings ► UCME APIs as per '**UCME-IT User's Guide**'-> Settings ► UCME APIs.



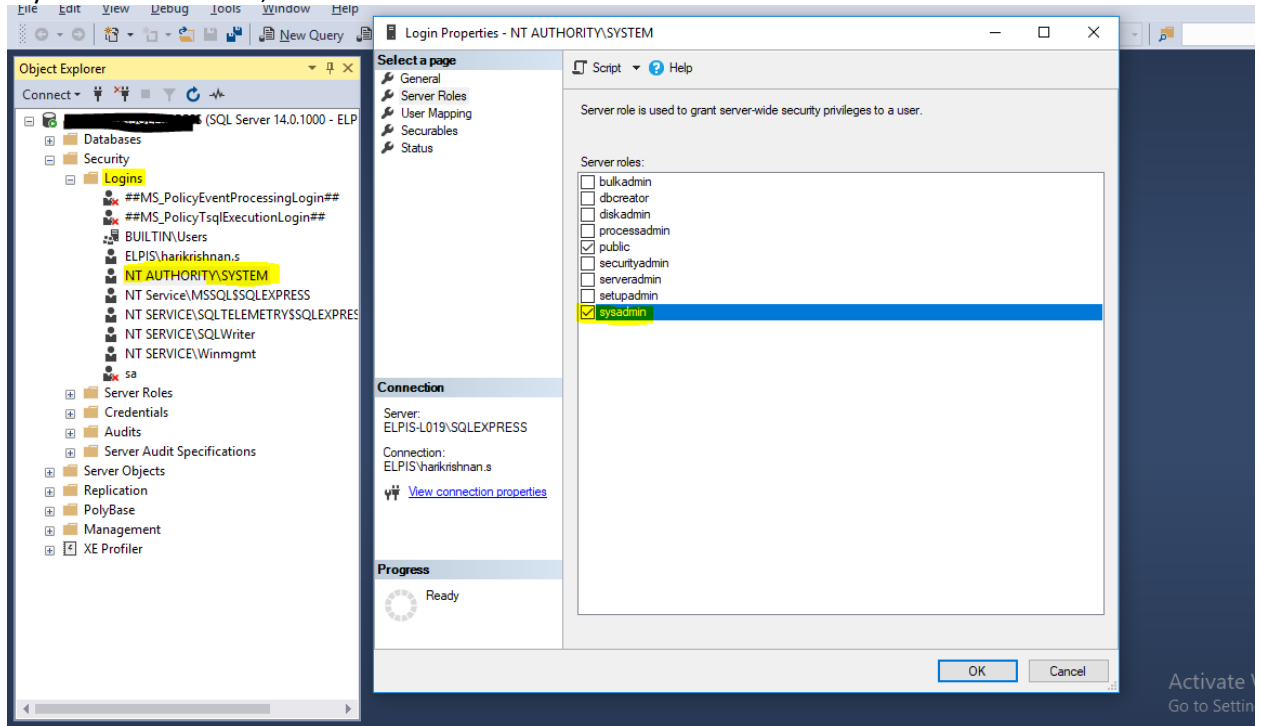
The screenshot shows the 'UCME APIs' configuration dialog box. It has a title bar with a close button (X). The main area contains a checked checkbox for 'Enable UCME APIs'. Below this is a 'SQL server settings' section with three text boxes: 'User' containing 'sa', 'Password' containing a masked password '\*\*\*\*\*', and 'Server' containing 'SANKAR-L029'. To the right of these fields is a 'View API Users' button. Below the SQL settings is a 'Log options' dropdown menu set to 'All errors'. At the bottom of the dialog is a text box with the following text: 'UCME APIs enables you to send SMS, Email and Push messages using XML files from any computer on your network. The database UCMEMessages should be created in SQL server. The database file UCMEMessages.bak can be found using the link below.' Below this text is a blue hyperlink: 'Click to view sample XML files'. At the bottom right of the dialog are 'OK' and 'Cancel' buttons.

9. Once **UCME-IT** APIs Setting completed and then go to Status bar to Start the **UCME-IT** Service Manager.

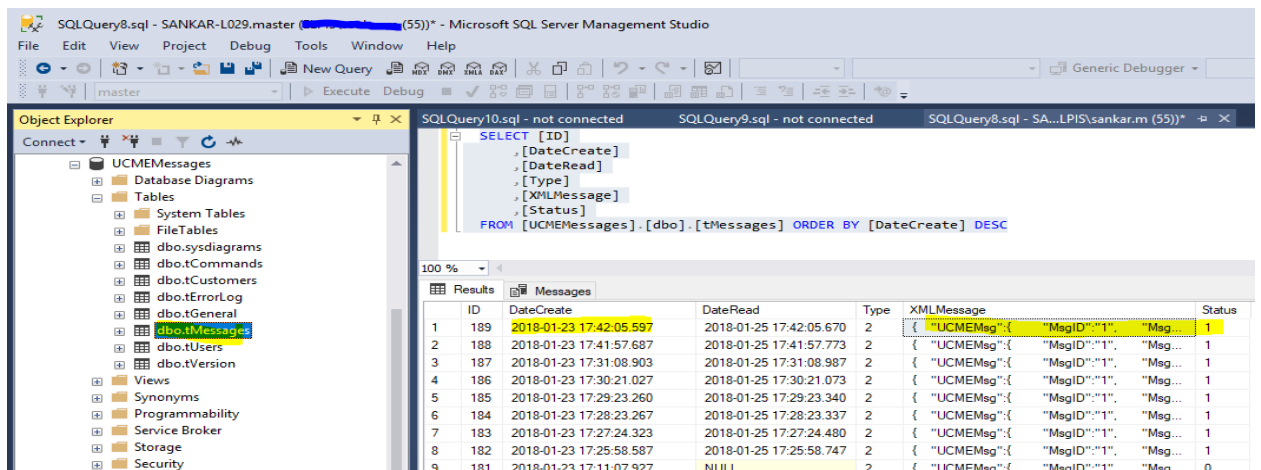


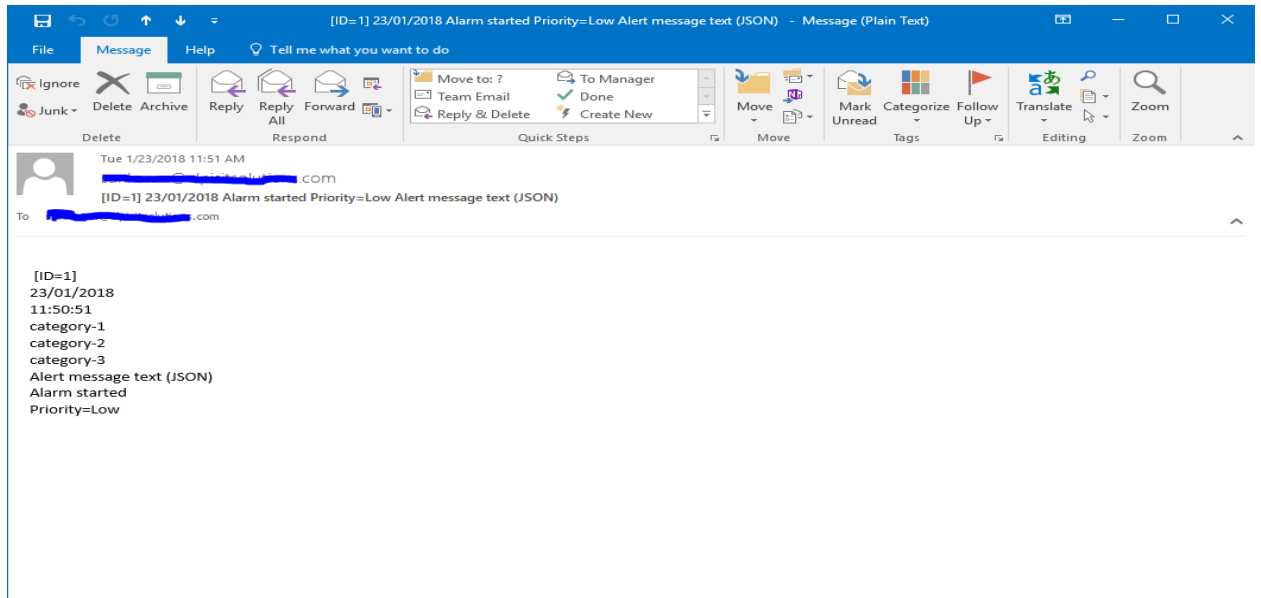
10. Observe **UCME-IT** Service Manager Running (Green Color Icon).

11. Give database access permission to IIS\_USER, connect database and go to security → Logins → NT Authority\System right click and go to properties go to “Server Roles” and check the “sysadmin” checkbox, click ok.



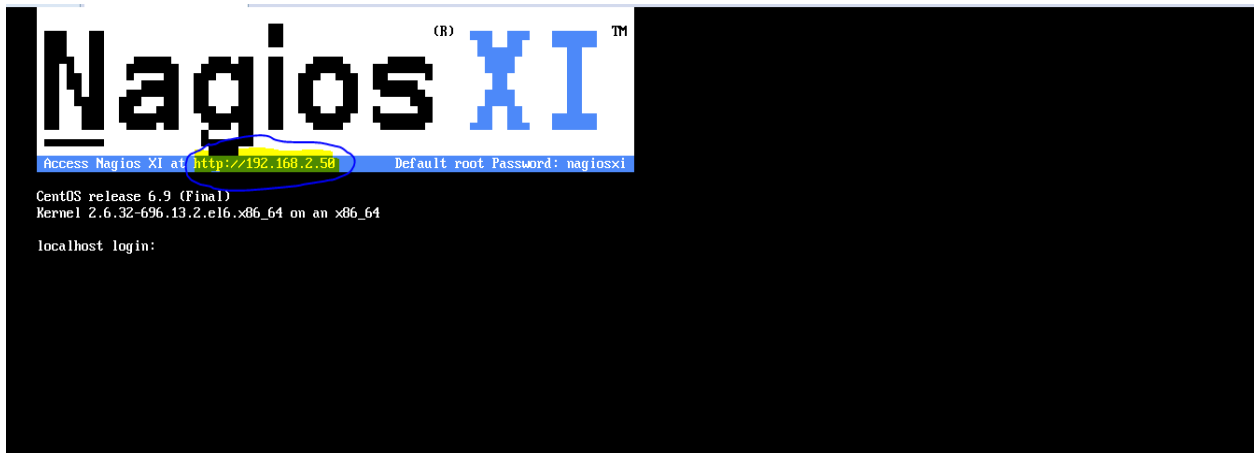
12. Try to execute JSON file using UCMEsendMsgApp Utility under C:\Program Files (x86)\Control-See\UCME-IT\APIs.
13. Observe JSON file content added in UCMEMessages->tMessages table
14. Observe JSON file content added table row Status column value (1-Success and Sent Notification) and observe Email/SMS/Push Message Received.





## 5.2 Nagios XI Configuration (Integration with UCME-IT)

1) Go to browser and type IP address of Nagios system as shown below like example.



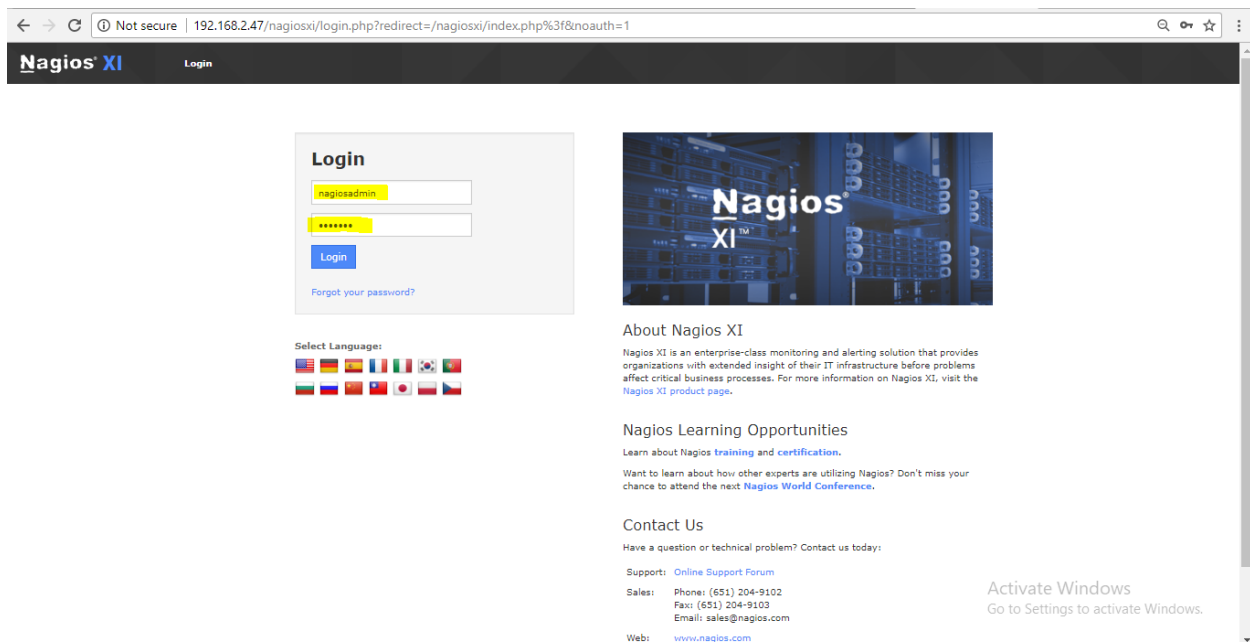
[www.controlsee.com](http://www.controlsee.com)

Phone: +1 (855) 749-6565

E-Mail: [info@controlsee.com](mailto:info@controlsee.com)



2) Login into Nagios XI application using valid Credential created while installation.



3) After, successfully logged in, observe the below “Nagios XI” Home page.

The screenshot shows the Nagios XI Home Dashboard. The top navigation bar includes Home, Views, Dashboards, Reports, Configure, Tools, Help, and Admin. A notice at the top states: "Notice: This trial copy of Nagios XI will expire in 47 days. Purchase a License Now or Enter your license key." The dashboard is divided into several sections: "Getting Started Guide" with common tasks like changing account settings and notifications; "Host Status Summary" table; "Service Status Summary" table; "Administrative Tasks" section; "We're Here To Help!" section with support contact information; and "Start Monitoring" section with buttons for "Run a Config Wizard" and "Run Auto-Discovery".

Up	Down	Unreachable	Pending
0	0	0	0
Unhandled		Problems	All
0		0	3

Last Updated: 2018-01-30 15:20:08

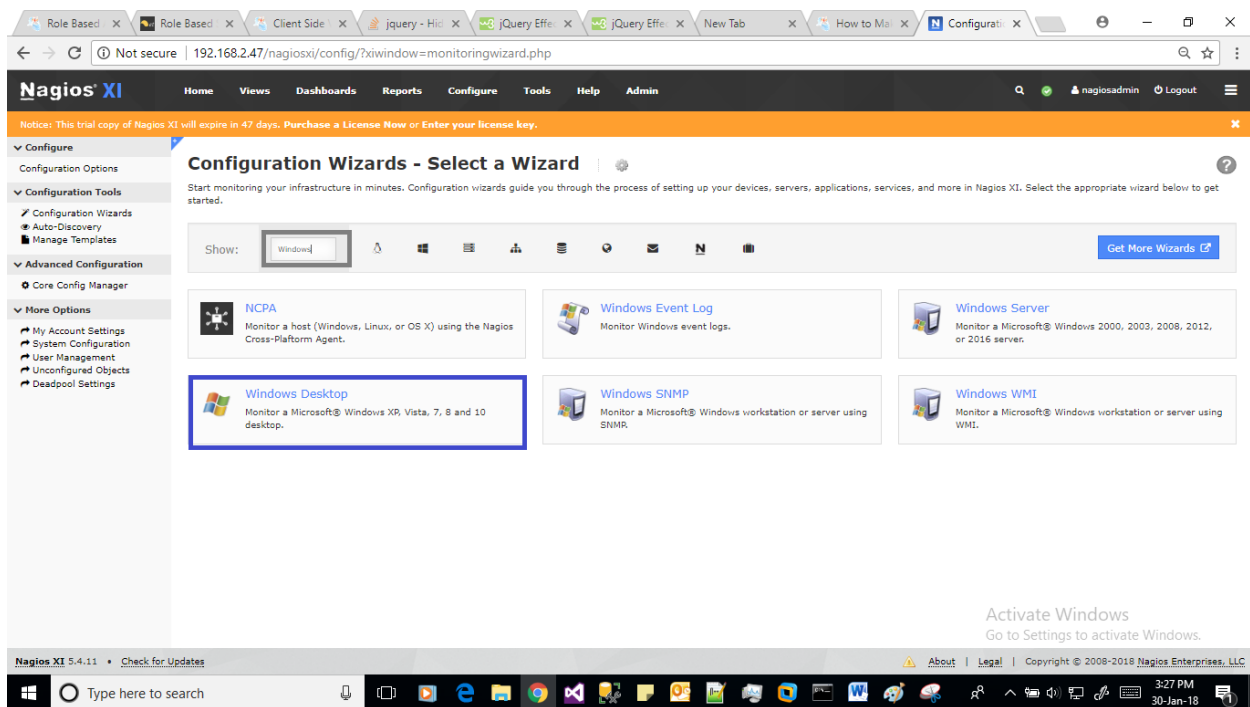
Ok	Warning	Unknown	Critical	Pending
16	0	0	1	0
Unhandled		Problems	All	
1		1	1	17

Last Updated: 2018-01-30 15:20:08

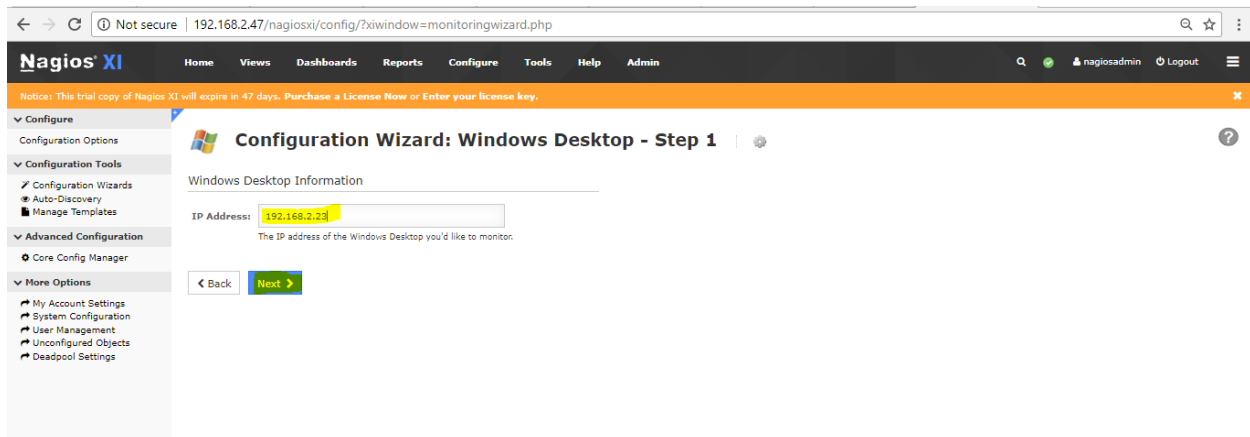
4) To Configure Service, Go to: Configure → Configuration Wizards. As shown below.

The screenshot shows the Nagios XI Configuration Wizards page. The "Configure" menu item is highlighted in the top navigation bar, and a sub-menu "Configuration Wizards" is visible. The "Core Config Manager" option is selected. The dashboard layout is similar to the previous screenshot, but the "Getting Started Guide" section is partially obscured by the configuration wizard interface. The Windows taskbar at the bottom shows the system clock as 3:23 PM on 30-Jan-18.

Select which system/application going to monitor. Ex: Here I selected “Windows Desktop” to monitor windows application. So, select based on your needs.



5) Enter IP Address of System which is going to monitor, and click Next button.



6) Set the threshold limits for CPU, Memory Usage etc and if you want to monitor any specific services/ process/ Performance counters then add the corresponding application executable name and then click on Next button.



← → ↻ | 192.168.2.47/nagiosxi/config/?xiwindow=monitoringwizard.php

**Nagios XI** Home Views Dashboards Reports Configure Tools Help Admin

Notice: This trial copy of Nagios XI will expire in 47 days. Purchase a License Now or Enter your license key.

▼ Configure  
Configuration Options

▼ Configuration Tools  
Configuration Wizards  
Auto-Discovery  
Manage Templates

▼ Advanced Configuration  
Core Config Manager

▼ More Options  
My Account Settings  
System Configuration  
User Management  
Unconfigured Objects  
Deadpool Settings

### Configuration Wizard: Windows Desktop - Step 2

Windows Desktop Details

IP Address: 192.168.2.23

Host Name: 192.168.2.23  
The name you'd like to have associated with this Windows Desktop.

Windows Agent

You'll need to install an agent on the Windows Desktop in order to monitor it. For security purposes, it is recommended to use a password with the agent.

32-Bit Agent      64-Bit Agent

Agent Download: [Download v0.4.4 \(32bit\)](#) [Download v0.4.4 \(64bit\)](#)

Note: Additional agent versions are available from the [NSClient++ downloads page](#).

Agent Password: Testing12 **➡ Use NSClient++ password which was set during installation.**  
Valid characters include: a-zA-Z0-9 \!\@\_

Server Metrics

Specify which services you'd like to monitor for the Windows Desktop.

Ping  
Monitors the server with an ICMP ping. Useful for watching network latency and general uptime.

CPU  
Monitors the CPU (processor usage) on the server.  
▲ 10 % ● 15 %

Memory Usage  
Monitors the memory usage on the server.  
▲ 80 % ● 90 %

Uptime  
Monitors the uptime on the server.

Disk Usage  
Monitors disk usage on the server.

Drive: C: ▲ 80 % ● 95 %

Drive: ▲ 80 % ● 95 %

Drive: ▲ 80 % ● 95 %

Drive: ▲ 80 % ● 95 %

Drive: ▲ 80 % ● 95 %

[Add Row](#) | [Delete Row](#)

Services

Specify any services that should be monitored to ensure they're in a running state.

Windows Service	Display Name
<input type="checkbox"/> w3svc	Internet Web Server

Processes

Specify any processes that should be monitored to ensure they're running.

Windows Process	Display Name
<input type="checkbox"/> explorer.exe	Explorer
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	

[Add Row](#) | [Delete Row](#)

Performance Counters

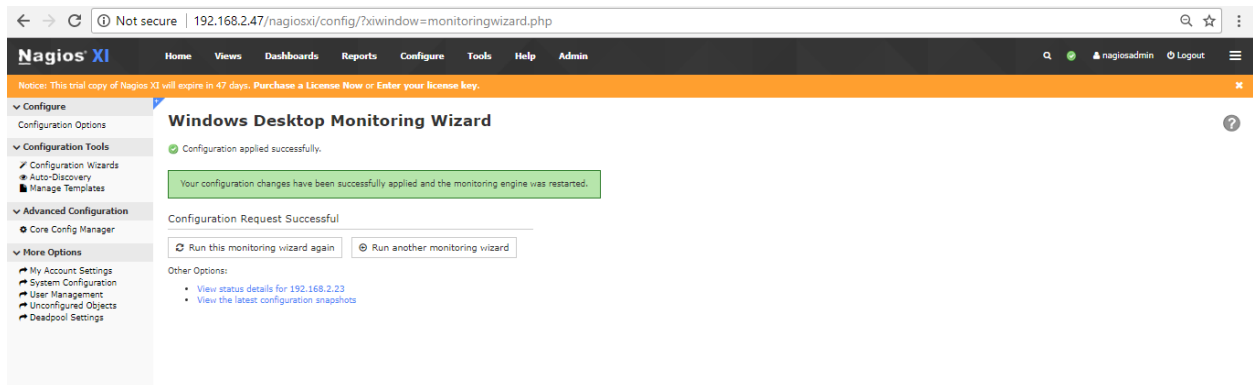
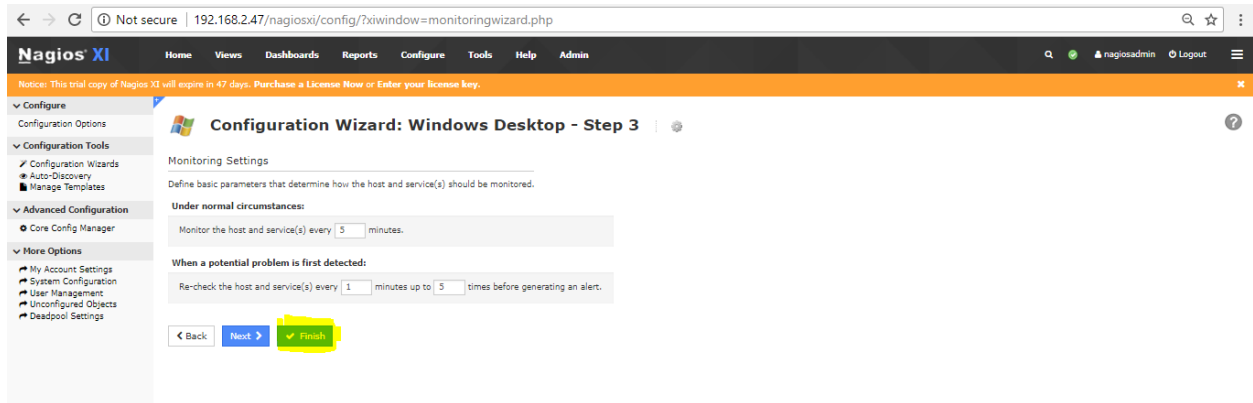
Specify any performance counters that should be monitored.

Performance Counter	Display Name	Counter Output Format	Warning	Critical
<input type="checkbox"/> \ Paging File(_Total)\% Usage	Page File Usage	Paging File usage is %2f %%	70	90
<input type="checkbox"/> \Server\Errors Logon	Logon Errors	Login Errors since last reboot id	2	20
<input type="checkbox"/> \Server\Work Queues(0)\Queue	Server Work Queues	Current work queue (an indicat	4	7
<input type="checkbox"/>				
<input type="checkbox"/>				
<input type="checkbox"/>				

[Add Row](#) | [Delete Row](#)

[Back](#) [Next](#)

7) Observe the below screen and click on Finish button.



After Successful configuration wizard...

8) Creating Command in Nagios XI to send JSON file to UCME-IT.

Go to: Configure → Core Config Manager.

In left pane Command section, select \_Command and click on Add New:

The screenshot shows the Nagios XI interface for the 'Commands' section. The '+ Add New' button is circled in red. The table below shows a list of commands:

Command Name	Command Line	Active	Actions	ID
check-host-alive	\$USER1\$/check_icmp -H \$HOSTADDRESS\$ -v 3000.0,80% -c 5000.0,100% -p 5	Yes	[Icons]	3
check-host-alive-http	\$USER1\$/check_http -H \$HOSTADDRESS\$	Yes	[Icons]	4
check-host-alive-tftp	tftp \$HOSTNAMES 69	Yes	[Icons]	85
check_hpi	/usr/bin/php \$USER1\$/check_hpi.php \$ARG1\$	Yes	[Icons]	41
check_dhcp	\$USER1\$/check_dhcp \$ARG1\$	Yes	[Icons]	16
check_dir	\$USER1\$/check_dir -d \$ARG1\$ -v \$ARG2\$ -c \$ARG3\$ \$ARG4\$	Yes	[Icons]	28
check_dns	\$USER1\$/check_dns -H \$HOSTNAMES \$ARG1\$	Yes	[Icons]	27
check_dummy	\$USER1\$/check_dummy \$ARG1\$ \$ARG2\$	Yes	[Icons]	33
check_em01_humidity	\$USER1\$/check_em01.pl --type=hum --hum=\$ARG1,\$ARG2\$ \$HOSTADDRESS\$	Yes	[Icons]	92
check_em01_light	\$USER1\$/check_em01.pl --type=illum --illum=\$ARG1,\$ARG2\$ \$HOSTADDRESS\$	Yes	[Icons]	93
check_em01_light_copy_1	\$USER1\$/check_em01.pl --type=illum --illum=\$ARG1,\$ARG2\$ \$HOSTADDRESS\$	No	[Icons]	128
check_em01_temp	\$USER1\$/check_em01.pl --type=temp --temp=\$ARG1,\$ARG2\$ \$HOSTADDRESS\$	Yes	[Icons]	91
check_em08_contacts	\$USER1\$/check_em08 \$HOSTADDRESS\$ C	Yes	[Icons]	99
check_em08_humidity	\$USER1\$/check_em08 \$HOSTADDRESS\$ H \$ARG1\$ \$ARG2\$ \$ARG3\$	Yes	[Icons]	95
check_em08_light	\$USER1\$/check_em08 \$HOSTADDRESS\$ I \$ARG1\$ \$ARG2\$ \$ARG3\$	Yes	[Icons]	96

Give the Command name, command line to execute and select command type is "misc command"

Ex. Command Name: Test

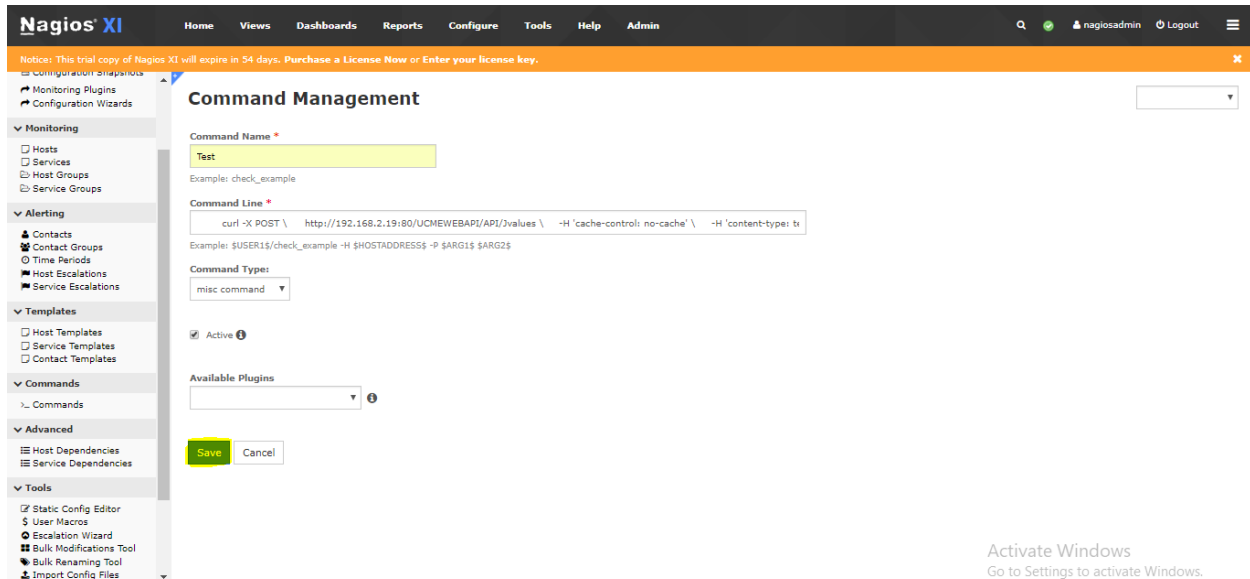
Command Line: Enter Following text, (Replace highlighted text with correct address)

```
curl -X POST \
  http://xxx.xxx.xxx.xxx:80/UCMEWEBAPI/API/Jvalues \
  -H 'cache-control: no-cache' \
  -H 'content-type: text/plain' \
  -d '{
    "UCMEMsg":{
      "MsgID":"1",
      "MsgType":"1",
      "Token":"BXRQMscFRU1z4HQ2DfW52rtatxYV3",
      "Text":"Alert message text (JSON)",
      "Priority":"1",
      "VoiceFile":"voice file name",
      "Categories":{
        "N1":"category-1",
        "N2":"category-2",
        "N3":"category-3"
      },
      "AlarmStatus":"1",
      "Escalation":"0",
      "EscalationTO":"100",
      "PhoneAskForPassword":"0",
      "PhoneAskForHashKey":"1",
      "MMPlayToSpeaker":"0",
      "Recipients":[
        {
          "Name":"Recipient 1",
          "Type":"1",
          "Data":"91xxxxxxxx",
          "SMSProtocolType":"1"
        }
      ]
    }
  }
```

```
    },  
    {  
      "Name": "Recipient 2",  
      "Type": "2",  
      "Data": "abcd@solutions.com",  
      "SMSProtocolType": "2"  
    }  
  ]  
}'
```

**(Important Note:** Refer JSON file creation section for more details)

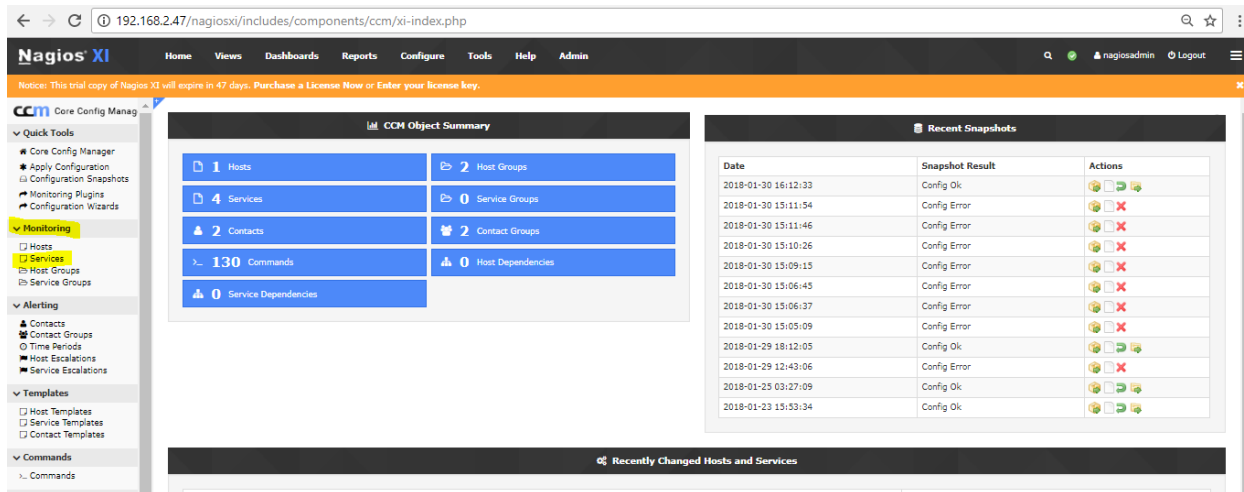
Command Type: "misc command"



Then click on "Save" button and observed command created successfully.

8)After Successful creation, Go to: Configure → Core Config Manager for Service creation.





































Observe in left pane: Go to Monitoring → Services.



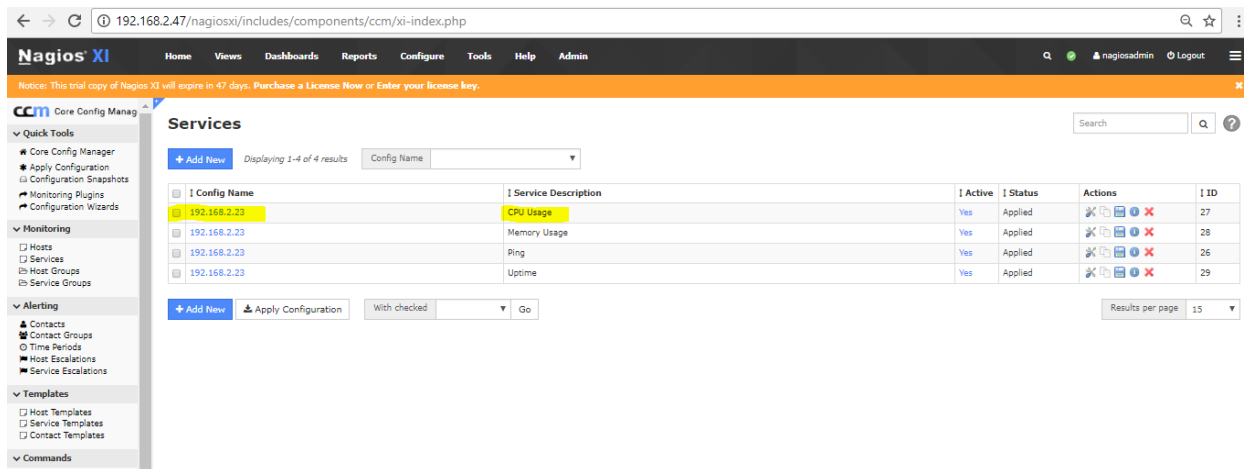
The screenshot shows the Nagios XI interface at the URL `192.168.2.47/nagiosxi/includes/components/ccm/xi-index.php`. The page title is "CCM Object Summary". On the left, a sidebar menu is visible with categories like "Quick Tools", "Monitoring", "Alerting", "Templates", and "Commands". The main content area displays a summary of objects:

- 1 Hosts
- 4 Services
- 2 Contacts
- 130 Commands
- 2 Host Groups
- 0 Service Groups
- 2 Contact Groups
- 0 Host Dependencies
- 0 Service Dependencies













Below this summary is a "Recent Snapshots" table:

Date	Snapshot Result	Actions
2018-01-30 16:12:33	Config Ok	  
2018-01-30 15:11:54	Config Error	  
2018-01-30 15:11:46	Config Error	  
2018-01-30 15:10:26	Config Error	  
2018-01-30 15:09:15	Config Error	  
2018-01-30 15:06:45	Config Error	  
2018-01-30 15:06:37	Config Error	  
2018-01-30 15:05:09	Config Error	  
2018-01-29 18:12:05	Config Ok	  
2018-01-29 12:43:06	Config Error	  
2018-01-25 03:27:09	Config Ok	  
2018-01-23 15:53:34	Config Ok	  

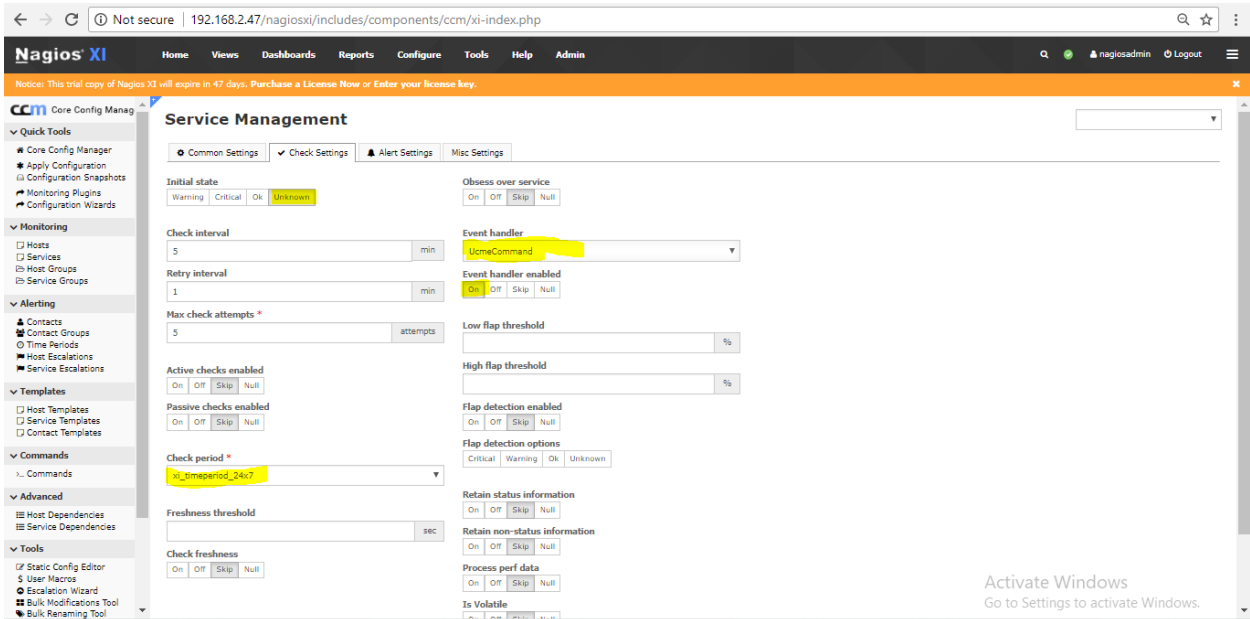
Click on Service, which we want send notification.



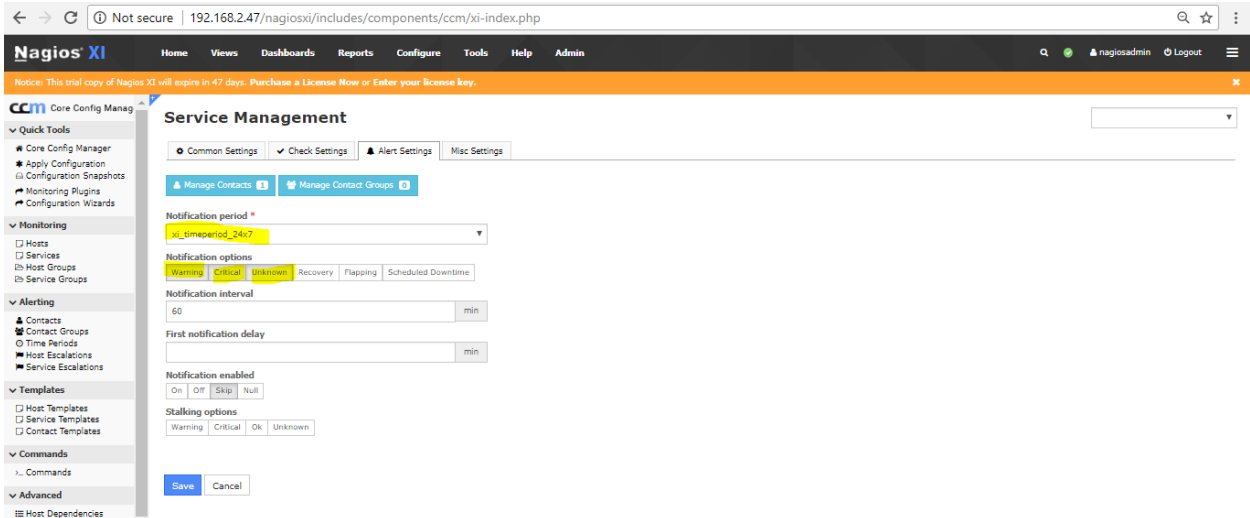
The screenshot shows the Nagios XI interface at the same URL, but the "Services" section is active. The page title is "Services". A search bar is present at the top right. Below the search bar, there is a table of services:

Config Name	Service Description	Active	Status	Actions	ID
192.168.2.23	CPU Usage	Yes	Applied	  	27
192.168.2.23	Memory Usage	Yes	Applied	  	28
192.168.2.23	Ping	Yes	Applied	  	26
192.168.2.23	Uptime	Yes	Applied	  	29

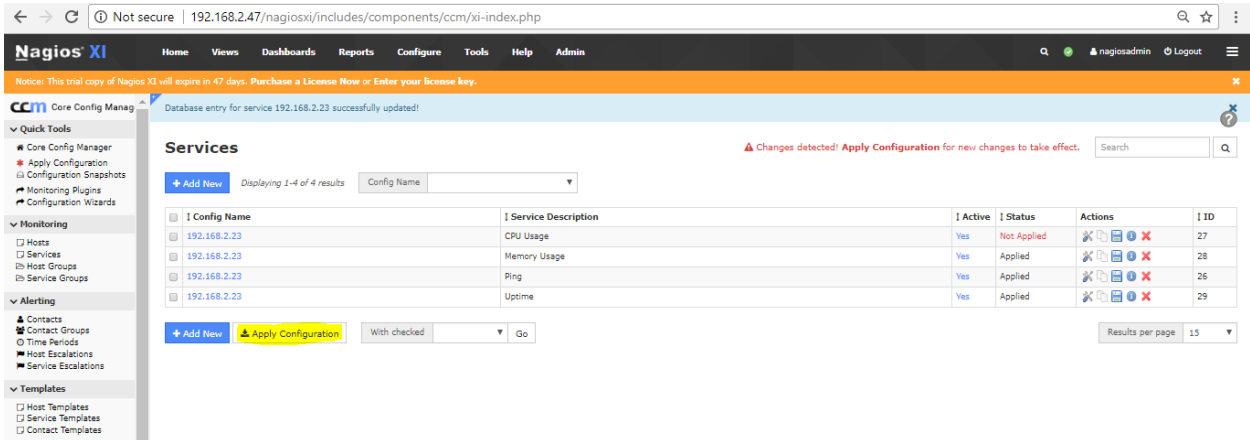
Go to Check Settings, select command (Command Created for sending notification) and Enable the Event Handler.



Go to: Alert Settings, select Notification Period to xi\_timeperiod\_24\*7 and Select Notification Options to Warning, Critical, Unknown, as shown below:

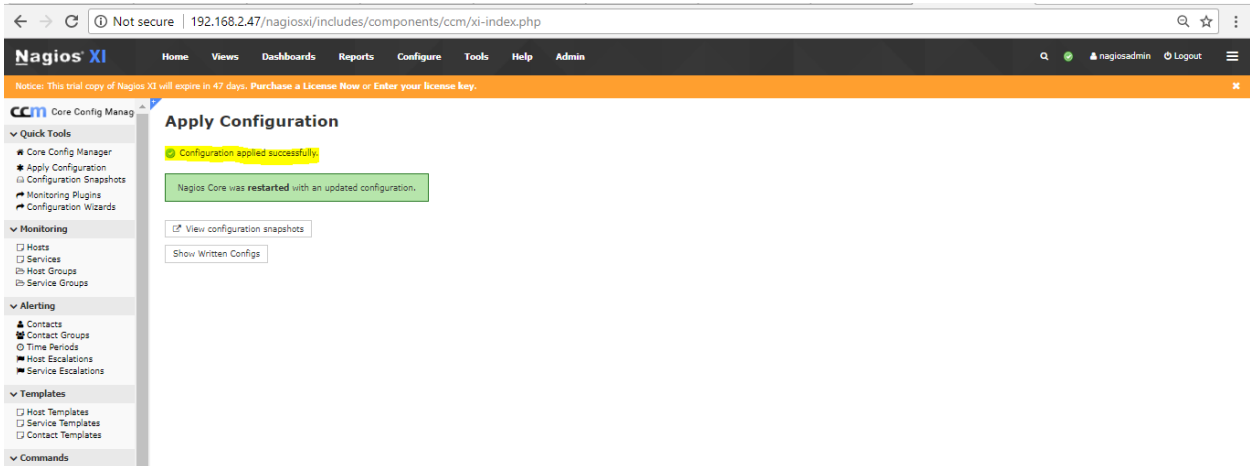


And Click on Save button and Observe the following screen and Click on Apply Configuration.



The screenshot shows the Nagios XI interface. The browser address bar displays "192.168.2.47/nagiosxi/includes/components/ccm/xi-index.php". The top navigation bar includes "Home", "Views", "Dashboards", "Reports", "Configure", "Tools", "Help", and "Admin". A notification banner at the top states: "Notice: This trial copy of Nagios XI will expire in 47 days. Purchase a License Now or Enter your license key." The left sidebar contains a "Core Config Manager" section with sub-items: "Quick Tools" (Core Config Manager, Apply Configuration, Configuration Snapshots, Monitoring Plugins, Configuration Wizards), "Monitoring" (Hosts, Services, Host Groups, Service Groups), "Alerting" (Contacts, Contact Groups, Time Periods, Host Escalations, Service Escalations), "Templates" (Host Templates, Service Templates, Contact Templates), and "Commands". The main content area is titled "Services" and displays a table of service configurations. A message at the top of the main area says "Database entry for service 192.168.2.23 successfully updated!". A warning icon indicates "Changes detected! Apply Configuration for new changes to take effect." The table has columns for "Config Name", "Service Description", "Active", "Status", "Actions", and "ID".

Config Name	Service Description	Active	Status	Actions	ID
192.168.2.23	CPU Usage	Yes	Not Applied		27
192.168.2.23	Memory Usage	Yes	Applied		28
192.168.2.23	Ping	Yes	Applied		26
192.168.2.23	Uptime	Yes	Applied		29



The screenshot shows the Nagios XI "Apply Configuration" page. The browser address bar displays "192.168.2.47/nagiosxi/includes/components/ccm/xi-index.php". The top navigation bar is the same as in the previous screenshot. The left sidebar is also the same. The main content area is titled "Apply Configuration" and shows a success message: "Configuration applied successfully." Below this, a green box states: "Nagios Core was restarted with an updated configuration." There are two buttons: "View configuration snapshots" and "Show Written Configs".

## 9) Testing

1. After Creating Service with all above steps, to check its working functionality follows the bellow steps:  
Go to: Home, in left pane go to Details → Service Details.

The screenshot shows the Nagios XI Home Dashboard. The top navigation bar includes Home, Views, Dashboards, Reports, Configure, Tools, Help, and Admin. A notice at the top states: "Notice: This trial copy of Nagios XI will expire in 47 days. Purchase a License Now or Enter your license key." The left sidebar contains a "Quick View" menu with options like Home Dashboard, Tactical Overview, Birdseye, Operations Center, and Open Service Problems. Below this is a "Details" section with "Service Detail" highlighted. The main content area is titled "Home Dashboard" and features three panels: "Getting Started Guide" with common tasks and learning resources, "Host Status Summary" table, and "Service Status Summary" table.

Up	Down	Unreachable	Pending
1	0	0	0
Unhandled		Problems	
0		0	

Last Updated: 2018-01-30 17:57:49

Ok	Warning	Unknown	Critical	Pending
2	1	1	0	0
Unhandled		Problems		All
2		2		4

Last Updated: 2018-01-30 17:57:49

2. Click on Service:

The screenshot shows the Nagios XI Service Status page. The top navigation bar is the same as the dashboard. The left sidebar shows "Service Detail" highlighted. The main content area is titled "Service Status" and shows a table of services. The table has columns for Host, Service, Status, Duration, Attempt, Last Check, and Status Information. The first row is highlighted in green, showing CPU Usage for host 192.168.2.23.

Host	Service	Status	Duration	Attempt	Last Check	Status Information
192.168.2.23	CPU Usage	Ok	34s	1/5	2018-01-30 17:58:22	CPU Load 0% (1 min average)
	Memory Usage	Unknown	10m 9s	5/5	2018-01-30 17:58:49	could not fetch information from server
	Ping	Ok	1h 42m 33s	1/5	2018-01-30 17:57:45	OK - 192.168.2.23: rta 0.138ms, lost 0%
	Uptime	Ok	18m 43s	1/5	2018-01-30 17:57:56	System Uptime - 0 day(s) 0 hour(s) 0 minute(s)

Showing 1-4 of 4 total records

3. Go to Advanced Tab → Click on the Submit Passive Check result:

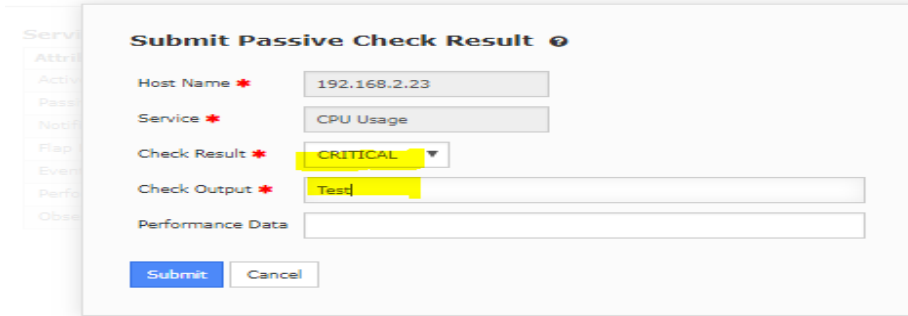
The screenshot shows the Nagios XI Service Status Detail page for CPU Usage. The top navigation bar is the same. The left sidebar shows "Service Detail" highlighted. The main content area is titled "Service Status Detail" and shows "Advanced Status Details" for CPU Usage. The status is "Ok". The "Commands" section has "Submit passive check result" highlighted.

Service State:	Ok
Duration:	2m 37s
State Type:	Hard
Current Check:	1 of 5
Last Check:	2018-01-30 17:58:22
Next Check:	2018-01-30 18:03:22
Last State Change:	2018-01-30 17:58:22
Last Notification:	Never
Check Type:	Active
Check Latency:	0 seconds
Execution Time:	0.00273 seconds
State Changes:	0%
Performance Data:	1 min avg Load=0%{2,3,0}100

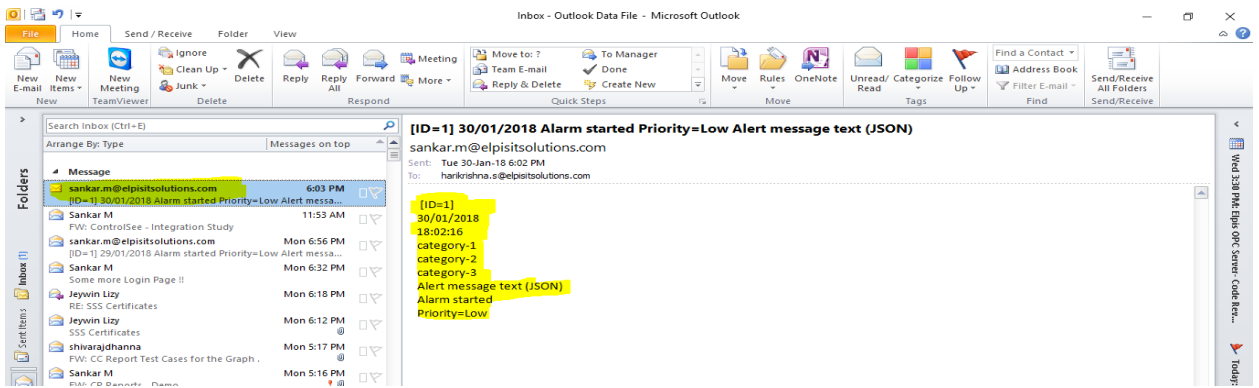
Add comment	☰
Schedule downtime	🕒
Submit passive check result	📄
Send custom notification	📧
Delay next notification	⏸



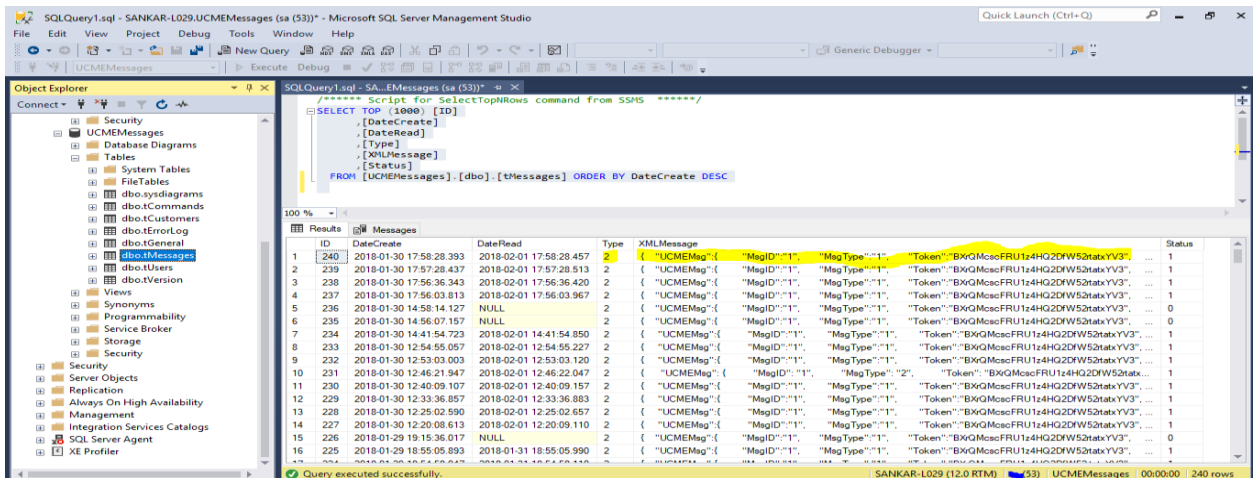
4. Change Check results to "CRITICAL", Check output: "Test"



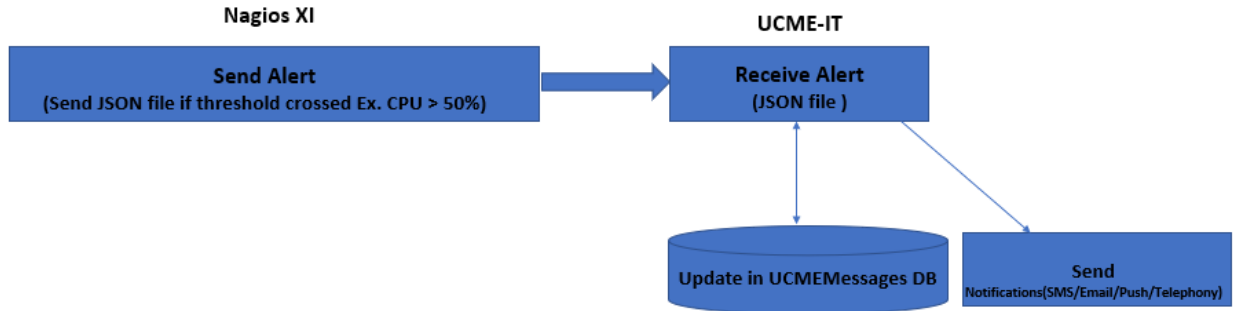
5. Check the E-Mail Notification received as per JSON file mentioned recipients. Similarly, SMS/Push Message/Telephony Notification send as per JSON file configured recipients.



6. Observe JSON file send to UCME-IT using UCME-IT API Check and check UCMEMessage->tMessages table for JSON file content update.



Nagios XI and UCME-IT Integration flow will be.



**Important Note:** Make sure UCME-IT Service Manager running.

## 6. UCME-IT Communication Log

### 6.1 UCME LOG

You can find the log file at the path : C:\Program Files (x86)\Control-See\UCME-IT\LOG\UCMExxxxxxx.txt

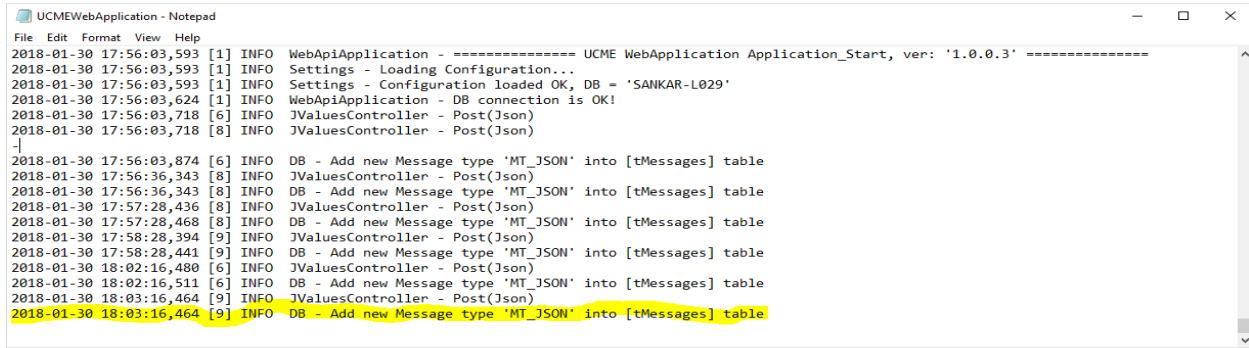
Based on UCME-IT Log file, you can ensure whether email has been sent successfully to configured email address or not. Please find the Screenshot below of successful email sent to recipient.

```
UCME20180130 - Notepad
File Edit Format View Help
17:47:25[Info] 01/30/18 UCME is active. Demo mode! UCME will stop within 1 hour!
17:47:25[Info] Demo mode. UCME will stop after one hour!
17:56:03[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
17:56:05[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
17:56:09[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
17:56:36[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
17:56:37[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
17:56:40[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
17:57:28[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
17:57:29[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
17:57:32[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
17:58:28[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
17:58:29[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
17:58:32[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
18:02:16[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
18:02:16[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
18:02:19[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
18:03:16[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
18:03:16[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
18:03:19[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
18:08:00[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
18:08:00[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
18:08:03[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
18:08:57[Info] API Alert from 'Guest' ID=1 - Alert message text (JSON)
18:08:58[Info] Sending E-mail...'[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) '
18:09:01[Info] email '[ID=1] 30/01/2018 Alarm started Priority=Low Alert message text (JSON) ' successfully sent to Recipient.
```

## 6.2 WEB LOG

The WEB application maintains a log file in the following location. Based on below log file you can identify JSON file received from Nagios XI will be successfully updated in 'UCMEMessages' database or not.

**C:\Program Files (x86)\Control-See\UCME-IT\WebApiSite\UCMEWebApplication.txt**



```
UCMEWebApplication - Notepad
File Edit Format View Help
2018-01-30 17:56:03,593 [1] INFO WebApiApplication - ===== UCME WebApplication Application_Start, ver: '1.0.0.3' =====
2018-01-30 17:56:03,593 [1] INFO Settings - Loading Configuration...
2018-01-30 17:56:03,593 [1] INFO Settings - Configuration loaded OK, DB = 'SANKAR-L029'
2018-01-30 17:56:03,624 [1] INFO WebApiApplication - DB connection is OK!
2018-01-30 17:56:03,718 [6] INFO JValuesController - Post(Json)
2018-01-30 17:56:03,718 [8] INFO JValuesController - Post(Json)
-
2018-01-30 17:56:03,874 [6] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
2018-01-30 17:56:36,343 [8] INFO JValuesController - Post(Json)
2018-01-30 17:56:36,343 [8] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
2018-01-30 17:57:28,436 [8] INFO JValuesController - Post(Json)
2018-01-30 17:57:28,468 [8] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
2018-01-30 17:58:28,394 [9] INFO JValuesController - Post(Json)
2018-01-30 17:58:28,441 [9] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
2018-01-30 18:02:16,480 [6] INFO JValuesController - Post(Json)
2018-01-30 18:02:16,511 [6] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
2018-01-30 18:03:16,464 [9] INFO JValuesController - Post(Json)
2018-01-30 18:03:16,464 [9] INFO DB - Add new Message type 'MT_JSON' into [tMessages] table
```