KERALA STATE IT MISSION
Department of Information Technology
Government of Kerala

നൂതന സൈബർ ആക്രമണങ്ങൾ പ്രതിരോധിക്കാനുള്ള നിർദേശങ്ങൾ.

ഇന്നലെ മുതൽ ആഗോളവ്യാപകമായി രണ്ടു പുതിയ തരം കമ്പ്യൂട്ടർ റാൻസംവെയറുകൾ)Ransomware) പ്രചരിക്കുന്നതായി അറിയുന്നുകമ്പ്യൂട്ടറിൽ ഇവ ബാധിച്ചാൽ പ്രധാനപ്പെട്ട ഫയലുകളെ . ഇവബ്ലോക്ക് ചെയ്യുന്നു, പിന്നീട് അവ തുറന്നു കിട്ടണമെങ്കിൽ ഓൺലൈൻ കറൻസി ആയ ബിറ്റ് കോയിൻ നിക്ഷേപിച്ചു മോചിപ്പിച്ചെടുക്കേണ്ട അവസ്ഥയാണ് ബ്രിട്ടനിലെയും സ്പെയിനിലെയുമൊക്കെ . സർക്കാർ സംവിധാനത്തെയും ഫെഡ് എക്സ് തുടങ്ങിയ കമ്പനികളെയും ഇവ ഗുരുതരമായി ബാധിച്ചുവെന്ന് ഈ രംഗത്തെ വിദഗ്ധർ അറിയിക്കുന്നുലകളെയാണ് പ്രധാനമായും ആക്രമണത്തിനു ശ്രംഖ . ഇവ ലക്ഷ്യം വച്ചിട്ടുള്ളത് എന്നാണ് മനസ്സിലാക്കുന്നത് ഇത്തരം സൈബർ ആക്രമണങ്ങൾക്കെതിരെ . അപരിചിതമായ ലിങ്കുകൾ .ജാഗ്രത പാലിക്കേണ്ടത് അത്യാവശ്യമാണ്, സംശയാസ്പദമായ ഇ - മെയിലുകൾ, അവയിലെ അറ്റാച്ച്മെന്റുകൾ എന്നിവ തുറക്കാതെ നോക്കുക, നിങ്ങളുടെ കമ്പ്യൂട്ടറിലെ ആന്റി വൈറസ് അപ്ഡേറ്റ് ചെയ്ത് വേണ്ട മുൻകരുതലുകൾ എടുക്കണം.

അതോടൊപ്പം താഴെ പറയുന്ന നിർദേശങ്ങൾ കൂടി കൃത്യമായി പാലിക്കേണ്ടതാണ് .

1) സംശയാസ്പദമായ സാഹചര്യത്തിൽ കിട്ടുന്ന ഇമെയിൽകൾ ഓപ്പൺ ചെയ്യുകയോ അനുബന്ധ അറ്റാച്മെന്റുകൾ തുറക്കാതിരിക്കുകയോ ചെയ്യുക.

2) വിശ്വാസയോഗ്യമല്ലാത്ത സ്രോതസ്സുകളിൽ നിന്നും വരുന്ന മെയിലുകൾ, ലിങ്കുകൾ തുടങ്ങിയവയുടെ ആധികാരികത ഉറപ്പു വരുത്തിയ ശേഷം മാത്രം തുറക്കുക

3) വ്യക്തിപരമോ, സാമ്പത്തികമോ ആയ വിവരങ്ങൾ ആവശ്യപ്പെട്ടുകൊണ്ടുള്ള അന്വേഷണങ്ങൾക്ക് മറുപടി നൽകേണ്ടതില്ല.

4) മെയിൽ സന്ദേശങ്ങളുടെ ആധികാരികത ഉറപ്പുവരുത്തുക.

5) വ്യക്തിപരമായി പുകഴ്ത്തുന്ന മെയിലുകൾ,മനഃപൂർവം വരുത്തുന്ന പിശകുകൾ എന്നിവ സസൂക്ഷ്മം നിരീക്ഷിച്ചു മെയിലുകൾ കൈകാര്യം ചെയ്യുക.

6) ഇമെയിൽ അറ്റാച്മെന്റുകൾ സസൂക്ഷ്മം തുറക്കുക.

7) മെയിൽ വഴി ലഭ്യമാവുന്ന ഫോമുകളിൽ വ്യക്തിപരമായ വിവരങ്ങൾ നൽകാതിരിക്കുക.ഇത്തരം വിവരങ്ങൾ ട്രാക്ക് ചെയ്യപ്പെടാൻ സാധ്യത ഉള്ളതിനാൽ ആണിത്.

8) വ്യക്തിഗത വിവരങ്ങൾ കൈമാറുന്നതിന് മുൻപ് വെബ് സൈറ്റിന്റെ ആധികാരികത ഉറപ്പു വരുത്തുക.

9) ഔദ്യോഗിക ഇമെയിലുകൾ വ്യക്തിപരമായ ആവശ്യങ്ങൾ ഉപയോഗിക്കാതിരിക്കുക.

10) സമൂഹമാധ്യമങ്ങളിൽ സംശയകരമായ സാഹചര്യങ്ങളിൽ നിന്ന് ലഭിക്കുന്ന ഇമേജുകൾ, വീഡിയോകൾ തുറക്കാതിരിക്കുക.

11) സമ്മാനങ്ങൾ ഓഫർ ചെയ്തുകൊണ്ടുള്ള മെയിൽകൾക്ക് സാമ്പത്തിക വിവരങ്ങൾ നൽകരുത്.

KERALA STATE IT MISSION
Department of Information Technology
Government of Kerala

12) ബാങ്ക് വിവരങ്ങൾ ആവശ്യപ്പെട്ടുകൊണ്ടുള്ള വിവരങ്ങൾക്ക് മറുപടി നൽകാതിരിക്കുക.

13) ഓൺലൈൻ ഷോപ്പിംഗ് പോലുള്ള വ്യക്തിപരമായ ആവശ്യങ്ങൾക്ക് പ്രത്യേക മെയിൽ ഐഡി ഉപയോഗിക്കുക.

Precautionary measures against Ransomware Attack

Ransomware Attack: Ransomware is a creative malware that infects systems and locks down data, preventing users from accessing it until a ransom is paid. It can affect individuals and businesses alike, but can become a critical threat for enterprises dealing with huge amounts of data. You are advised to kindly take the following preventive measures to protect their computer networks from ransomware infection/ attacks:

1. Ensure that ports TCP/UDP 445, 137, 138, 139 are blocked on all perimeter devices and internal access control devices.
2. Ensure that ports TCP/UDP 445 are blocked on all clients & servers using host firewalls through host antiviruses and HIPS.
3. Apply all patches of Microsoft Windows (client and server) for the vulnerability mentioned in the Microsoft Security Bulletin MS17-010.
4. Secure mail server with antivirus and anti spamware solution.
5. Maintain updated Antivirus software on all user client systems urgently ON PRIORITY.
6. Update operating system, third party applications (MS office, browsers, browser Plugins) and antivirus software with the latest patches ON PRIORITY.

All system administrators to ensure this is done in the organizations ASAP.

1. Alert all users in the organization of the attack. Hence the above step of updating softwares on the computer needs to be ensured before the user accesses email or internet.
2. Users should be alerted not to open attachments in unsolicited e-mails, even if they come from people in your contact list; never click on a URL contained in an unsolicited e-mail unless you are sure it is genuine. In cases of genuine URLs close out the e-mail and go to the organization's website directly through browser.

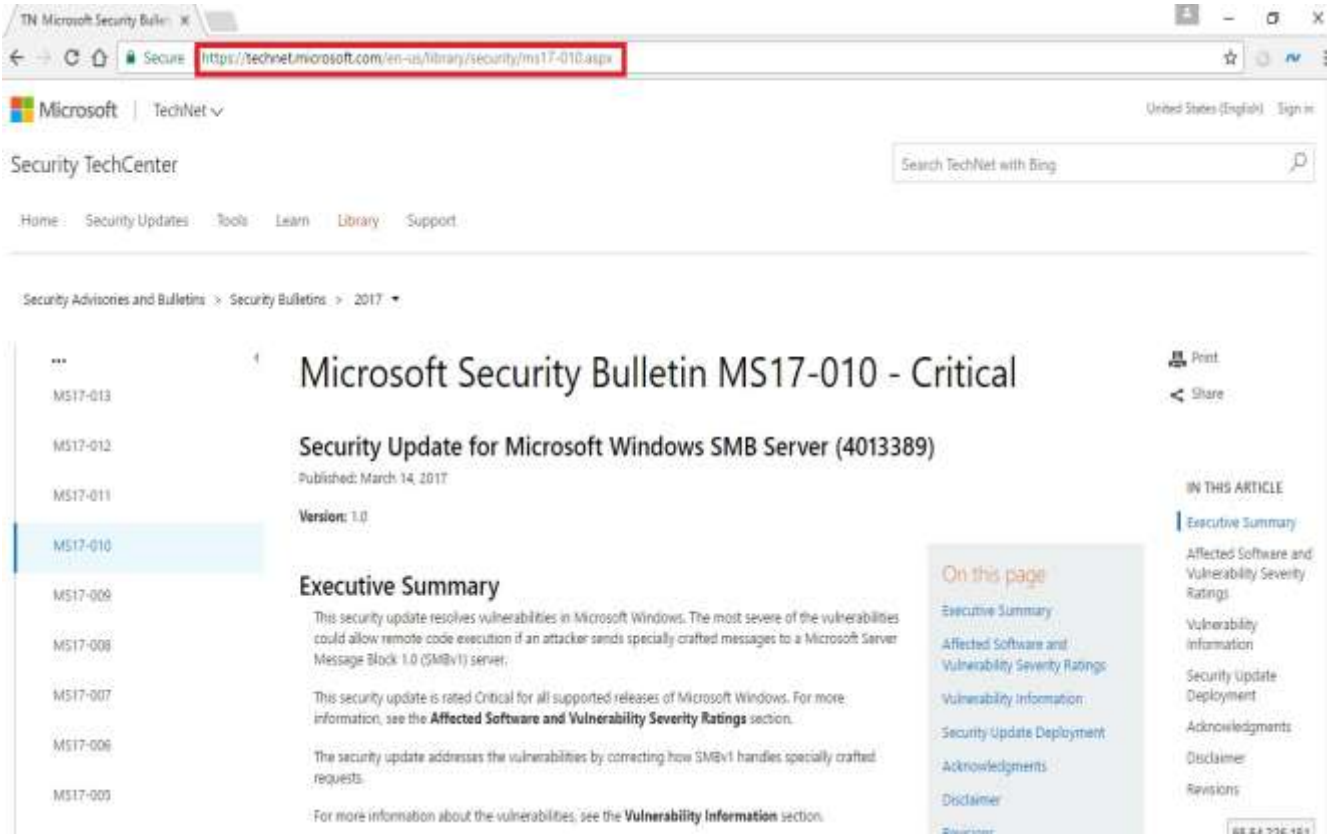
3. Block Tor, Peer to Peer(P2P) /Torrent traffic in Systems and Network.
4. Perform regular backups of all critical information to limit the impact of data or system loss and to help expedite the recovery process. Ideally, this data should be kept on a separate device, and backups should be stored offline.*
5. Check regularly for the integrity of the information stored in the databases.
6. Regularly check the contents of backup files of databases for any unauthorized encrypted contents of data records or external elements, (backdoors /malicious scripts.)
7. Ensure integrity of the codes /scripts being used in database, authentication and sensitive systems
8. Establish a Sender Policy Framework (SPF) for your domain, which is an email validation system designed to prevent spam by detecting email spoofing by which most of the ransomware samples successfully reaches the corporate email boxes.
9. Application white listing/Strict implementation of Software Restriction Policies (SRP) to block binaries running from %APPDATA% and %TEMP% paths. Ransomware sample drops and executes generally from these locations.
10. Block the attachments of file types, exe|pif|tmp|url|vb|vbe|scr|reg|cer|pst|cmd|com|bat|dll|dat|hlp|hta|js|wsf
11. Disable ActiveX content in Microsoft Office applications such as Word, Excel, etc.
12. Disable remote Desktop Connections, employ least-privileged accounts. Limit users who can log in using Remote Desktop, set an account lockout policy. Ensure proper RDP logging and configuration.
13. Restrict access using firewalls and allow only to selected remote endpoints, VPN may also be used with dedicated pool for RDP access
14. Use strong authentication protocol, such as Network Level Authentication (NLA) in Windows.

KERALA STATE IT MISSION

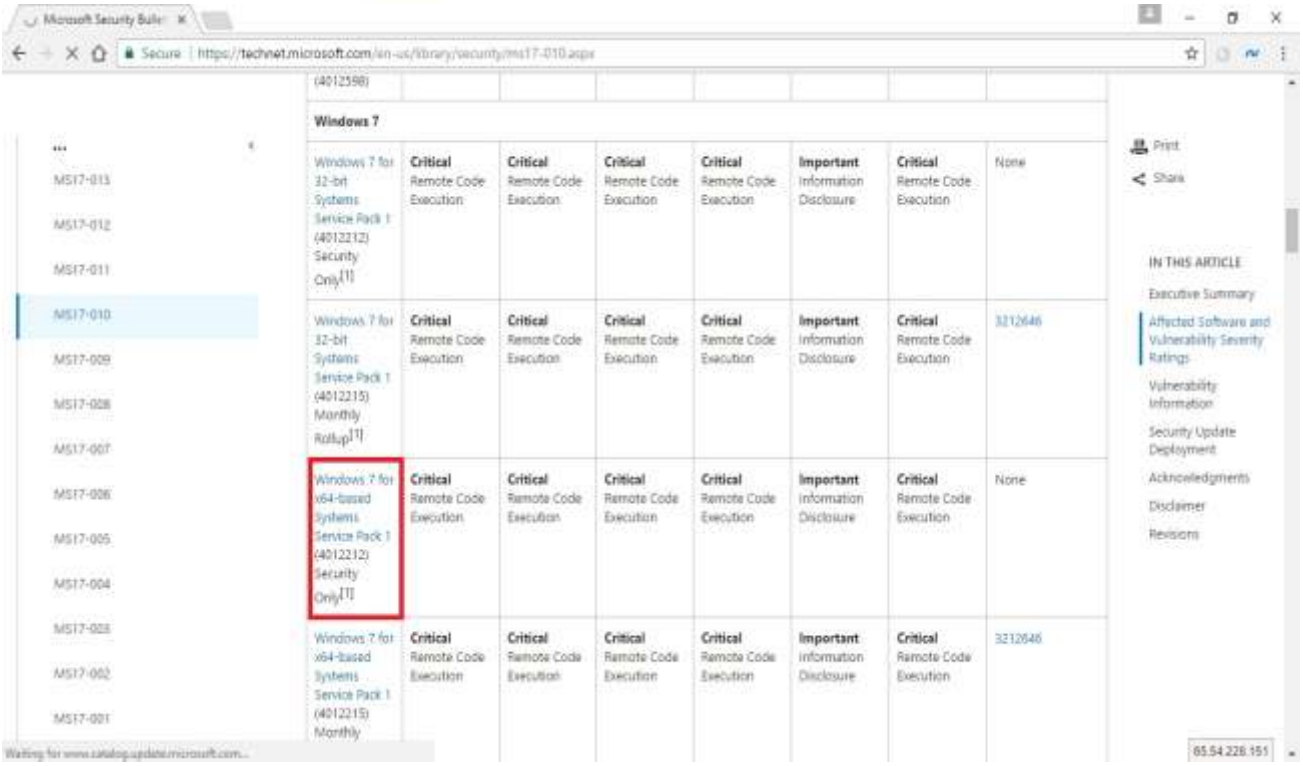
Department of Information Technology
Government of Kerala

How to install Windows update as per Microsoft Security Bulletin MS17-010 – Critical

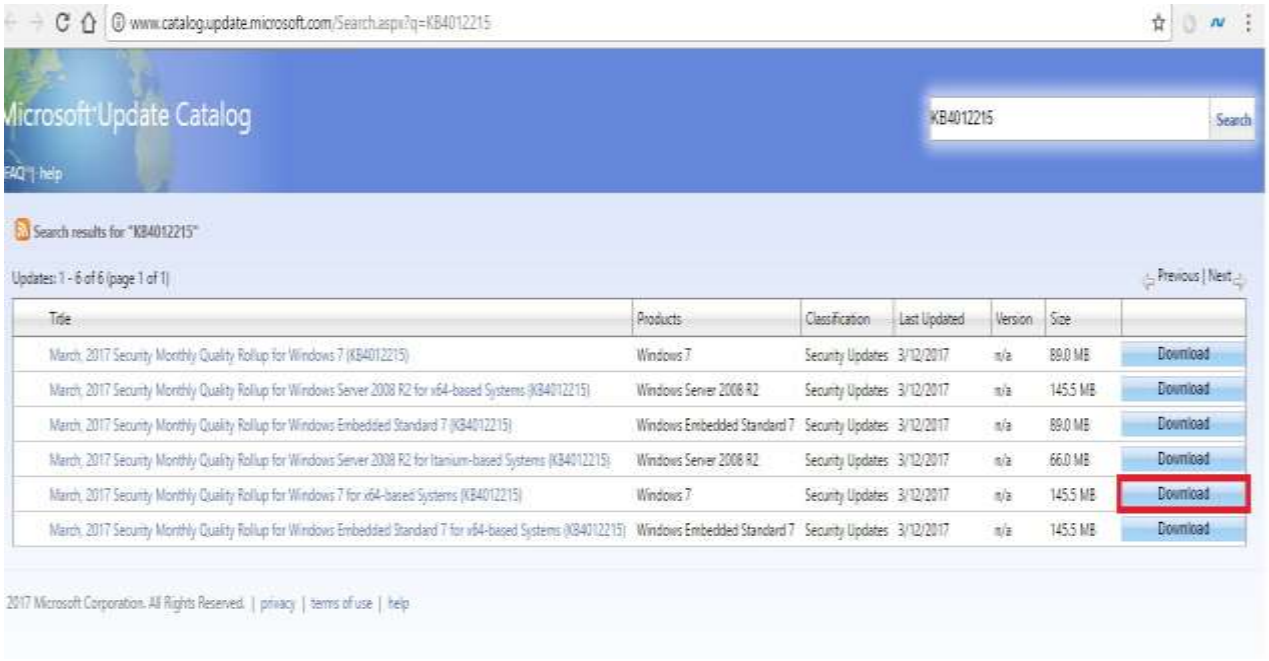
1. Go to https://technet.microsoft.com/en-us/library/security/ms17-010.aspx in browser.



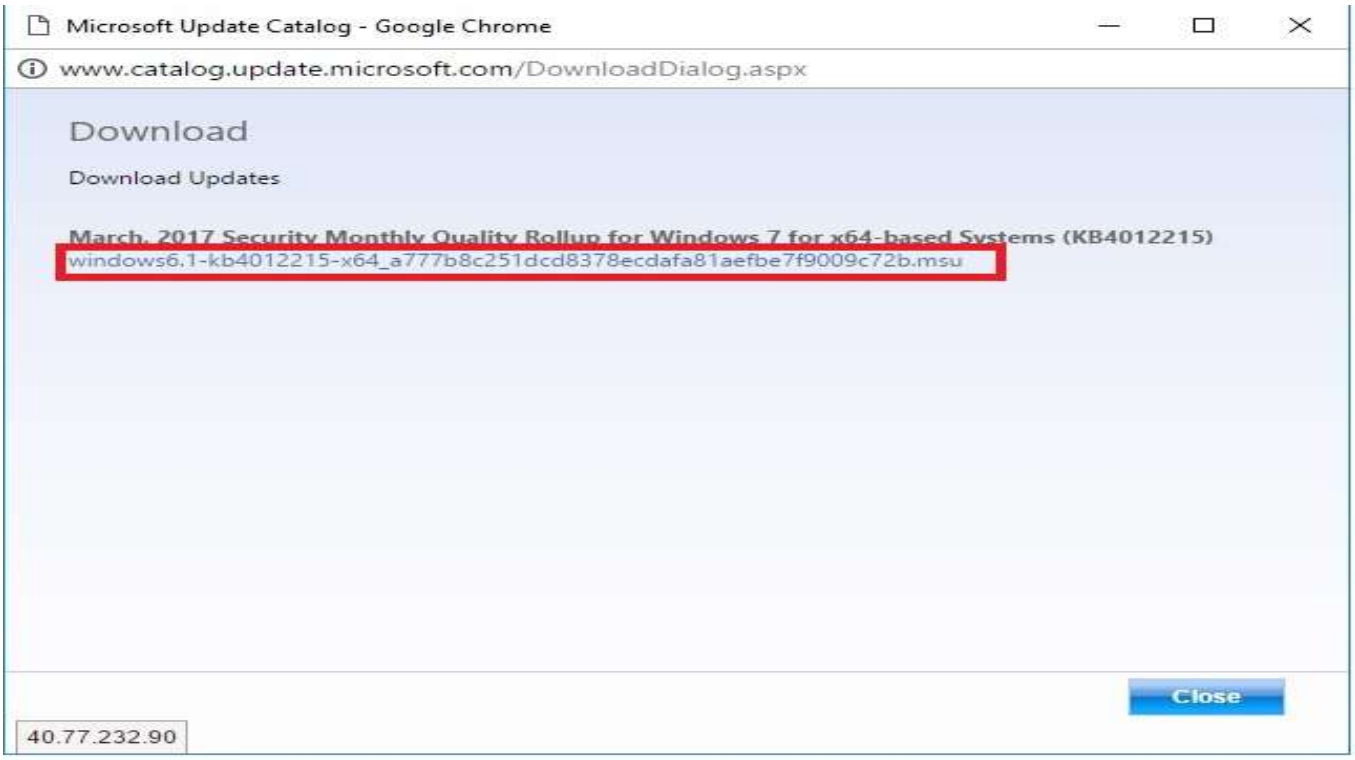
2. Patches for various versions of windows are listed. Select appropriate version.



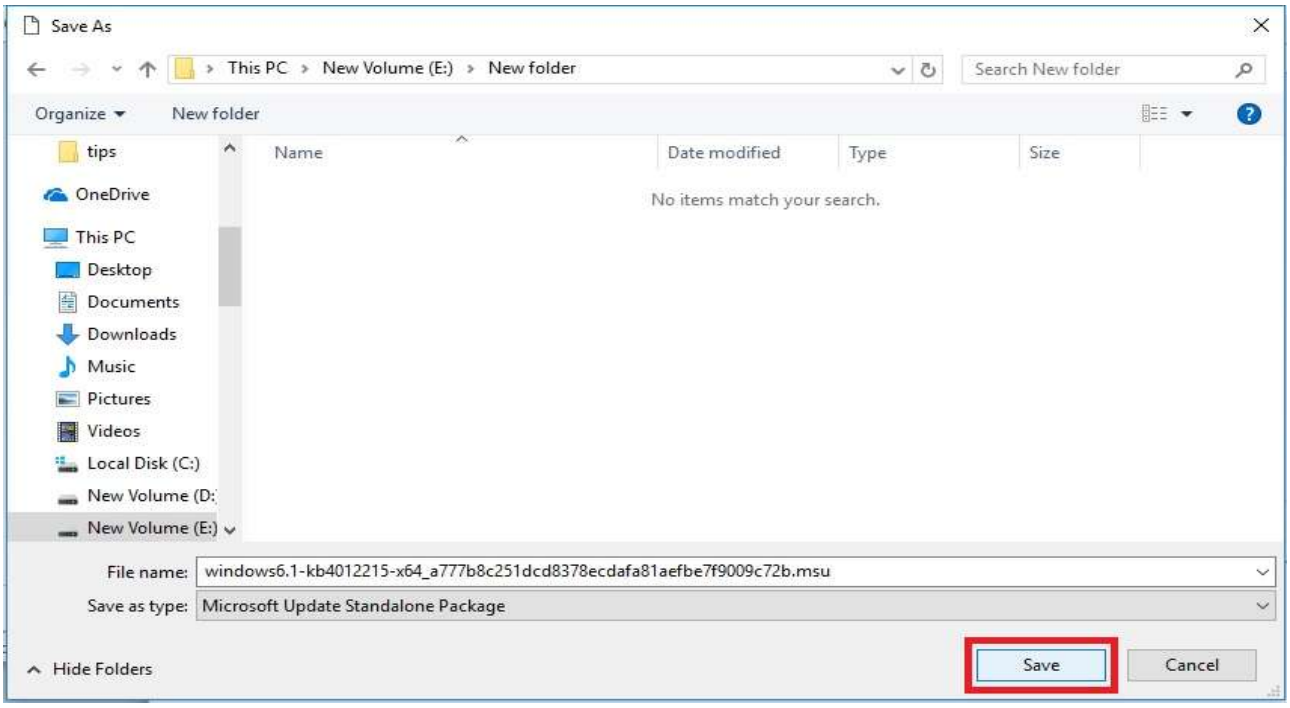
3. A new *Microsoft update catalog window* will open and then select *download* option corresponding to *March, 2017 Security Monthly Quality Rollup for Windows 7 for x64-based Systems (KB4012215)* as shown below:



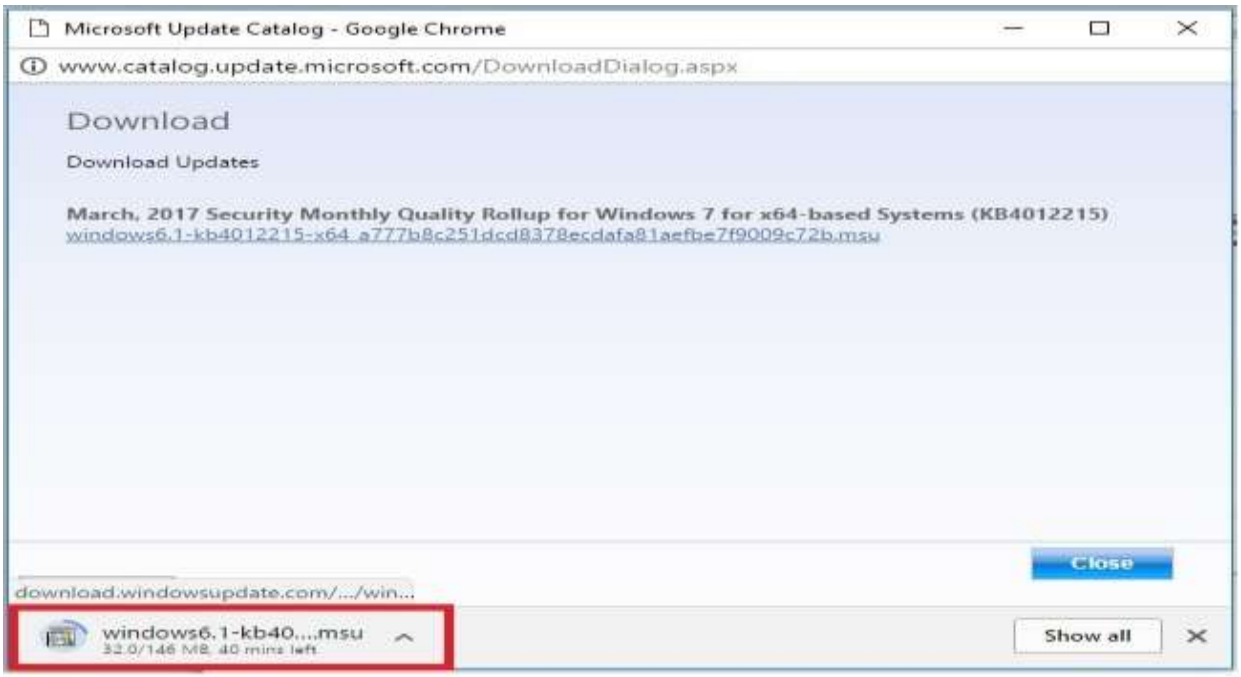
4. On the download page
   Click: *windows6.1-kb4012215-x64_a777b8c251dcd8378ecdafa81aefbe7f9009c72b.msu*as shown below:



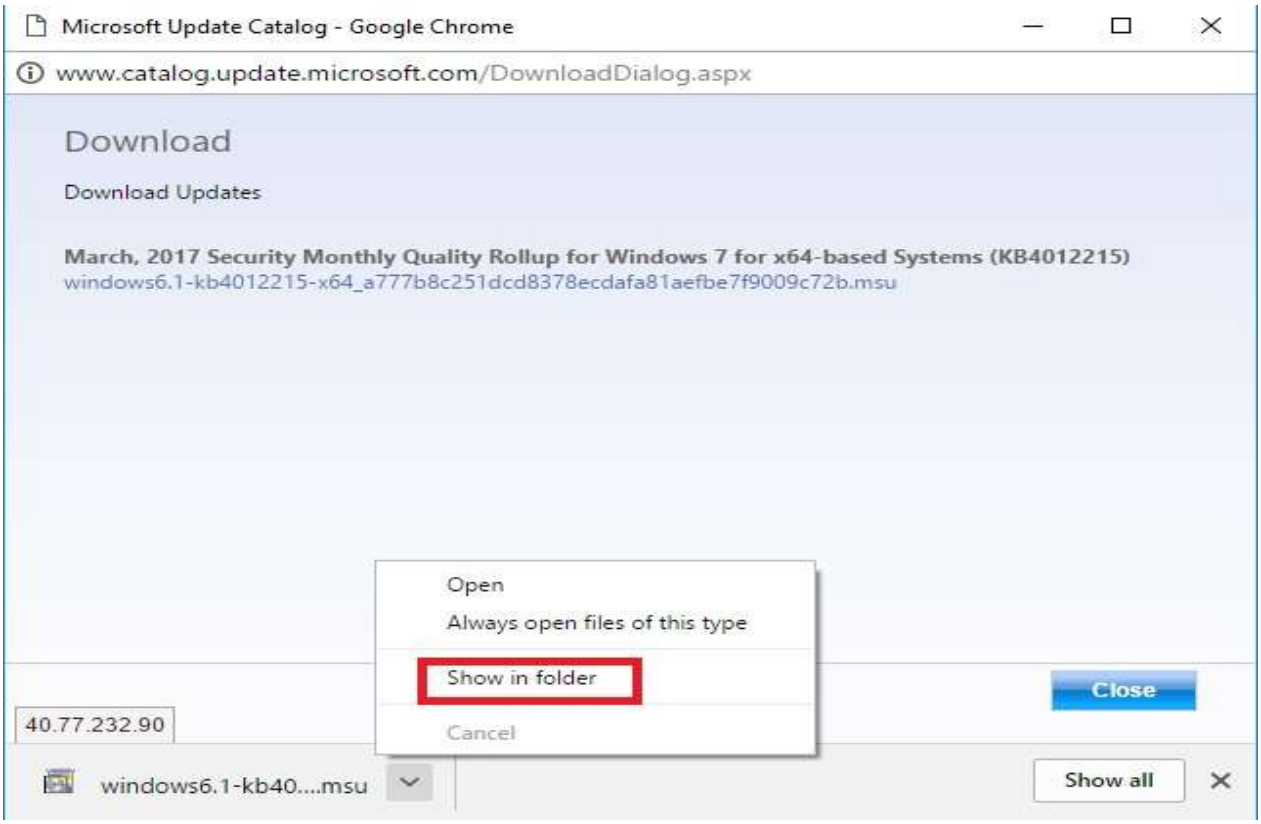
5. A save window as shown below is opened and then browse the location where need to save the installation file and then click save:



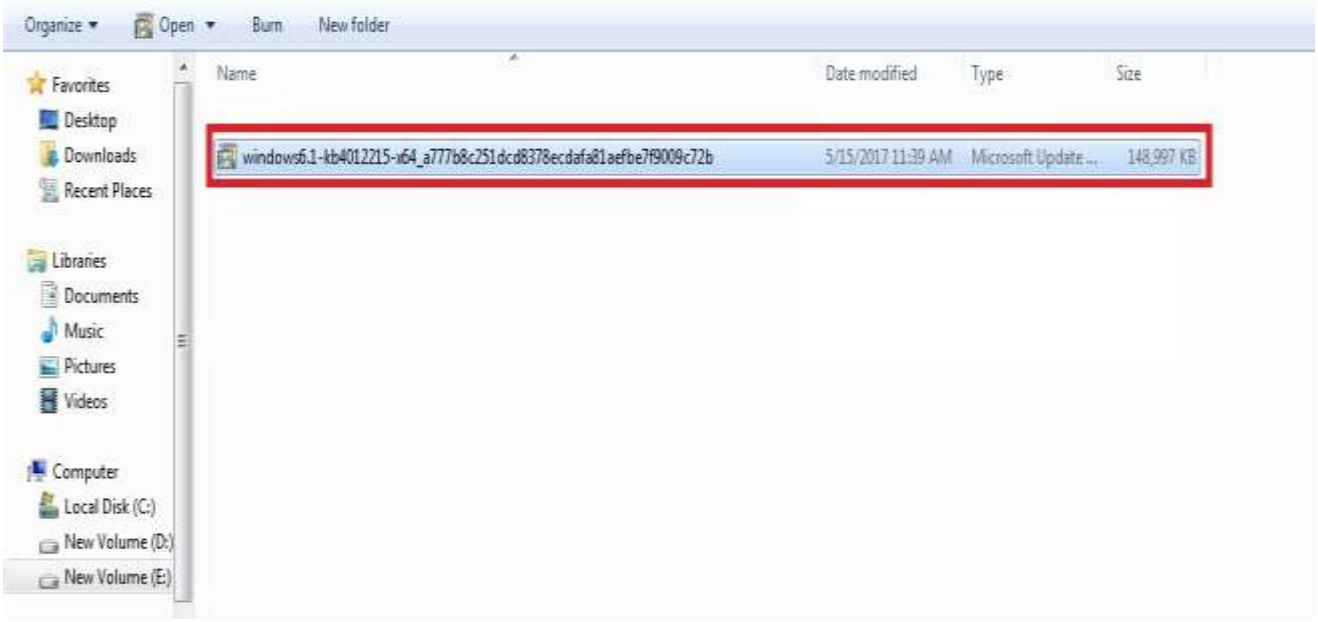
6. Download is in progress.



7. After completing the download, click the arrow and then select show in folder or browse to the location where the downloaded software resides.

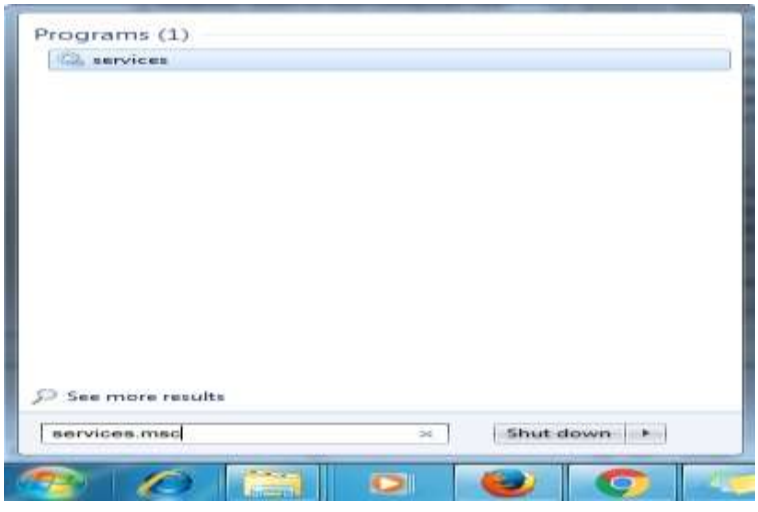


8. Double click the installation file

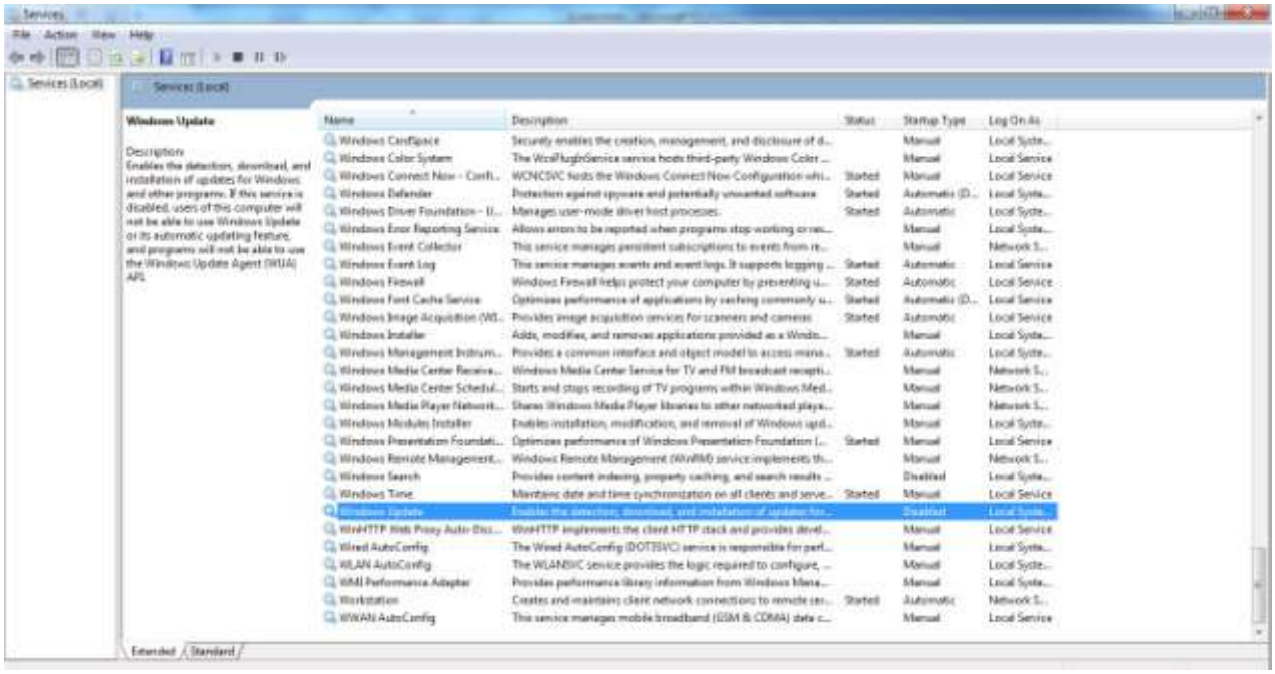


9. If any error occurred as shown below follow the next step otherwise go to step 20:

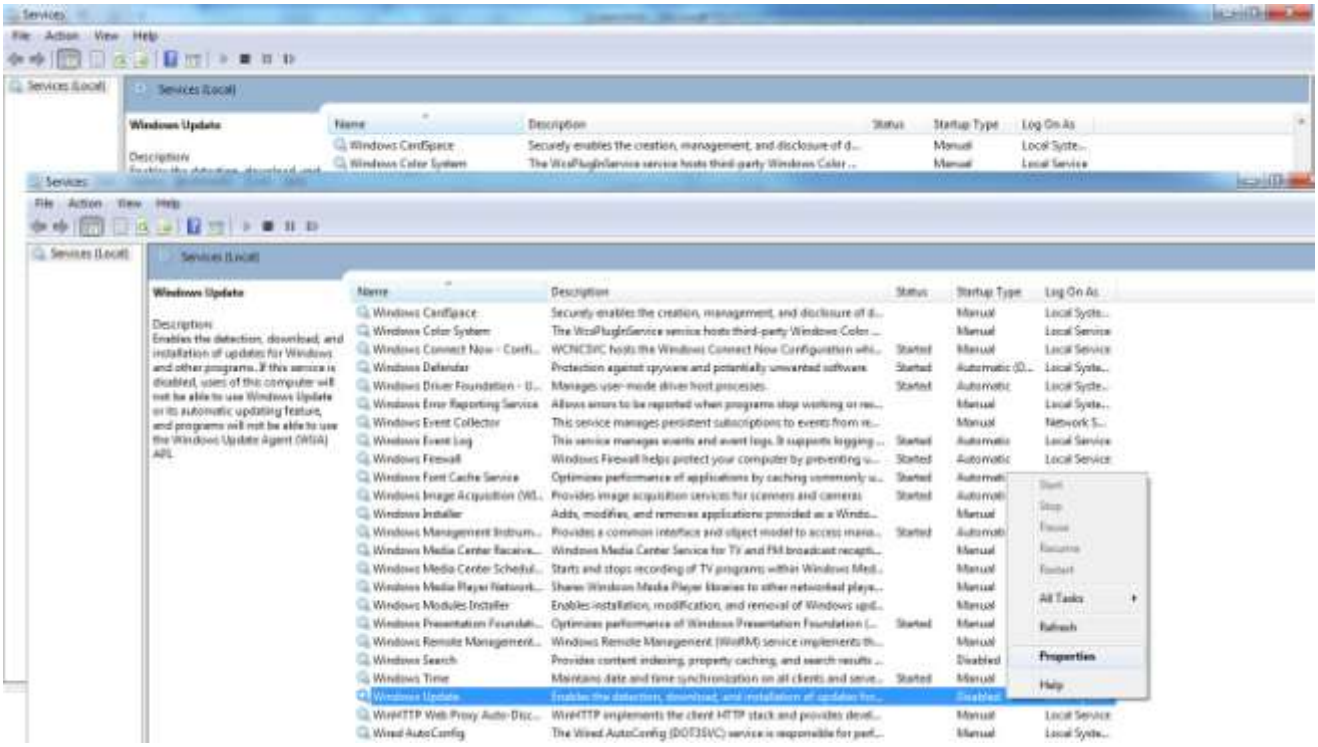
10. On windows start menu search bar type: services.msc



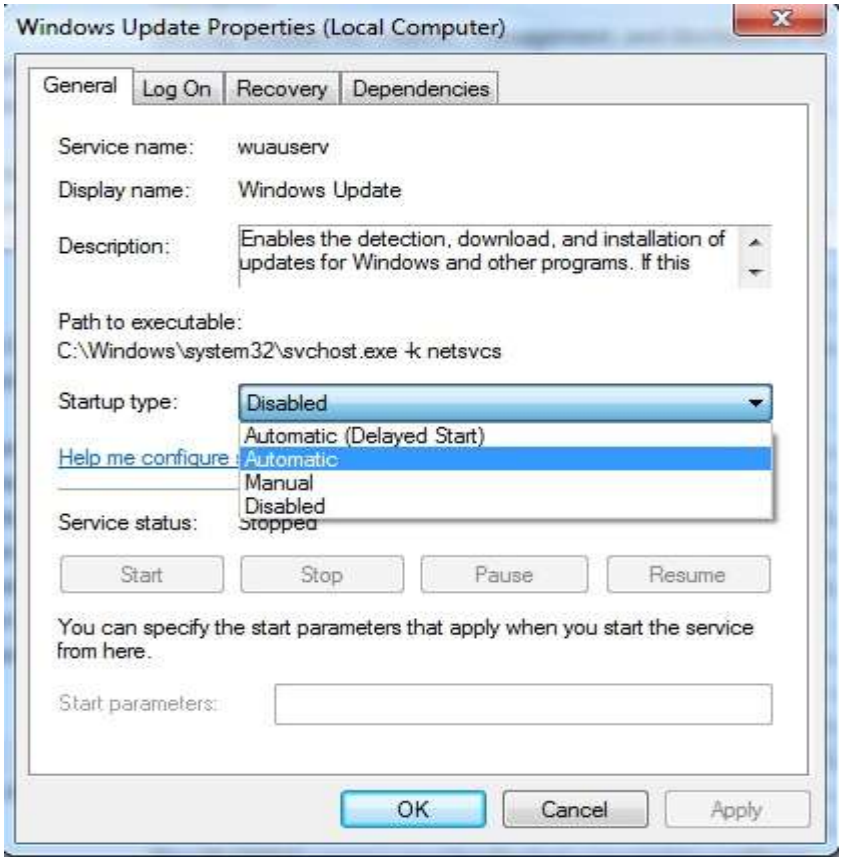
11. New window open as shown below. Scroll down for the windows update and check status disabled.



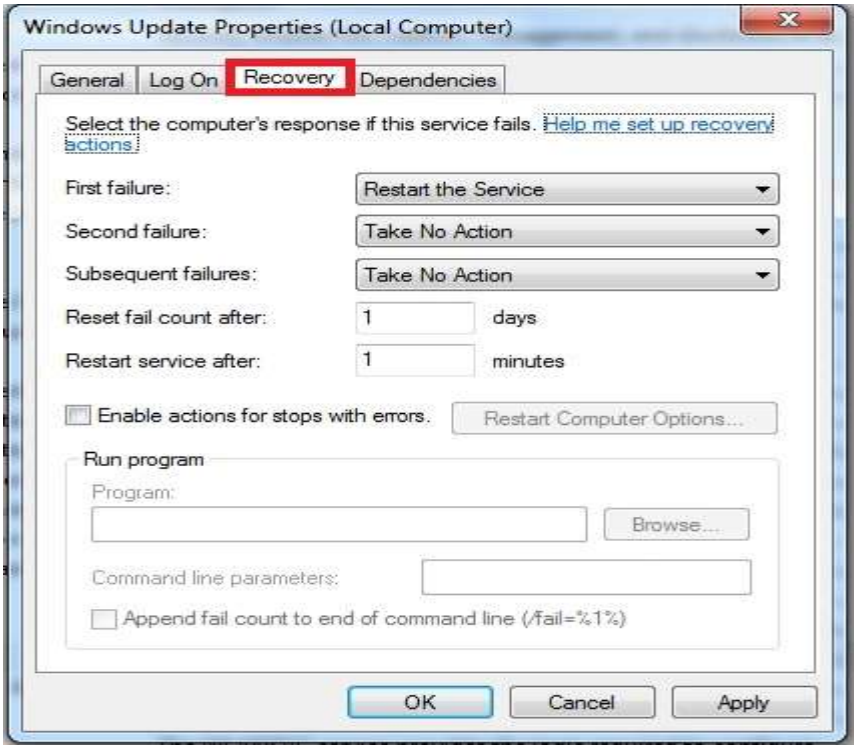
12. On the option right click and then select properties



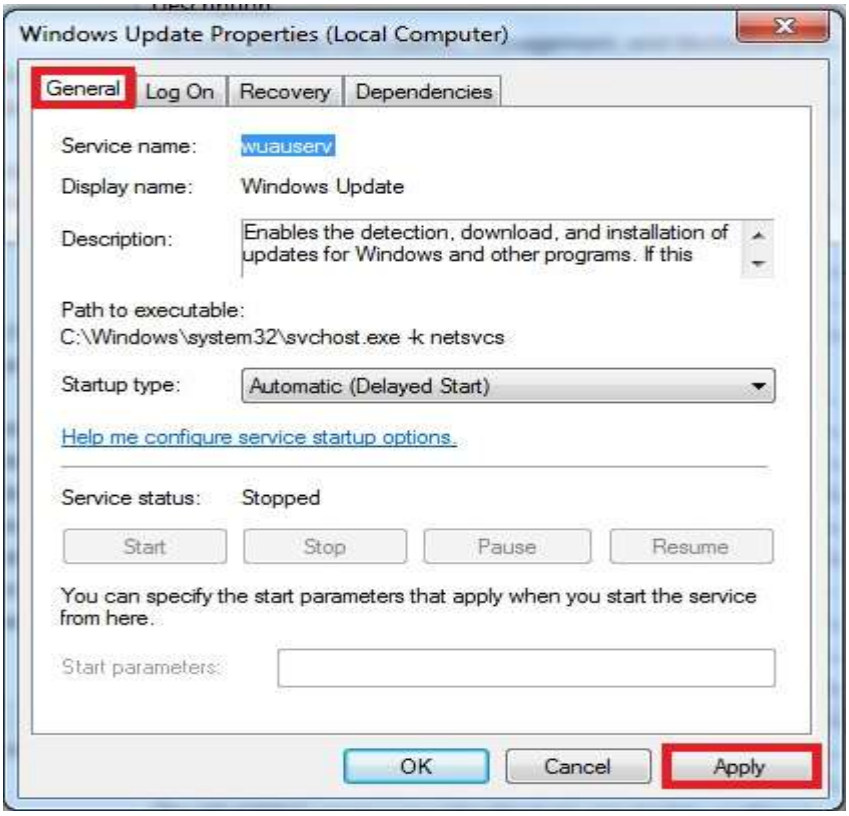
13. Check start-up type and then select *automatic*



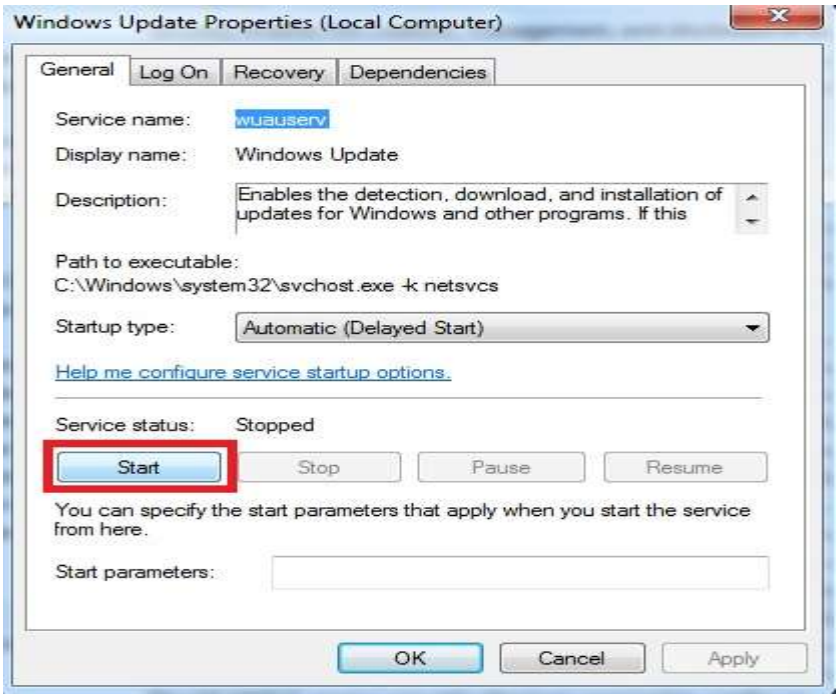
14. Then go to recoverytab and then *select first failure type to restart the service*



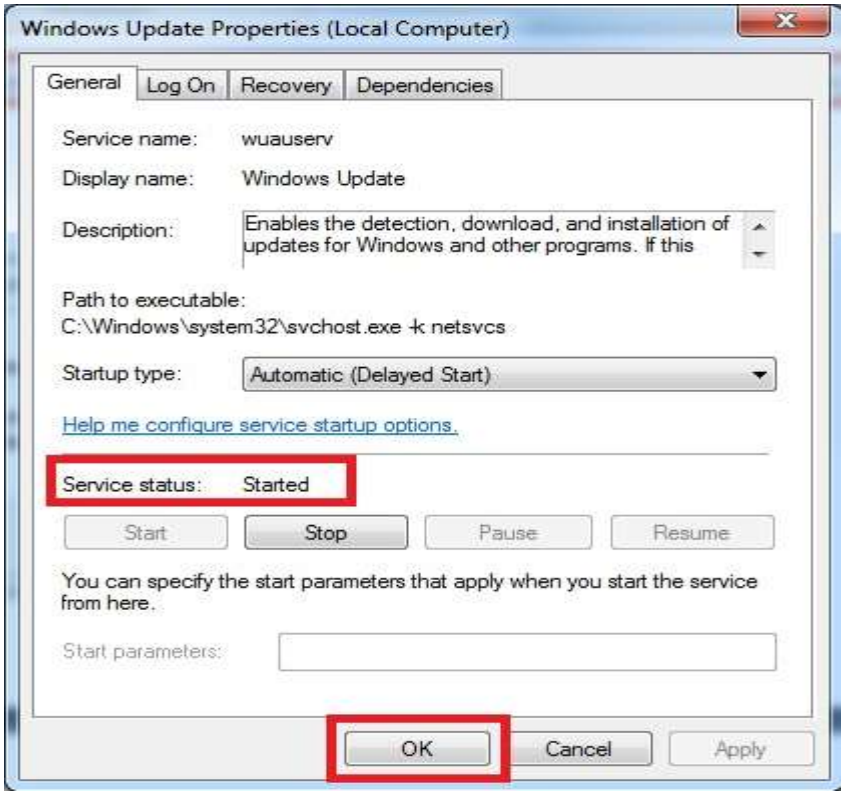
15. Go to general tab and then select option apply



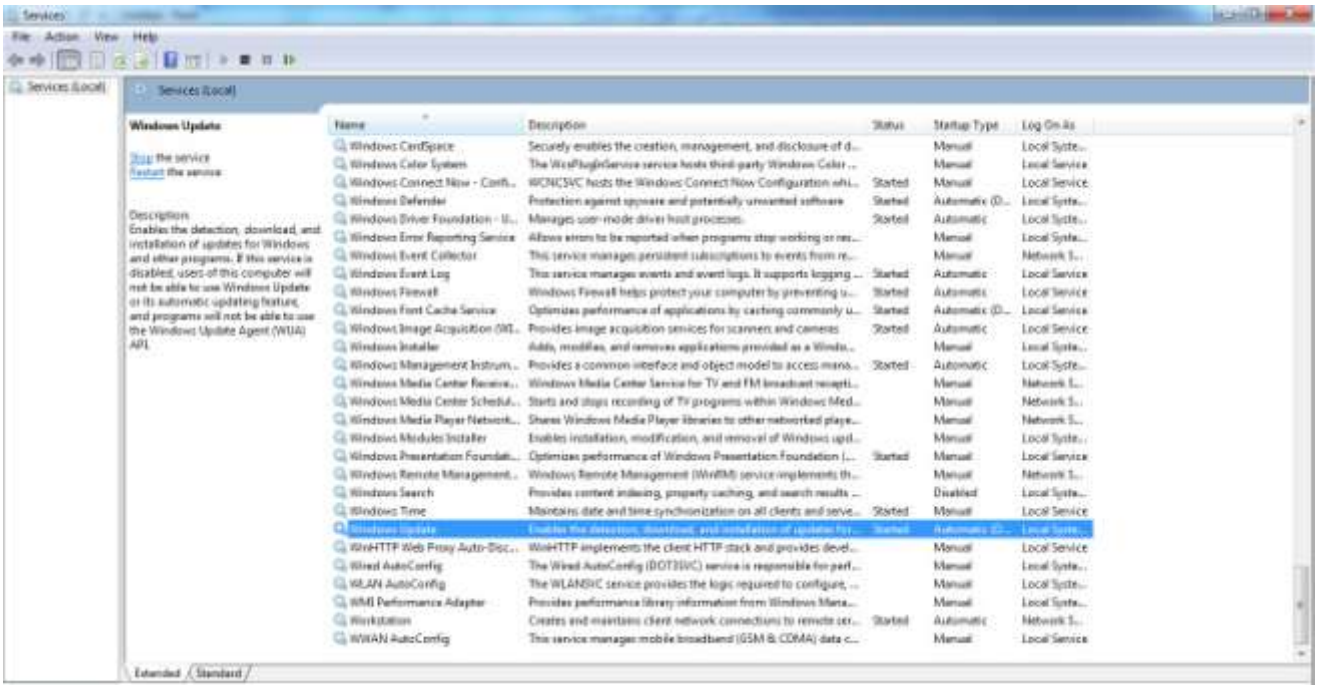
16. After that the start button will be active and click on start button on the window



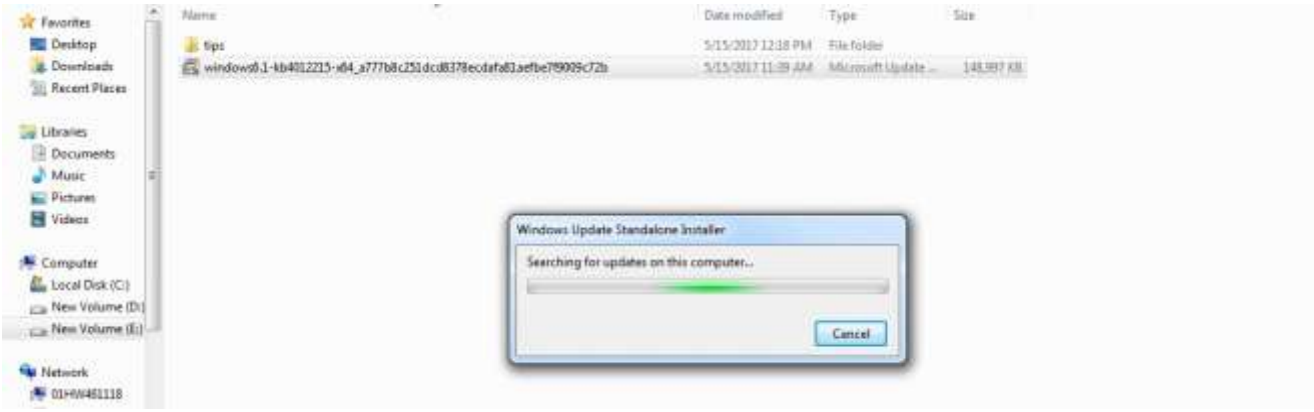
17. Then select Ok



18. Then the window shows status like started

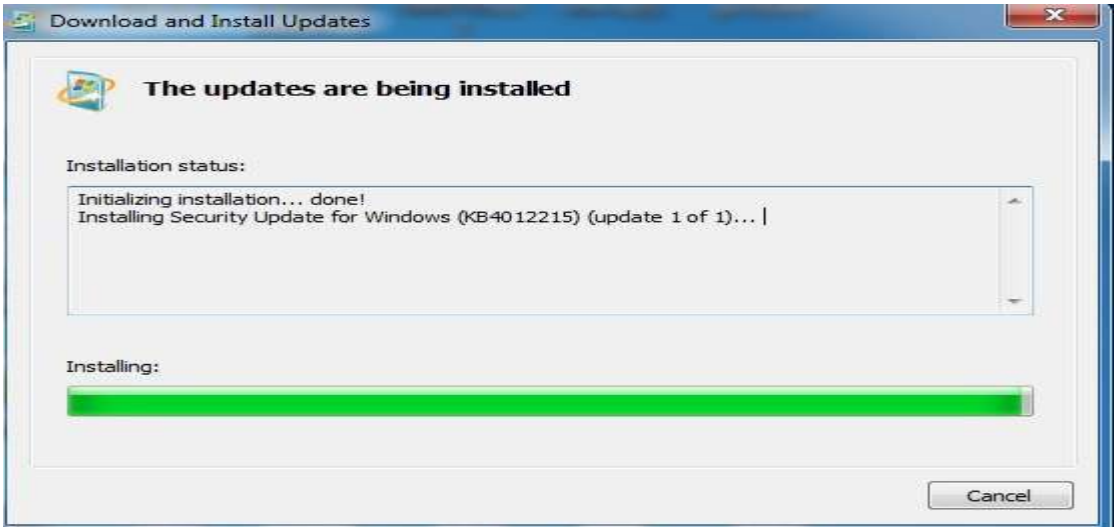


19. Double click the installation file already downloaded and then new window shown like below will be displayed.

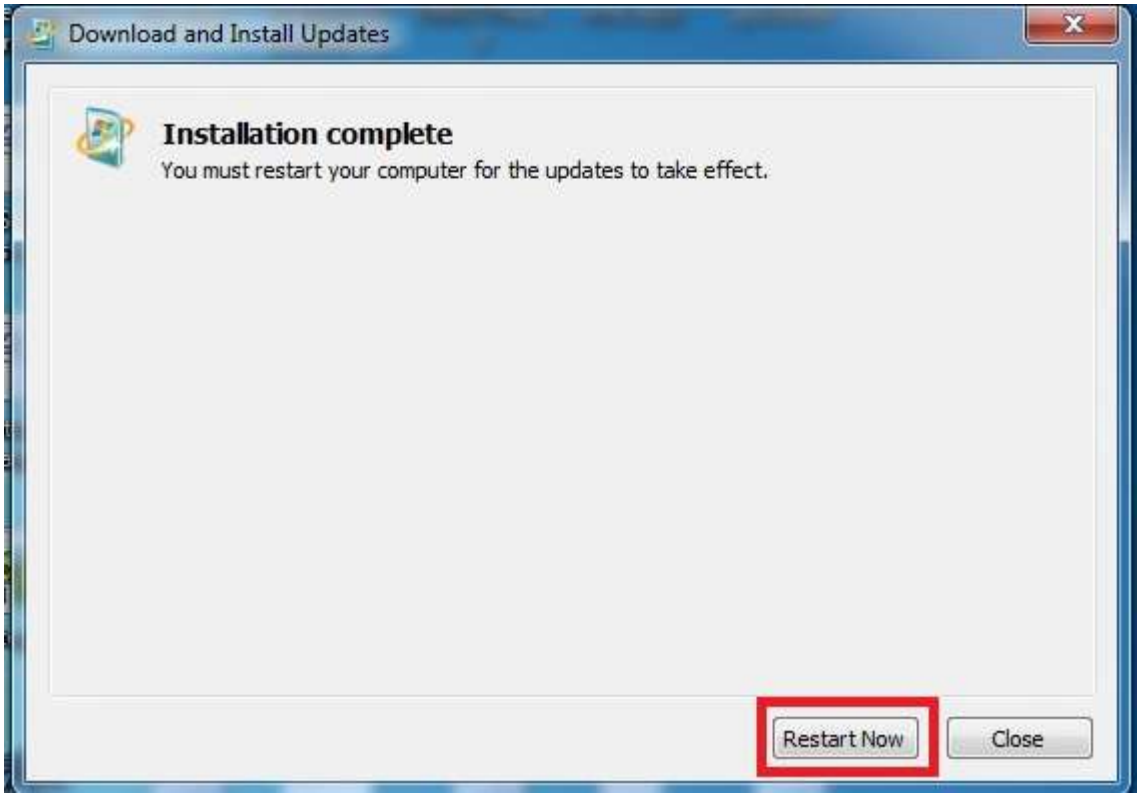


20. Select yes on the message box

21. Installation begins



22. Select Restart option on the final box displayed



KERALA STATE IT MISSION
Department of Information Technology
Government of Kerala

SMB

The Server Message Block (SMB) protocol is a network file sharing protocol that allows applications on a computer to read and write to files and to request services from server programs in a computer network. The SMB protocol can be used on top of its TCP/IP protocol or other network protocols. Using the SMB protocol, an application (or the user of an application) can access files or other resources at a remote server. This allows applications to read, create, and update files on the remote server. It can also communicate with any server program that is set up to receive an SMB client request.

How to Disable SMB on Windows Machines to prevent WannaCry Ransomware

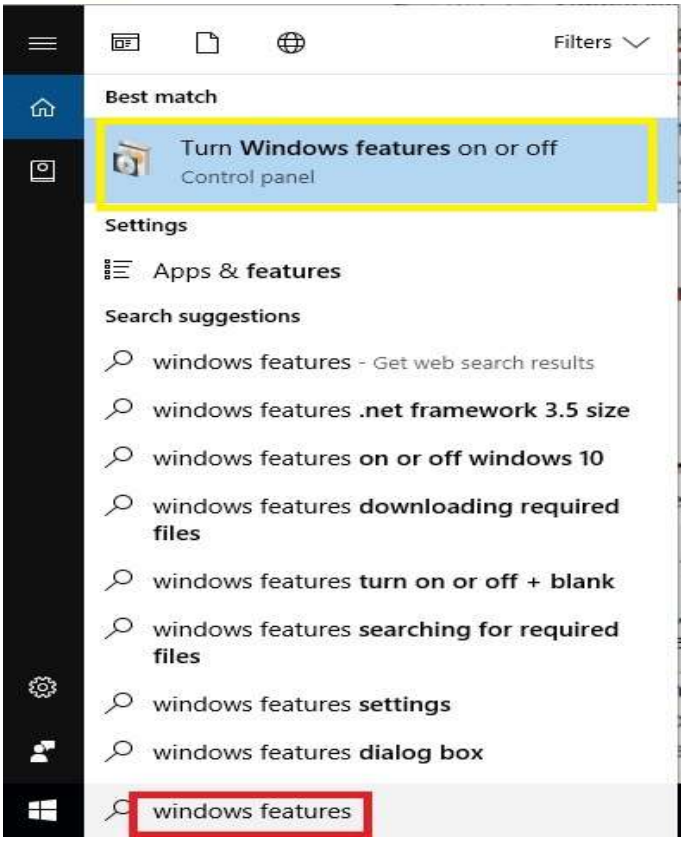
Before proceeding further it is strongly advised to take a backup of the machine because you will in some case might require to change the Windows Registry. If the steps are not carefully followed it might even crash the machine.

For Windows 10/8/7

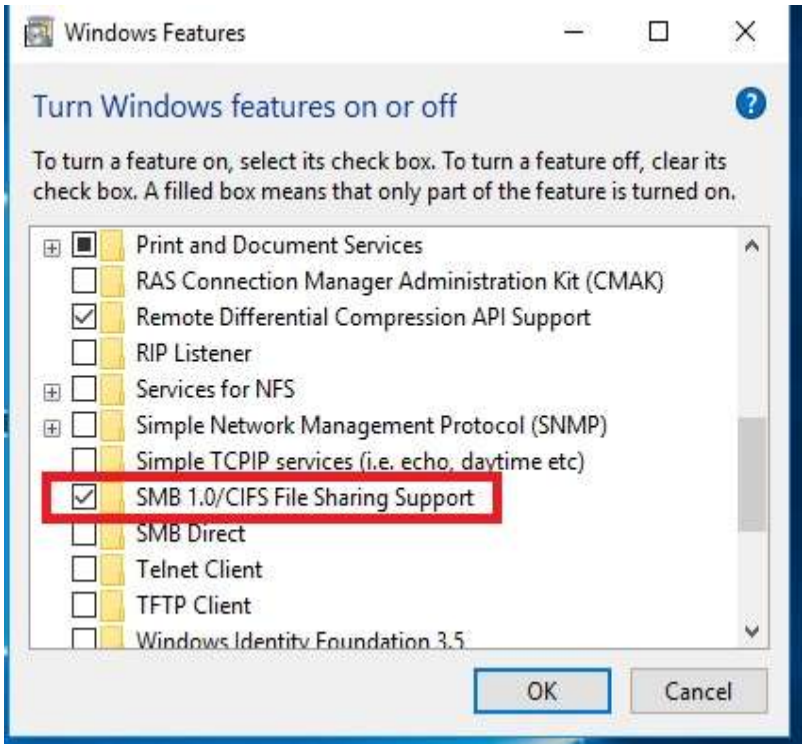
Windows users can disable the SMB feature by following these simple steps:

1. Click on the **Search option** and search for "**Windows Features**" and you will see the result as "**Turn Windows Feature on and off.**"

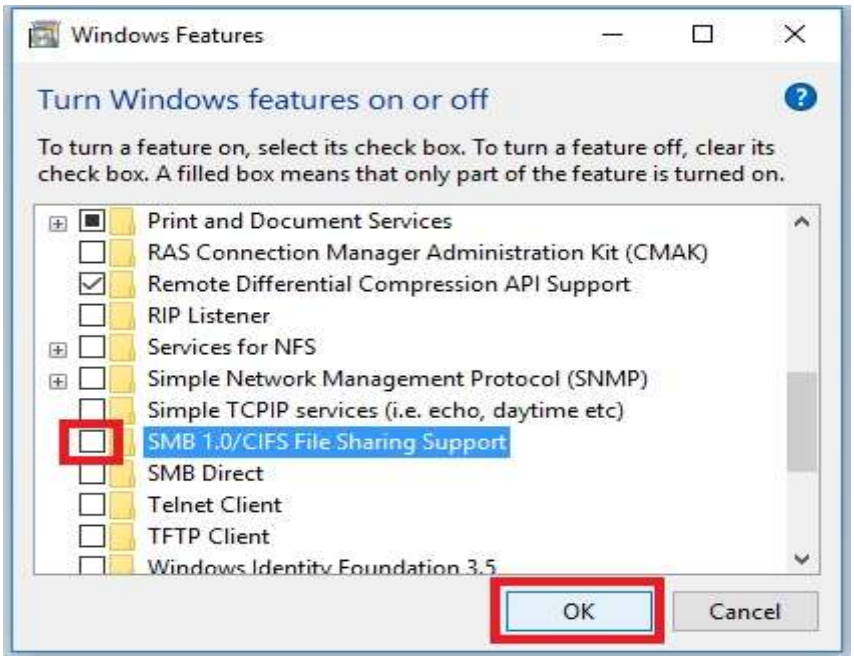
KERALA STATE IT MISSION
Department of Information Technology
Government of Kerala



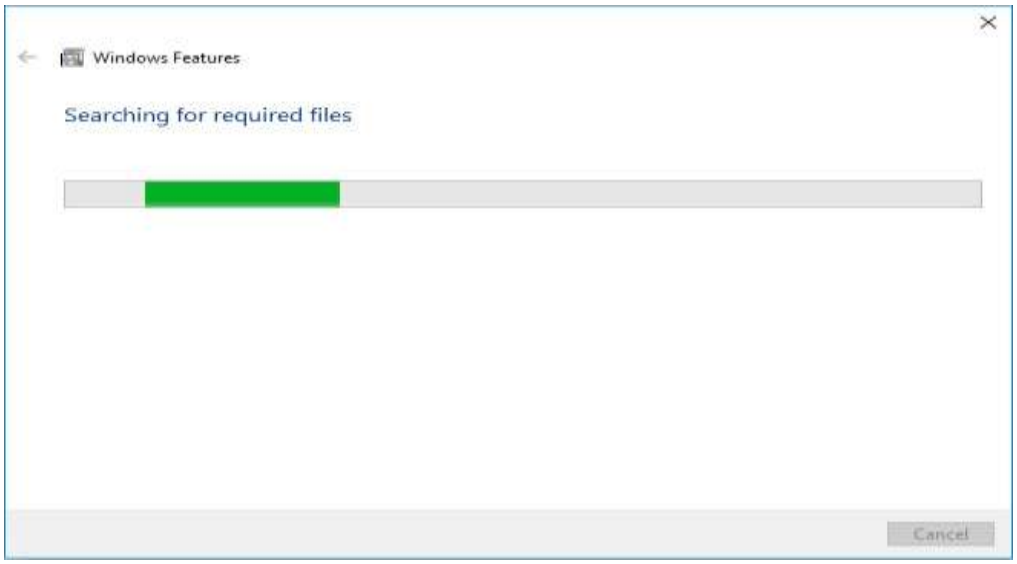
2. Upon clicking the option, the following screen will be prompted:



3. Now **untick the box** and **click on "Ok".**



4. Wait for some moments when displaying the following window:



5. Finally the completed wizard displayed **click restart** button

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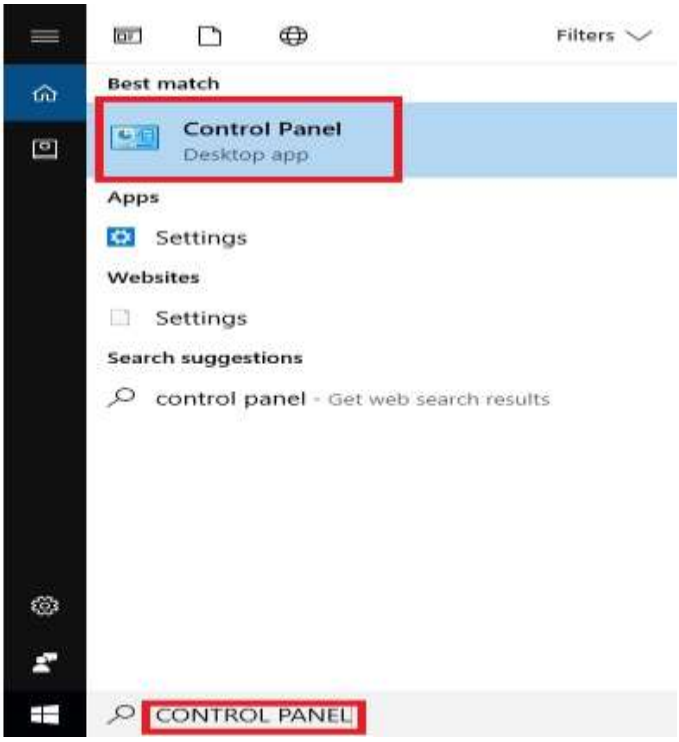
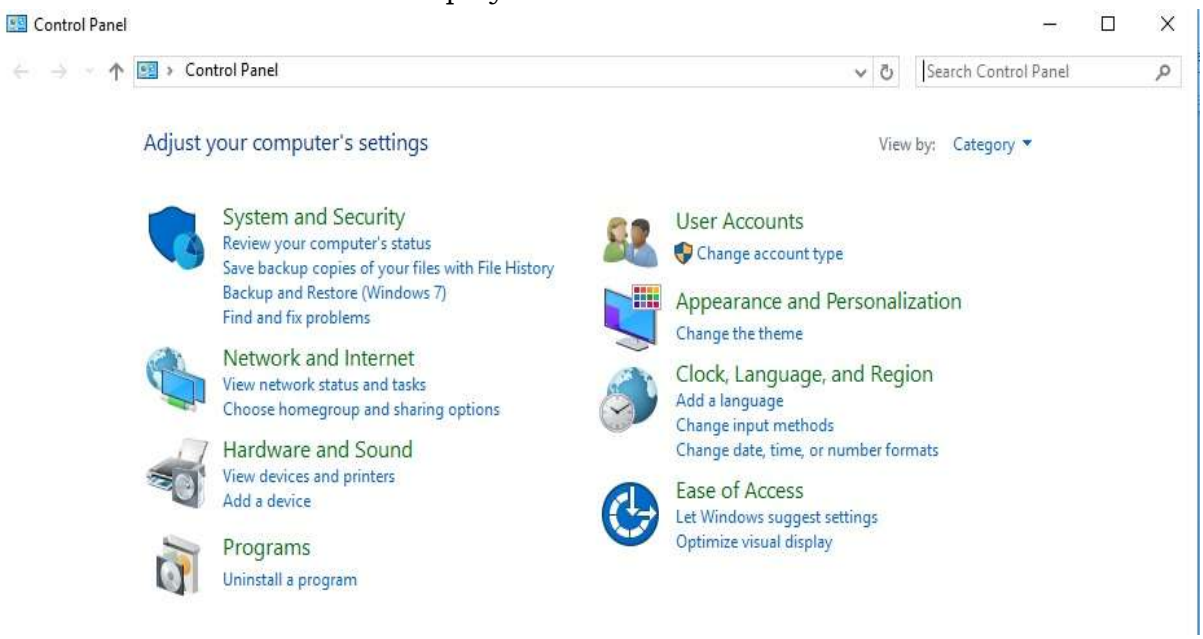
BLOCK PORTS

How to block all traffic requesting port 445

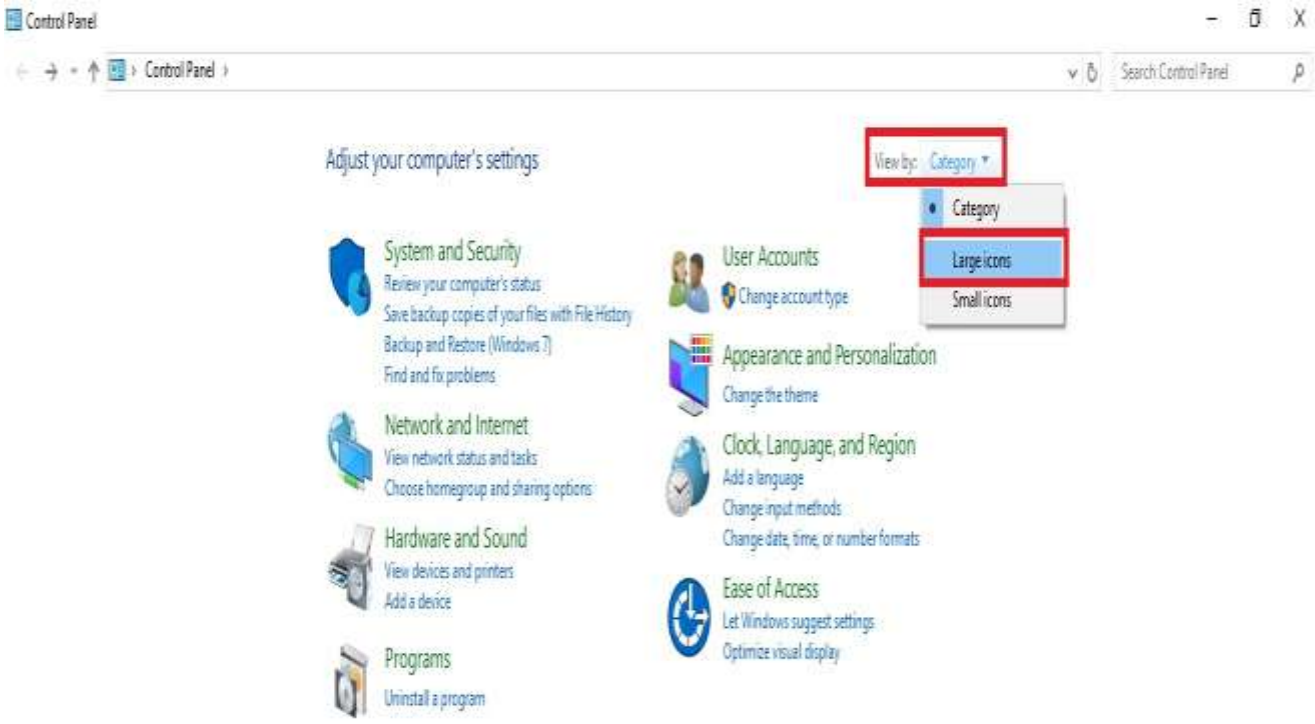
1. Open **Control Panel** from the Start menu.



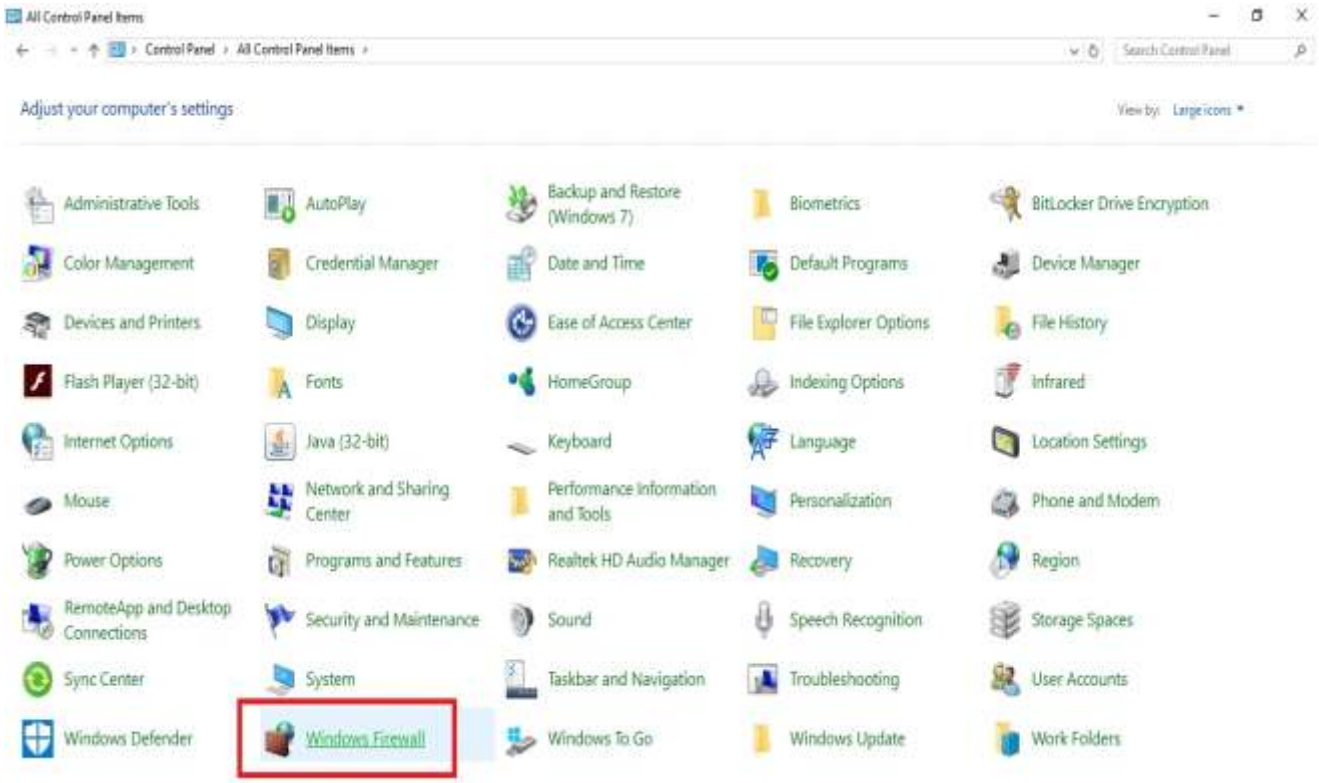
2. The window shown below is displayed



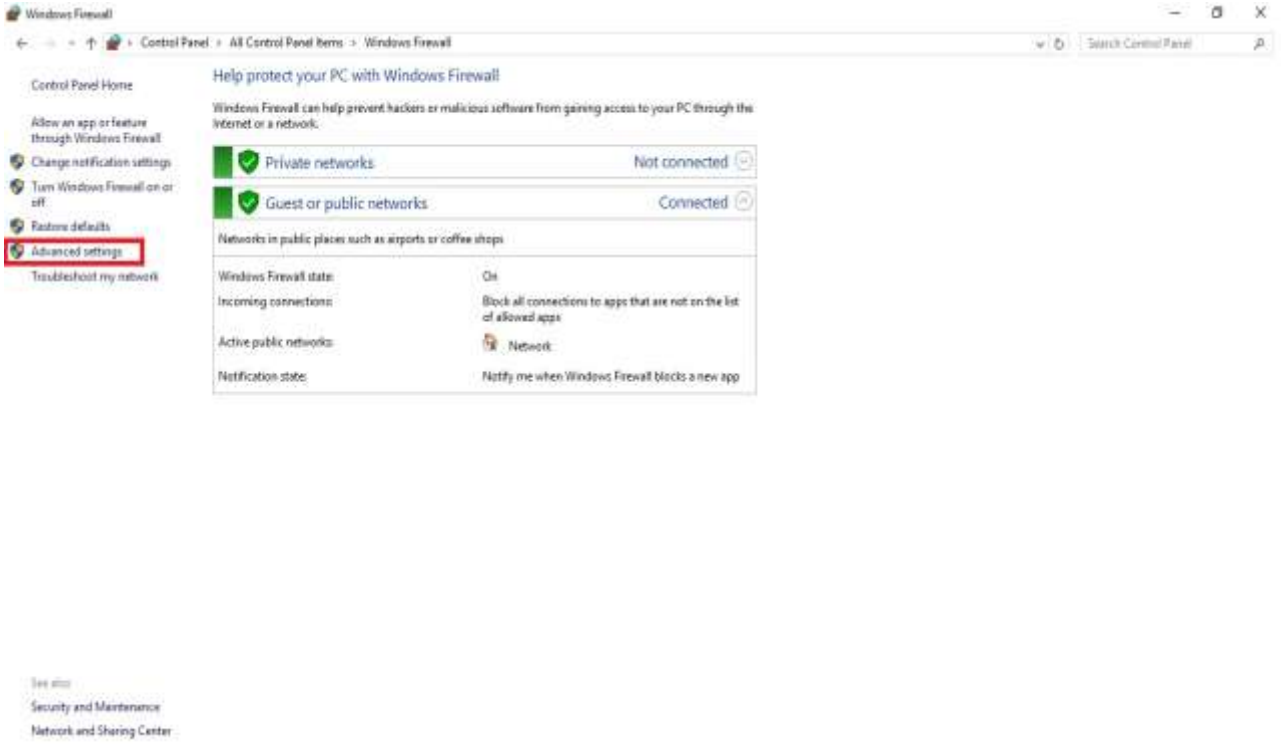
3. If windows firewall option present on the above window then go to step: otherwise select the **large icons options** from the dropdown box



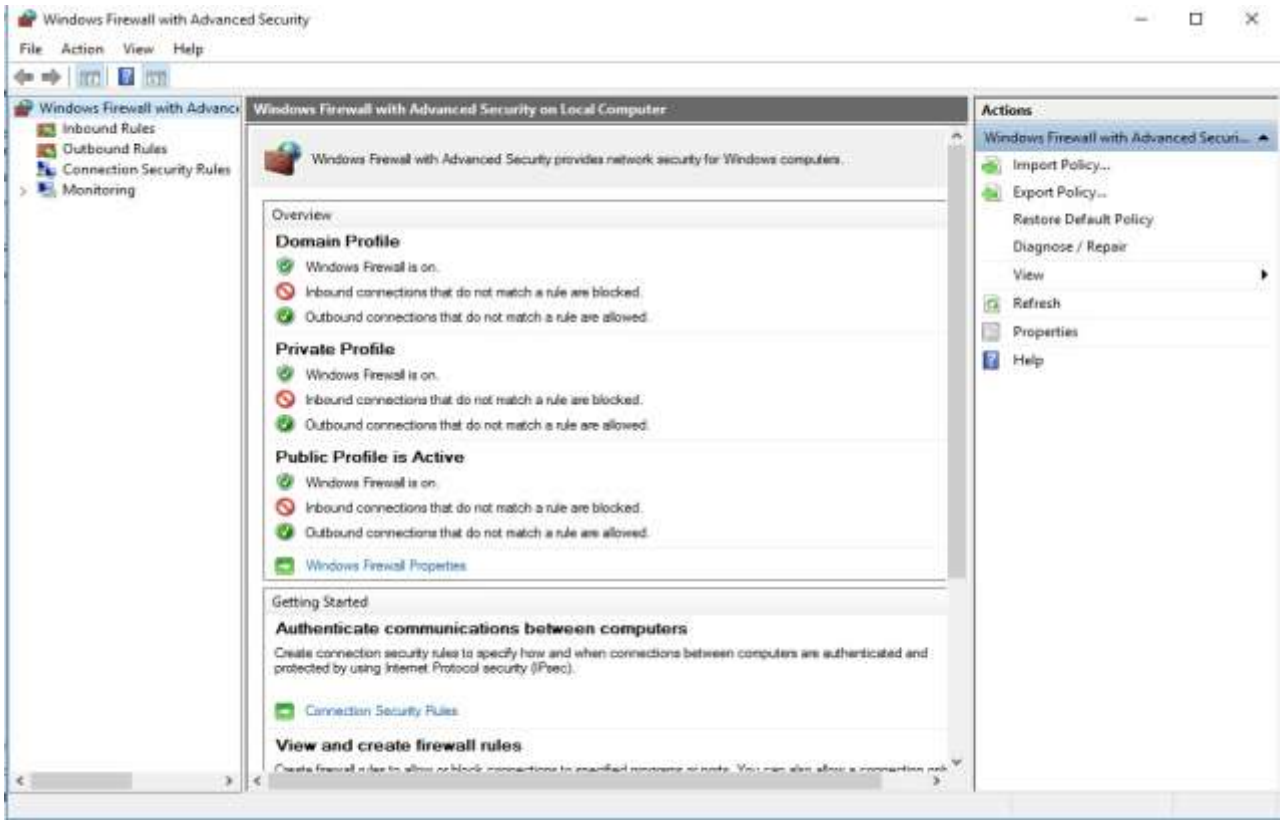
4. Select **windows firewall** option and **click** on it



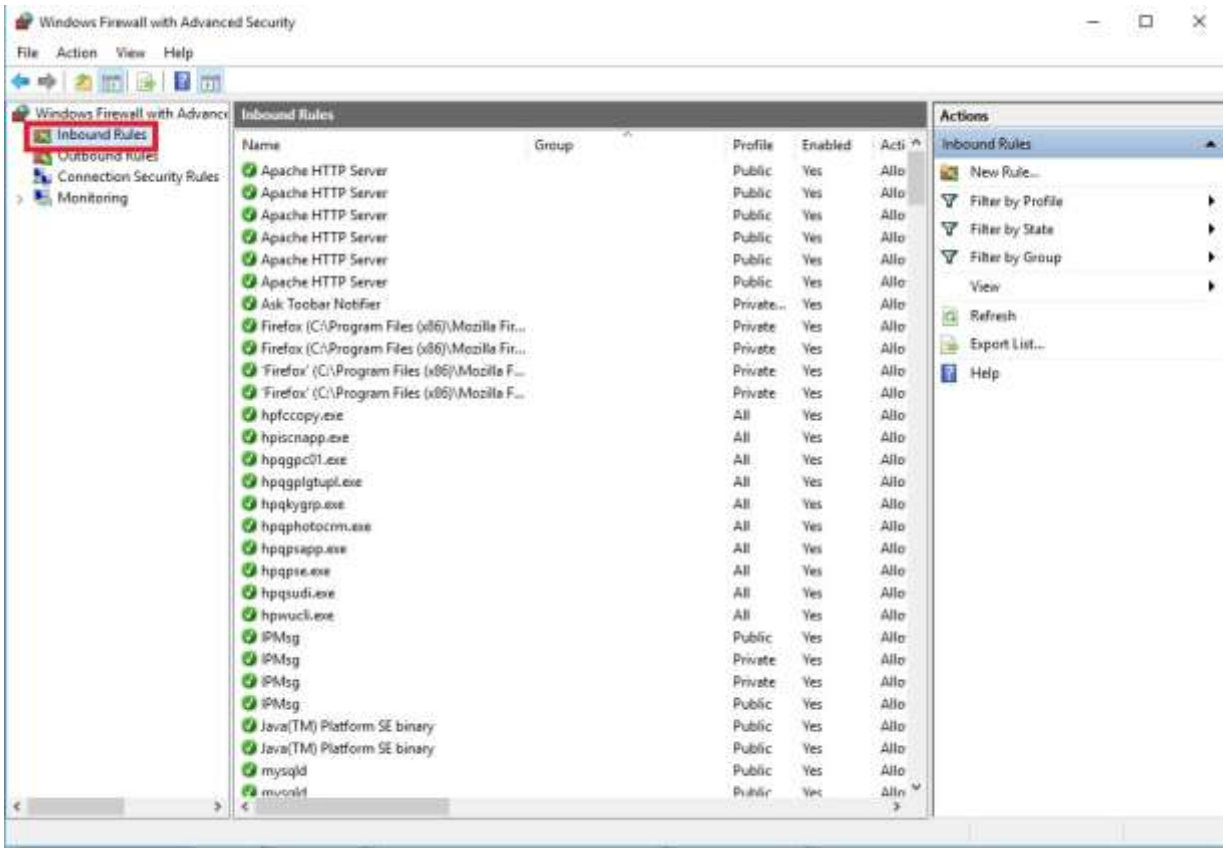
5. On the **windows firewall window** displayed, select **advanced setting** option from the left side.



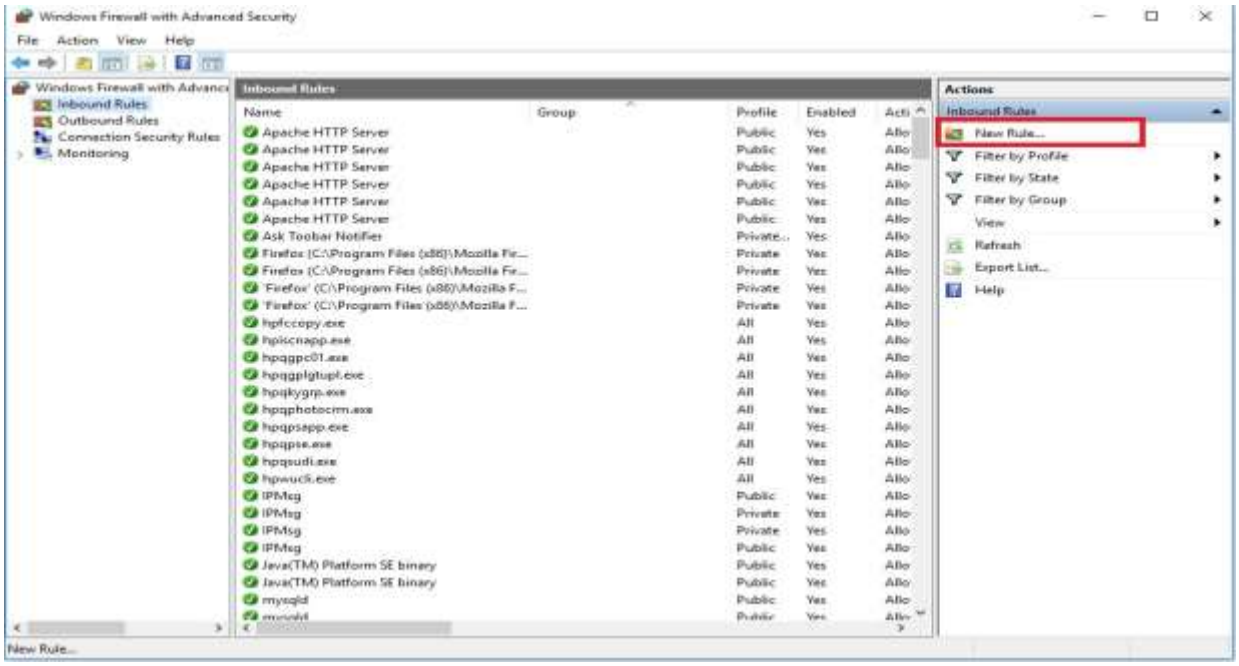
6. The **windows firewall with advanced security** window is displayed



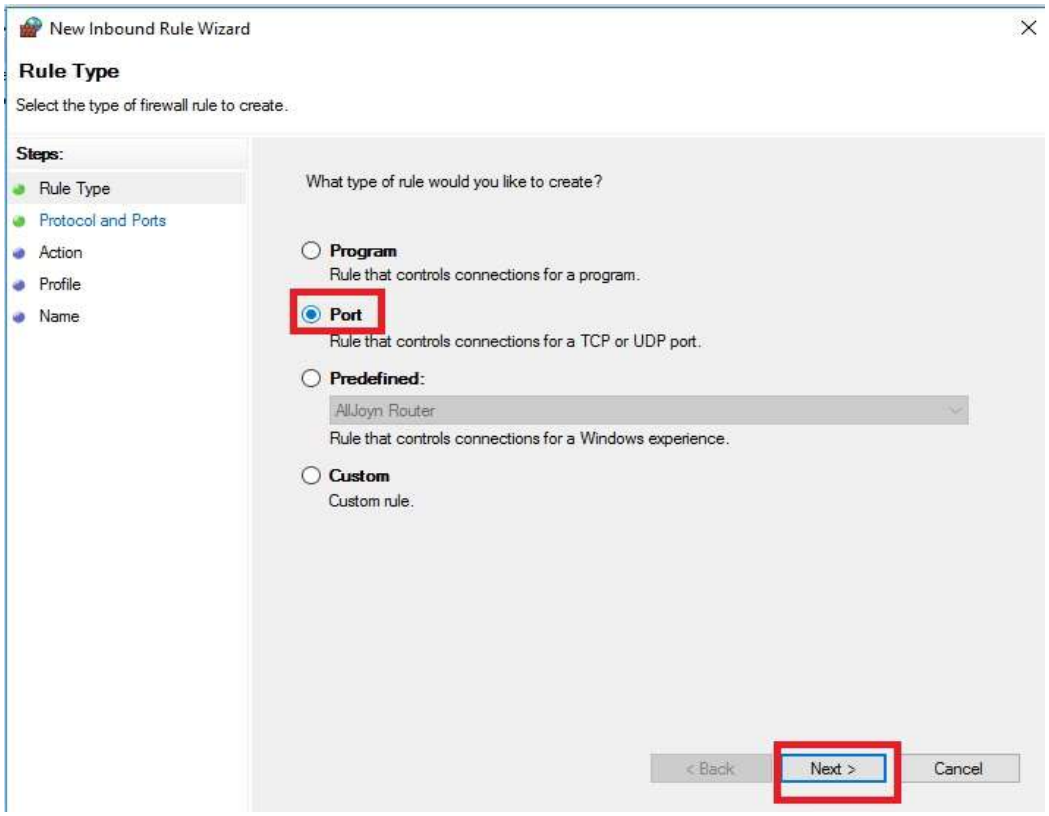
7. **Select** the **Inbound Rules** option displayed on left side of the window



8. Then **select** the **New Rules** option displayed on right side of the window

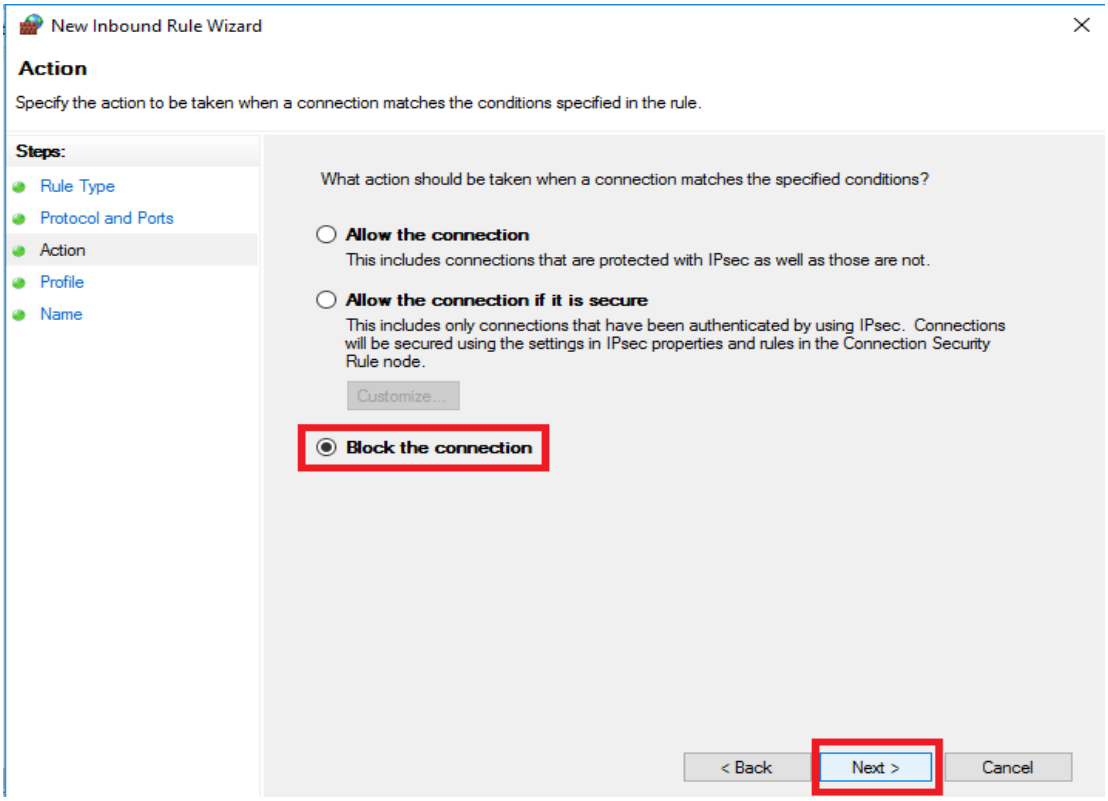


9. **New Inbound Rule Wizard** is displayed & Select **Port** and then **click Next** as shown below:

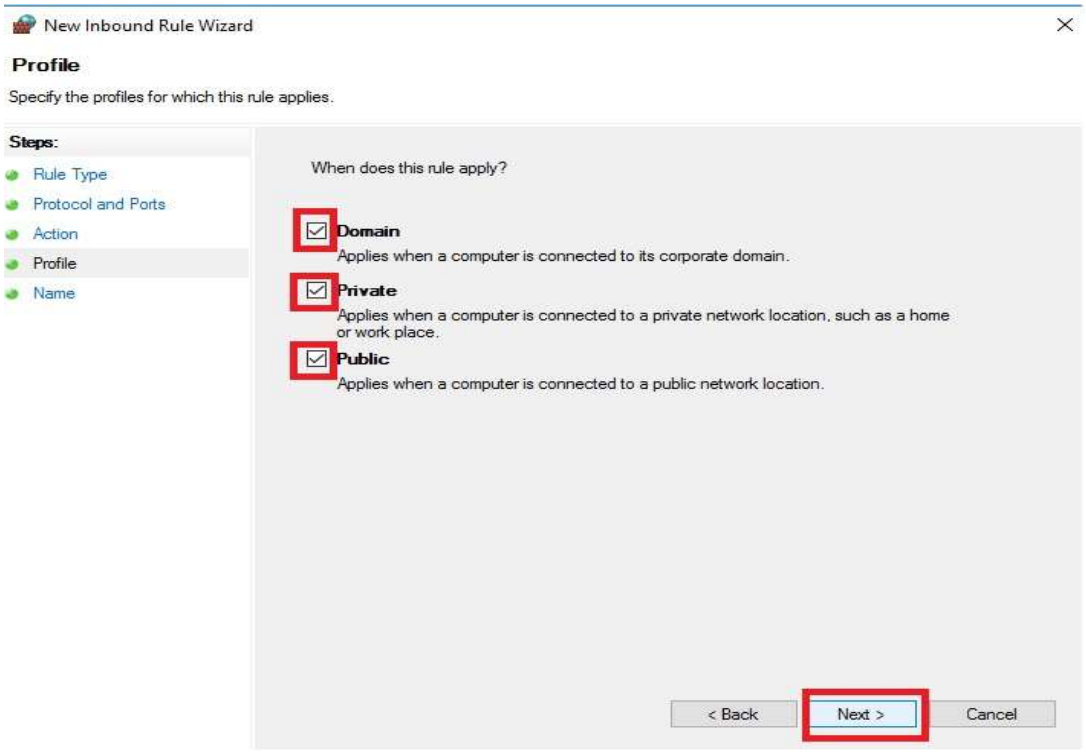


10. On the next page **select TCP** and **select Specific local ports** and on the **text box type:445** and then **click Next.**

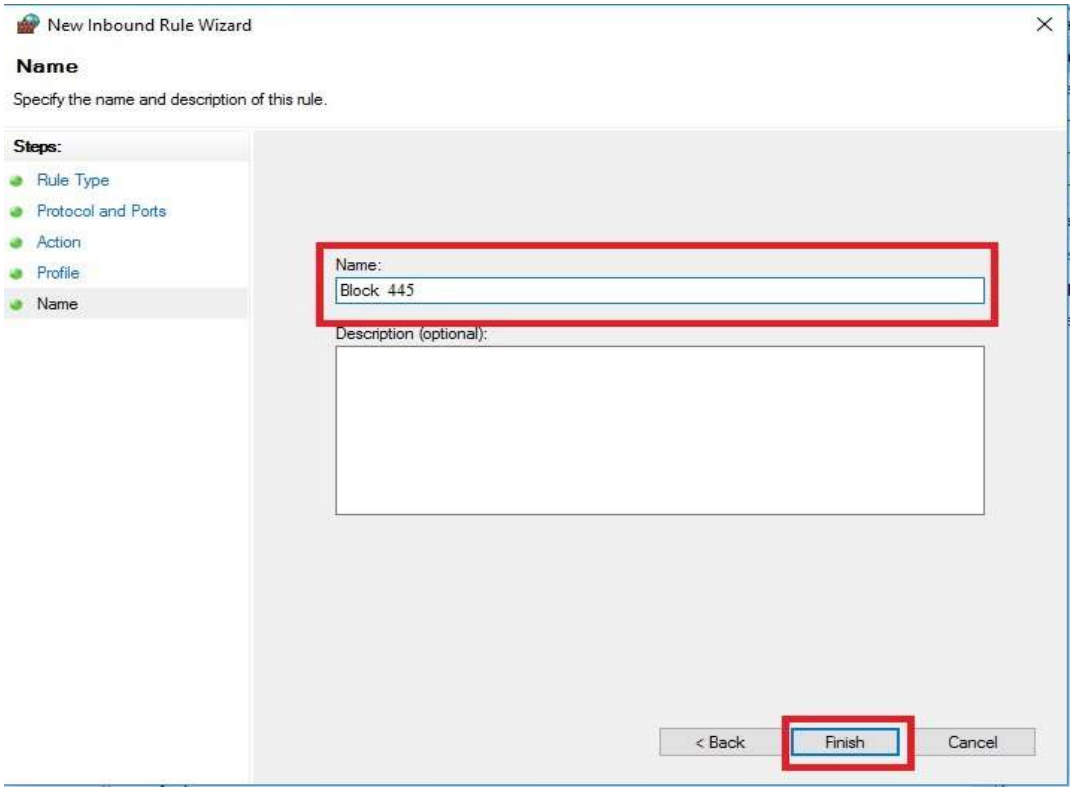
11. On the next page **select Block the connection** and then **click Next.**



12. **Tick** all the options **Domain, Private, Public** as shown below & then **click Next**



13. On the next window **give any name** to identify the rules created now ***example: Block 445*** as shown below and then select Finish.



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Recovery measures from Ransomware Attack

Disconnect and Isolate the affected machine from entire network/internet.Do not connect any external USB medium like Pendrives, Harddisks, to the infected machine. Be cautious on while copying any files from the infected machine's hard disk during the recovery process.

1) If your web browser is locked

You can try to unlock your browser by using Task Manager to stop the web browser's process:

1. Open Task Manager. There are a number of ways you can do this:
    - **Right-click** on an empty space on the taskbar and click **Task Manager** or **Start Task Manager**.
    - Press **Ctrl+Shift+Esc**.
    - Press **Ctrl+Alt+Delete**.
2. In the list of **Applications** or **Processes**, click on the name of your web browser.
3. Click **End task**. If you are asked if you want to wait for the program to respond, click **Close the program**.
4. In some workplaces, access to Task Manager may be restricted by your network administrator. Contact your IT department for help.

When you open your web browser again, you may be asked to restore your session. Do not restore your session or you may end up loading the ransomware again.

2) If your PC is locked

- **Method 1: Use the Microsoft Safety Scanner in safe mode**

First, download a copy of the Microsoft Safety Scanner from a clean, non-infected PC. Copy the downloaded file to a blank USB drive or CD, and then insert it into the infected PC.

Try to restart your PC in safe mode:

- In Windows 10
- In Windows 8.1
- In Windows 7
- In Windows Vista
- In Windows XP

When you're in safe mode, try to run the Microsoft Safety Scanner.

- **Method 2: Use Windows Defender Offline**

  Because ransomware can lock you out of your PC, you might not be able to download or run the Microsoft Safety Scanner. If that happens, you will need to use the free tool Windows Defender Offline. please go through the link below

  https://support.microsoft.com/en-us/help/17466/windows-defender-offline-help-protect-my-pc

3) Steps you can take after your PC has been cleaned

Make sure your PC is protected with antimalware software.

Microsoft has free security software that you can use:

- If you have Windows 10 or Windows 8.1, your PC comes with antimalware software: Windows Defender.
- If you're using Windows 7 or Windows Vista, you should install antimalware software, such as Microsoft Security Essentials.
- You can update Microsoft security software on Microsoft updates page.

If you don't want to use Windows Defender or Microsoft Security Essentials, you can download other security software from another company. Just make sure it is turned on all the time, fully updated, and provides real-time protection.

Refer:- Microsoft Advisory

https://www.microsoft.com/en-us/security/portal/mmpc/shared/ransomware.aspx

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ALERT

Phishing Campaign Targeting Users of email.gov.in

[CERT-K/2020/ALERT-No: 4]

INTRODUCTION

The Indian Computer Emergency Response Team (CERT-In) has issued an alert on a "Phishing Campaign Targeting Users of **email.gov.in**".

ATTACK METHOD

It has been observed that a phishing campaign targeting users of NICs email service for Government of India (email.gov.in). The campaign involves fraudulent websites spoofing the email.gov.in homepage. The URLs of these websites are also often similar to the spoofed website's URL.

Examples of Phishing URLs

Some of the phishing URLs which were active in last few weeks are given below:

1. hxxps://loveindiamail.000webhostapp[.]com
2. hxxps://email-gov.in/indexi[.]php
3. hxxps://safebrowsingindia.000webhostapp[.]com/secure.html
4. hxxps://emalegovin.000webhostapp[.]com/secure.html
5. hxxps://email.gov.in.mailgovin[.]com

The campaign often involves emails pretending to be from NIC asking users to "verify" their account or other such pretexts. The email contains a link to one of the spoofed websites which steal the user's login credentials.

Further, it has been observed that successfully phished email accounts are then used to send malware-containing emails to other sensitive Government organizations and users. These mails contain topical and context-aware content to lure the target into opening the malicious attachment, thus infecting their system. The malware can then create persistence inside the targeted organization's network, and be used for various malicious activities such as stealing sensitive data.

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Proof of Phishing:

Dear User,

During current wave of cyber attacks it has been observed that on 15th Aug 2020 someone has tried to login your email account with wrong login details.
However you are advised to verify your Account.
If User failed to Verify Email Account it will be disabled for further usage.

VERIFY YOUR ACCOUNT NOW

The failed attempts are from the following IP addresses/locations:
IP Locations on 15th Aug 2020.
==========
49.15.89.145: India Kerala
49.15.89.145: India Kerala
49.15.89.145: India Kerala
49.15.89.145: India Kerala

Rahul Sharma
Messaging Administrator
Monitoring Informatics Cyber Wing
Note: Please do not reply to this email.
This mailbox does not allow incoming messages.

Fig: Content of Fradulant phising mail pretending to come from NIC

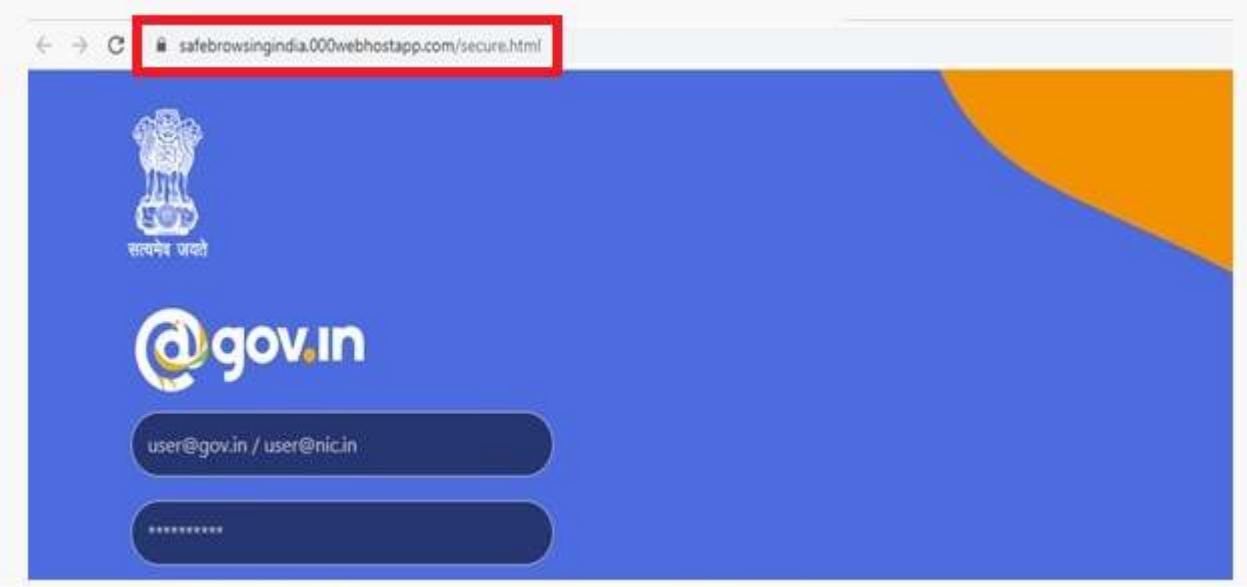

Fig: Fradulant websites spoofing email.gov.in homepage

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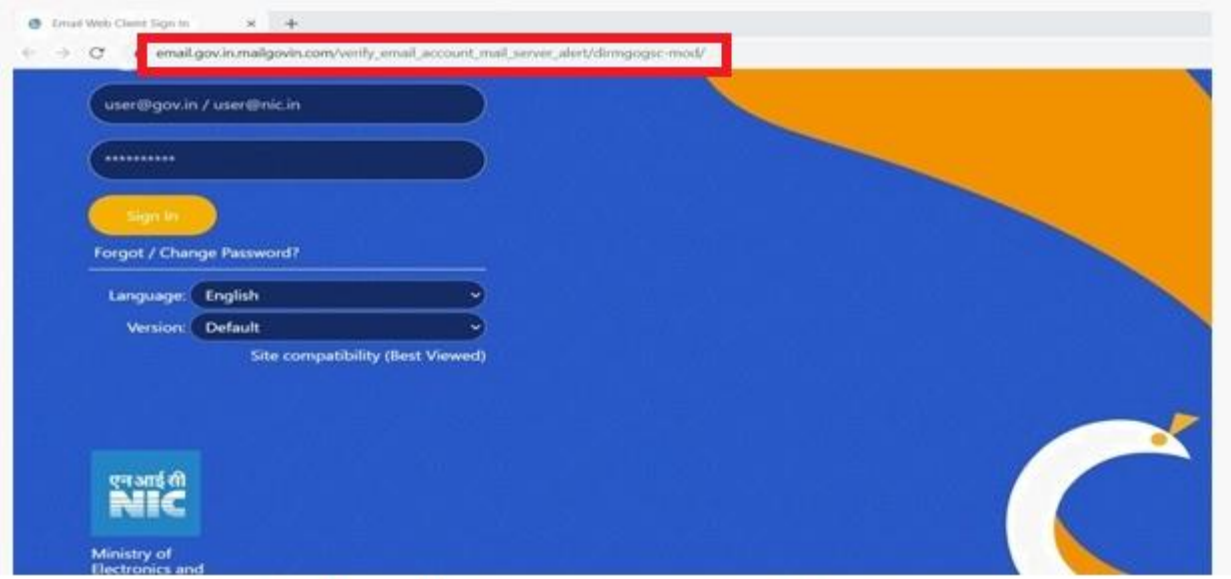

Fig: Fradulant websites spoofing email.gov.in homepage

DOMAINS

- hxxps://loveindiamail.000webhostapp[.]com
- hxxps://email-gov.in/indexi[.]php
- hxxps://safebrowsingindia.000webhostapp[.]com/secure.html
- hxxps://emalegovin.000webhostapp[.]com/secure.html
- hxxps://email.gov.in.mailgovin[.]com

BEST PRACTICES

1. Always ensure that the URL in the address bar is exactly https://email.gov.in whenever you are entering your credentials for the website. Ensure that no other characters (hyphen, numerals etc.) are present in the URL.
2. Do not open attachments in unsolicited e-mails, even if they come from people in your contact list. Never click on a URL contained in an unsolicited e-mail, even if the link seems benign.
3. Exercise caution when opening e-mail attachments even if the attachment is expected and the sender appears to be known. Scan for and remove suspicious e-mail attachments; ensure the scanned attachment is its "true file type" (i.e. the extension matches the file header).
4. Inform the security team of the organization, if any suspicious mails, files etc. are received
5. In cases of genuine URLs, close the e-mail and go to the organization's website directly through browser's address bar.

ALERT

6. Leverage Pretty Good Privacy (PGP) in mail communications. Additionally, it is advised to encrypt / protect the sensitive documents stored in the internet facing machines to avoid potential leakage.
7. Check the integrity of URLs before providing login credentials or clicking a link. Do not submit personal information to unknown and unfamiliar websites.
8. Beware of emails and webpages providing special offers like winning prize, rewards, cashback offers etc.
9. Consider using Safe Browsing tools, filtering tools (antivirus and content-based filtering) in your antivirus, firewall, and filtering services.
10. Update spam filters with latest spam mail contents.
11. If you suspect to have been phished, change the password immediately and inform the mail administrator.

CONCLUSION

You are advised to follow the best practices to protect your networks and information from similar attacks.

Note: Any unusual activity or attack should be reported immediately at incident@cert-in.org.in, cert.ksitm@kerala.gov.in with the relevant logs, email headers etc. for analysis and taking further appropriate actions.