



HACKING INTELLIGENCE

CERTIFIED HACKING

B O O K



HACKING

HOW TO HACK

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THE ULTIMATE
HACKING GUIDE

1ST

EDITION

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CHAPTER 1

Hacking briefly

Hacking

Hacking is the practice of modifying the features of a system, in order to accomplish a goal outside of the creator's original purpose.

The most fundamental meaning of hacking is gaining unauthorized access to data in a system or computer.

Hacking is exploiting security controls either in a technical, physical or a human-based element. ~ ***Kevin Mitnick***

The person who is consistently engaging in hacking activities, and has accepted hacking as a lifestyle and philosophy of their choice, is called a **hacker**.

Computer hacking is the most popular form of hacking nowadays, especially in the field of computer security.

The mass attention given to blackhat hackers from the media cause the whole hacking term is often mistaken for any security related cybercrime.

However, the word "hacking" has two definitions. The first definition refers to the hobby/profession of working with computers. The second definition refers to modifies computer hardware or software in a way that changes the creator's original intent.

It is the art of exploiting computers to get access to otherwise unauthorized information. Now that the world is using IT systems to gather, store and manipulate important information there is also a need to make sure that data is secure. However, no system is without its problems. Holes are often present within security systems which, if exploited, allow hackers to gain access to this otherwise restricted

information.

Purpose behind Hacking : When somebody tries to access other's computer systems with the aim of destroying or altering important information or data, such an activity is defined as hacking and the person is called a hacker. It is believed that hacking activities are not backed by solid logical reasons. On the contrary, hackers try to experiment with the computer brilliance by trying to affect other system with viruses. Hacking is done mostly for sheer pleasure by which a hacker wants to prove his skills. But if at all one searches for reasons behind it, it can be logically concluded Hacking is carried out with the objective of tracing vital information and affecting computer systems with viruses.

Hacker

Hacker is a term used by some to mean "a clever programmer" and by others, especially those in popular media, to mean "someone who tries to break into computer systems."

Cracking

Cracking is the act of breaking into a computer system, often on a network. A cracker can be doing this for profit, maliciously, for some altruistic purpose or cause, or because the challenge is there. Some breaking-and-entering has been done ostensibly to point out weaknesses in a site's security system.

Contrary to widespread myth, cracking does not usually involve some mysterious leap of hackerly brilliance, but rather persistence and the dogged repetition of a handful of fairly well-known tricks that exploit common weaknesses in the security of target systems. Accordingly, most crackers are only mediocre hackers. These two terms should not be confused with each others. Hackers generally deplore cracking.

Cracker

A cracker is someone who breaks into someone else's computer system, often on a network; bypasses passwords or licenses in computer programs; or in other ways intentionally breaches computer security.

Hacking as a Destructive Tool

The common stance on hacking with the average person is that it is morally wrong. There have been several instances where hacking has proven to have caused problems. Hacking can create a variety of damages to people, groups and systems of broad spectrum. Negative Hacking Interactions:

Identity Theft – Some hackers can gain access to sensitive information which could be used to fuel

identity theft. This identity theft can cause damages to credit ratings from consumer agencies, run-ins with the law because the person who stole the identity committed a crime, or other damages which may not be repairable at all.

E-mail Access – Hackers have the ability to gain access to personal e-mail accounts. These can have a variety of information and other private files which most people would regard as important. This information could also hold sensitive data which could be used against someone or simply cause ruin for those who are involved in the breach of privacy.

Website Security – Many websites have been victims of hackers. Usually the hackers would simply destroy data and leave the websites in an inoperable state which would leave website owners with the task of rebuilding their sites from scratch if they did not have a backup. This could also pose risks for companies who had their consumer's payment information hosted on their websites. Defacing the websites by leaving tags or "calling cards" stating the unknown group's signature was not uncommon in the early days of hacking websites.

Hacking as a Political Statement

Some hackers are out to get the government and show the vulnerabilities that the government has in trusting their systems too much.

This is extremely illegal in the United States and other countries. This has led to some vulnerability in security systems to being fixed and made the government computer systems even stronger. Of course it is difficult to do this kind of hacking without a trace being left behind.

Most if not all hackers who get into the government systems around the world are captured by the government and punished for unauthorized access to their systems.

Hacking through Worm Exploits

Worms are nasty pieces of malicious code which are designed to find vulnerabilities in computer systems and exploit them with automated processing.

They can be used to destroy data, collect information or simply lie in wait until they are given commands to do something. The worm code self replicates and tries to infect as many systems as possible.

The big threat that these worms bring is the knowledge that a system is open. This can allow the automated response to install a back door into a system which can allow malicious hackers to gain access to computers as well as turning systems into "zombies" which could be used for various purposes including spamming and masking the actions of the original hacker. Creators of catastrophic software such as the author of the first Internet worm, Robert Tappan Morris Jr. did not mean to do bad at all.

Before the Internet, there was ARPANET (Advanced Research Projects Agency Network), which was used by the United States government Department of Defense. Morris created the Morris worm

which was meant to gauge the size of the Internet but had actually gained access to ARPANET by accessing vulnerabilities in Unix based systems which were in use at the time.

There was an error in his coding of the worm which caused replication at exponential rates which gained access into NASA and the Air Force systems. It was not intended to harm the computers, but did show that they were vulnerable to attacks. He got off with only community service even though federal guidelines should have given him extensive consequences for his actions. He was hired by MIT and is currently a professor working in the Artificial Intelligence Laboratory.

Hacking as a Learning Tool

Hacking leads several people into the interest of creating newer, better software which can revolutionize the electronic world.

Although it is important to remember that hacking is a varied skill and those who have been hacking the longest will have more success because they know how computers work and how they have evolved over time.

Ethical hackers use their knowledge to improve the vulnerabilities in systems, their hardware and software. The ethical hackers come from a wide variety of different backgrounds.

The best examples are from ex-malicious hackers who decide their purpose is to help prevent damages to companies by holes in their security. These companies pay their ethical hackers handsomely as they are providing a service which could be extremely useful in preventing damages and loss.

They can be hired by single companies who need advanced protection while others could be hired by software designers who will reach millions of people around the world.

Possible Protection from Hackers

Protection from hackers is important no matter whether it is for personal use or for large corporations. The following tools are the best defense against hackers:

Firewalls – The firewall is a software barrier which is designed to protect private resources and prevents unauthorized network traffic. They are designed to block off ports of access on the computer and require administrative clearance to access resources.

Routers – All modern routers include firewalls and protective features. You can password protect wireless networks and create useful protection with them.

Updates – Software updates are crucial to ensure the safety and security of any application of the software. It could be the operating system at home or the server software that processes website information and more.

CHAPTER 2

Classification

various Kind of hacking

Computer Hackers have been around for so many years. Since the Computer and Internet became widely used in the World, We have started to hear more and more about hacking.

As the word ‘Hacking’ has two meaning, so the word ‘Hacker’ is a word that has two meanings:

Traditionally, a Hacker is someone who likes to play with Software or Electronic Systems. Hackers enjoy Exploring and Learning how Computer systems operate. They love discovering new ways to work electronically.

Recently, Hacker has taken on a new meaning that someone who finds weaknesses in a computer or computer network, though the term can also refer to someone with an advanced understanding of computers and computer networks.

Normally, Hackers are people who try to gain unauthorized access to your computer.

With controversy, the term hacker is reclaimed by computer programmers who argue that someone breaking into computers is better called a cracker, not making a difference between computer criminals (black hats) and computer security experts (white hats). Some white hat hackers claim that they also deserve the title hacker, and that only black hats should be called crackers.

If hackers, if anyone committing a criminal act, wants to reduce their risk, they obviously don't involve anybody else. The greater the circle of people that know what you're doing, the higher the risk. ~ *Kevin Mitnick*

Classifications of Hacker

There are many more types of hackers in the world according to their motive and type of work. The following list forwards one mote steps to better knowing hackers.

White hat hacker

The term "White hat hacker" refers to an ethical hacker, or a computer security expert, who specializes in penetration testing and in other testing methodologies to ensure the security of an organization's information systems. Ethical hacking is a term coined by IBM meant to imply a broader category than just penetration testing. White-hat hackers are also called penetration tester, sneakers, red teams, or tiger teams. Generally, White hat hackers or ethical hackers are the good guy in the world of hackers.

Black hat hacker

A black hat hacker is an individual with extensive computer knowledge whose purpose is to breach or bypass internet security. Black hat hackers are also known as crackers or dark-side hackers. The

general view is that, while hackers build things, crackers break things. They are computer security hackers that break into computers and networks or also create computer viruses. The term "black hat" comes from old westerns where the bad guys usually wore black hats.

Black hat hackers break into secure networks to destroy data or make the network unusable for those who are authorized to use the network.

They choose their targets using a two-pronged process known as the "pre-hacking stage".

Step 1: Targeting

Step 2: Research and Information Gathering

Step 3: Finishing the Attack

Grey hat hacker

A grey hat hacker is a combination of a black hat and a white hat hacker. It may relate to whether they sometimes arguably act illegally, though in good will, or to show how they disclose vulnerabilities. They usually do not hack for personal gain or have malicious intentions, but may be prepared to technically commit crimes during the course of their technological exploits in order to achieve better security.

Blue hat

A blue hat hacker is someone outside computer security consulting firms who is used to bug test a system prior to its launch, looking for exploits so they can be closed. Microsoft also uses the term BlueHat to represent a series of security briefing events.

Elite hacker

A social status among hackers, elite is used to describe the most skilled. Newly discovered activities will circulate among these hackers.

Script kiddie

A script kiddie (or skiddie) is a non-expert who breaks into computer systems by using pre-packaged automated tools written by others, usually with little understanding of the underlying concept hence the term script (i.e. a prearranged plan or set of activities) kiddie (i.e. kid, child an individual lacking knowledge and experience, immature).

Neophyte "newbie"

A neophyte, "n00b", or "newbie" is someone who is new to hacking or phreaking and has almost no knowledge or experience of the workings of technology, and hacking.

Hacktivist

A hacktivist is a hacker who utilizes technology to announce a social, ideological, religious, or political message. In general, most hacktivism involves website defacement or denial-of-service attacks.

Nation state

It refers to Intelligence agencies and cyber warfare operatives of nation states.

Organized criminal gangs

Criminal activity carried on for profit.

Bots

Automated software tools, some freeware, available for the use of any type of hacker.

CHAPTER 3

Computer Security

Computer Crime and

Intelligence Agency

Computer Security

The security applied to computing devices such as computers and smartphones, as well as computer networks such as private and public networks, including the whole Internet is called as **Computer Security**.



It includes physical security to prevent theft of equipment and information security to protect the data on that equipment. It is sometimes referred to as "**Cyber Security**" or "**IT security**".

Cybersecurity is the process of applying security measures to ensure confidentiality, integrity, and availability of data.

Computer Threats

A threat is a possible danger that might exploit a vulnerability to breach security and thus cause possible harm.



It can be either "intentional" (i.e., intelligent; e.g., an individual cracker or a criminal organization) or "accidental" (e.g., the possibility of a computer malfunctioning, or the possibility of a natural disaster such as an earthquake, a fire, or a tornado) or otherwise a circumstance, capability, action, or event.

Computer Crime

Computer crime refers to any crime that involves a computer and a network. Net crime refers to criminal exploitation of the Internet.

Cybercrimes are defined as: "*Offences that are committed against individuals or groups of individuals with a criminal motive to intentionally harm the reputation of the victim or cause physical or mental harm to the victim directly or indirectly, using modern telecommunication networks such as Internet (Chat rooms, emails, notice boards and groups) and mobile phones (SMS/MMS)*".

Such crimes may threaten a nation's security and financial health. Issues surrounding this type of crime have become high-profile, particularly those surrounding cracking, copyright infringement, child pornography, and child grooming. There are also problems of privacy when confidential information is lost or intercepted, lawfully or otherwise.

CYBERCRIME

5 SIMPLE RULES TO STAY PROTECTED ONLINE

1 CHECK FOR VIRUSES AND MALWARE

Although it can be time consuming, it will take less time than recovering from a case of identity theft.

P@SSWORD\$ 2

Do not use the same password for every account. Be creative, combine letters, numbers and special characters.

Don't forget to change your passwords occasionally.



3 AVOID PHISHING SCHEMES

Beware of strange URLs requesting your login and password. The homepage will look real, but the URL will be fake. This allows hackers to steal your information and repost spam under your profile.



<https://twitter.com/>



<http://twitter.com@example.com>

SECURE YOUR WIRELESS NETWORK 4

Always make sure to change your router's default password. Cybercriminals often know how to crack them, hacking into your network and steal your personal information.



Never purchase with personal details on your mobile phone while on an unsecure Wi-Fi signal. You never know who's watching.



5 DON'T TALK TO STRANGERS

We know you've heard this when you were a child, but the same rule applies to adults too, especially when it comes to people you meet online.

Topology of computer crime

Computer crime encompasses a broad range of activities. Generally, however, it may be divided into two categories: (1) crimes that target computers directly; (2) crimes facilitated by computer networks or devices, the primary target of which is independent of the computer network or device.



1. Crimes that primarily target computer networks or devices include: Computer viruses, Denial-of-service attacks, Malware (malicious code)
2. Crimes that use computer networks or devices to advance other ends include: Cyber

Cyber Terrorism

Cyber terrorism in general, can be defined as an act of terrorism committed through the use of cyberspace or computer resources. As such, a simple propaganda in the Internet, that there will be bomb attacks during the holidays can be considered cyber-terrorism.

Top 10 Intelligence agencies of the world

CIA – America

Formed : September 18, 1947

Agency executive : Leon Panetta, Director

Parent agency : Central Intelligence Group

CIA is the largest of the intelligence agencies and is responsible for gathering data from other countries that could impact U.S. policy. It is a civilian intelligence agency of the United States government responsible for providing national security intelligence to senior United States policymakers. The CIA also engages in covert activities at the request of the President of the United States of America. The CIA's primary function is to collect information about foreign governments, corporations, and individuals, and to advise public policymakers. The agency conducts covert operations and paramilitary actions, and exerts foreign political influence through its Special Activities Division. It has failed to control terrorism activities including 9/11, Not even a single top level Al-Qaeda leader captured own its own in the past 9 years – 'they missed 1 Million' Soviet troops marching into Afghanistan'. Iraq's Weapons of Mass Destruction, Have the found them yet? - Number of defectors/ double agents numbers close to a thousand. On 50th anniversary of CIA President Clinton said "By necessity, the American people will never know the full story of your courage. Indeed, no one knows that what CIA really does". Highly funded and technologically most advanced Intelligence set-up in the world.

M1-6 – United Kingdom

Formed : 1909 as the Secret Service Bureau

Jurisdiction : Government of the United Kingdom

Headquarters : Vauxhall Cross, London

Agency executive : Sir John Sawers KCMG, Director General

Parent agency : Foreign and Commonwealth Office

The British have had a long public perception of an effective intelligence agency (due to the success of the unrealistic, yet entertaining, James Bond movies). This perception matches reality. MI6, the

British equivalent to the CIA, has had two big advantages in staying effective: The British Official Secrets Act and D notices can often prevent leaks (which have been the bane of the CIA's existence). Some stories have emerged. In the Cold War, MI6 recruited Oleg Penkovsky, who played a key part in the favorable resolution of the Cuban Missile Crisis, and Oleg Gordievski, who operated for a decade before MI6 extracted him via Finland. The British were even aware of Norwood's activities but made the decision not to tip their hand. MI6 also is rumored to have sabotaged the Tu-144 supersonic airliner program by altering documents and making sure they fell into the hands of the KGB.

ISI – Pakistan

Formed : 1948

Jurisdiction : Government of Pakistan

Headquarters : Islamabad, Pakistan

Agency executive : Lieutenant General Ahmad Shuja Pasha, PA Director General

With the lengthiest track record of success, the best known Intelligence so far on the scale of records is ISI. The Inter-Services Intelligence was created as an independent unit in 1948 in order to strengthen the performance of Pakistan's Military Intelligence during the Indo-Pakistani War of 1947. Its success in achieving its goal without leading to a full scale invasion of Pakistan by the Soviets is a feat unmatched by any other throughout the intelligence world. KGB, The best of its time, failed to counter ISI and protect Soviet interests in Central Asia. It has had 0 double agents or Defectors throughout its history, considering that in light of the whole war campaign it carried out from money earned by selling drugs bought from the very people it was bleeding, The Soviets. It has protected its Nuclear Weapons since formed and it has foiled Indian attempts to attain ultimate supremacy in the South-Asian theatres through internal destabilization of India. It is above All laws in its host country Pakistan 'A State, within a State'. Its policies are made 'outside' of all other institutions with the exception of The Army. Its personnel have never been caught on camera. It is believed to have the highest number of agents worldwide, close to 10,000. The most striking thing is that it's one of the least funded Intelligence agency out of the top 10.

Mossad – Israel

Formed : December 13, 1949 as the Central Institute for Coordination

Agency executive : Meir Dagan, Director

Parent agency : Office of the Prime Minister

The Mossad is responsible for intelligence collection and covert operations including paramilitary activities. It is one of the main entities in the Israeli Intelligence Community, along with Amal (military intelligence) and Shin Bet (internal security), but its director reports directly to the Prime Minister. The list of its successes is long. Israel's intelligence agency is most famous for having taken

out a number of PLO operatives in retaliation for the attack that killed eleven Israeli athletes at the 1972 Olympic games in Munich. However, this agency has other success to its name, including the acquisition of a MiG-21 prior to the Six-Day war of 1967 and the theft of the plans for the Mirage 5 after the deal with France went sour. Mossad also assisted the United States in supporting Solidarity in Poland during the 1980s.

MSS – China

Jurisdiction : People's Republic of China

Headquarters : Beijing

Agency executive : Geng Huichang, Minister of State Security

Parent agency : State Council

Ministry of State Security is the security agency of the People's Republic of China. It is also probably the Chinese government's largest and most active foreign intelligence agency, though it is also involved in domestic security matters. Article 4 of the Criminal Procedure Law gives the MSS the same authority to arrest or detain people as regular police for crimes involving state security with identical supervision by the procuratorates and the courts. It is headquartered near the Ministry of Public Security of the People's Republic of China in Beijing. According to Liu Fuzhi, Secretary General of the Commission for Politics and Law under the Central Committee of the Communist Party of China and Minister of Public Security, the mission of the MSS is to ensure "the security of the state through effective measures against enemy agents, spies, and counter-revolutionary activities designed to sabotage or overthrow China's socialist system." One of the primary missions of the MSS is undoubtedly to gather foreign intelligence from targets in various countries overseas. Many MSS agents are said to have operated in the Greater China region (Hong Kong, Macau, and Taiwan) and to have integrated themselves into the world's numerous overseas Chinese communities. At one point, nearly 120 agents who had been operating under non-official cover in the U.S., Canada, Western and Northern Europe, and Japan as businessmen, bankers, scholars, and journalists were recalled to China, a fact that demonstrates the broad geographical scope of MSS agent coverage.

BND – Germany

Formed : 1 April 1956

Agency executive : Gehlen Organization

Parent agency : Central Intelligence Group

The Bundesnachrichtendienst is the foreign intelligence agency of the German government, under the control of the Chancellor's Office. The BND acts as an early warning system to alert the German government to threats to German interests from abroad. It depends heavily on wiretapping and electronic surveillance of international communications. It collects and evaluates information on a variety of areas such as international terrorism, WMD proliferation and illegal transfer of technology,

organized crime, weapons and drug trafficking, money laundering, illegal migration and information warfare. As Germany's only overseas intelligence service, the BND gathers both military and civil intelligence.

FSB – Russia

Formed : 3 April, 1995

Headquarters : Lubyanka Square

Preceding agency : KGB

The Federal Security Service of Russian Federation (FSD) is the main domestic security agency of the Russian Federation and the main successor agency of the Soviet-era Cheka, NKVD and KGB. The FSB is involved in counter-intelligence, internal and border security, counter-terrorism, and surveillance. Its headquarters are on Lubyanka Square, downtown Moscow, the same location as the former headquarters of the KGB. All law enforcement and intelligence agencies in Russia work under the guidance of FSB, if needed. For example, the GRU, spetsnaz and Internal Troops detachments of Russian Ministry of Internal Affairs work together with the FSB in Chechnya. The FSB is responsible for internal security of the Russian state, counterespionage, and the fight against organized crime, terrorism, and drug smuggling. The number of FSB personnel and its budget remain state secrets although the budget was reported to jump nearly 40% in 2006.

DGSE – France

Formed : April 2, 1982

Preceding agency : External Documentation and Counter-Espionage Service

Minister responsible : Hervé Morin, Minister of Defence

Agency executive : Erard Corbin de Mangoux, Director

Directorate General for External Security is France's external intelligence agency. Operating under the direction of the French ministry of defence, the agency works alongside the DCRI (the Central Directorate of Interior Intelligence) in providing intelligence and national security, notably by performing paramilitary and counterintelligence operations abroad. The General Directorate for External Security (DGSE) of France has a rather short history compared to other intelligence agencies in the region. It was officially founded in 1982 from a multitude of prior intelligence agencies in the country. Its primary focus is to gather intelligence from foreign sources to assist in military and strategic decisions for the country. The agency employs more than five thousand people.

RAW – India

Formed : 21 September 1968

Headquarters : New Delhi, India

Agency executive : K. C. Verma, Secretary (R)

Parent agency : Prime Minister's Office, GoI

Research and Analysis Wing is India's external intelligence agency. It was formed in September 1968, after the newly independent Republic of India was faced with 2 consecutive wars, the Sino-Indian war of 1962 and the India-Pakistani war of 1965, as it was evident that a credible intelligence gathering setup was lacking. Its primary function is collection of external intelligence, counter-terrorism and covert operations. In addition, it is responsible for obtaining and analyzing information about foreign governments, corporations, and persons, in order to advise Indian foreign policymakers. Until the creation of R&AW, the Intelligence Bureau handled both internal and external intelligence.

ASIS – Australia

Formed : 13 May 1952

Headquarters : Canberra, Australian Capital Territory, Australia

Minister responsible : The Hon. Stephen Smith MP, Minister for Foreign Affairs

Agency executive : Nick Warner, Director-General

Australian Secret Intelligence Service is the Australian government intelligence agency responsible for collecting foreign intelligence, undertaking counter-intelligence activities and cooperation with other intelligence agencies overseas. For more than twenty years, the existence of the agency was a secret even from its own government. Its primary responsibility is gathering intelligence from mainly Asian and Pacific interests using agents stationed in a wide variety of areas. Its main purpose, as with most agencies, is to protect the country's political and economic interests while ensuring safety for the people of Australia against national threats.

CHAPTER 4

Network systems and DNS working

Computer Network

A computer network is a group of computer systems and other computing hardware devices that are linked together through communication channels to facilitate communication and resource-sharing among a wide range of users. Networks are commonly categorized based on their characteristics.

One of the earliest examples of a computer network was a network of communicating computers that

functioned as part of the U.S. military's Semi-Automatic Ground Environment (SAGE) radar system. In 1969, the University of California at Los Angeles, the Stanford Research Institute, the University of California at Santa Barbara and the University of Utah were connected as part of the Advanced Research Projects Agency Network (ARPANET) project. It is this network that evolved to become what we now call the Internet.

Networks are used to:

Facilitate communication via email, video conferencing, instant messaging, etc.

Enable multiple users to share a single hardware device like a printer or scanner

Enable file sharing across the network

Allow for the sharing of software or operating programs on remote systems

Make information easier to access and maintain among network users

There are many types of networks, including:

Local Area Networks (LAN)

The computers are geographically close together (that is, in the same building).

Wide Area Networks (WAN)

The computers are farther apart and are connected by telephone lines or radio waves.

Metropolitan Area Networks (MAN)

A data network designed for a town or city.

Home Area Networks (HAN)

A network contained within a user's home that connects a person's digital devices.

Intranet

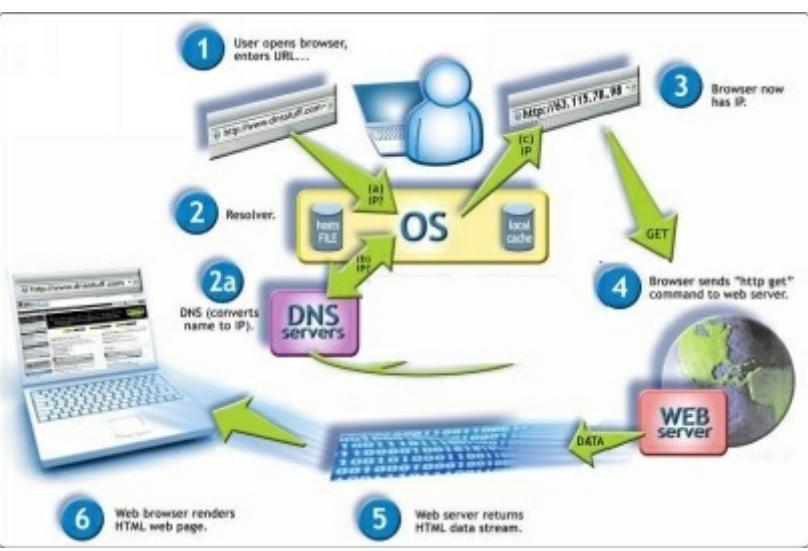
An intranet is basically a network that is local to a company. In other words, users from within this company can find all of their resources without having to go outside of the company. An intranet can include LANs, private WANs and MANs,

Extranet

An extranet is an extended intranet, where certain internal services are made available to known external users or external business partners at remote locations.

Internet

An internet is used when unknown external users need to access internal resources in your network. In other words, your company might have a web site that sells various products, and you want any external user to be able to access this service.



VPN

A virtual private network (VPN) is a special type of secured network. A VPN is used to provide a secure connection across a public network, such as an internet. Extranets typically use a VPN to provide a secure connection between a company and its known external users or offices.

Authentication is provided to validate the identities of the two peers.

Confidentiality provides encryption of the data to keep it private from prying eyes.

Integrity is used to ensure that the data sent between the two devices or sites has not been tampered with.

Benefits of networking

There are lots of advantages from build up a network, but the three big facts are-

File Sharing

From sharing files you can view, modify, and copy files stored on a different computer on the network just as easily as if they were stored on your computer.

Resource Sharing

Resources such as printers, fax machines, Storage Devices (HDD, FDD and CD Drives), Webcam, Scanners, Modem and many more devices can be shared.

Program Sharing

Just as you can share files on a network, you can often also share program on a network. For example, if you have the right type of software license, you can have a shared copy of Microsoft Office, or some other program, and keep it on the network server, from where it is also run.

Network Host

A network host (or simply referred to as a host) can be any computer or network device connected to

the computer network. This computer can be a terminal or a web server offering services to its clients.

Network Protocol

A network protocol (or just referred to as protocol) is a set of rules and conventions that are necessary for the communication between two network devices. For example, two computers on a network can communicate only if they agree to follow the protocols.

The following are some of the most widely referred network protocols:

Internet Protocol (IP Address)

An Internet Protocol address (IP address) is a numerical label assigned to each device (e.g. computer, printer) participating in a computer network that uses the Internet Protocol for communication. An IP address serves two principal functions: host or network interface identification and location addressing. Its role has been characterized as follows: "A name indicates what we seek. An address indicates where it is. A route indicates how to get there."

IP addresses are binary numbers, but they are usually stored in text files and displayed in human-readable notations, such as 172.16.254.1 (for IPv4), and 2001:db8:0:1234:0:567:8:1 (for IPv6).

Types of IP Address

Private IP Address: A private IP address is the one that is assigned to a computer on the Local Area Network (LAN). A typical example of private IP address would be something like: 192.168.0.4

Public IP Address: A public IP address is the one that is assigned to a computer connected to the Internet. An example public IP address would be something like: 59.93.115.119

In most cases a computer gets connected to the ISP network using a private IP. Once a computer is on the ISP network it will be assigned a public IP address using which the communication with the Internet is made possible.

How to Find the IP Address of a Computer?

Finding your public IP is extremely simple. Just type “what is my IP” on Google to see your public IP address displayed in search results.

Google search results for "what is my ip". The top result shows the public IP address 113.19.210.161 as "Your public IP address". A link "Learn more about IP addresses" is also present.

In order to find your private IP, just open the command prompt window (type **cmd** in the “Run” box) and enter the following command:

ipconfig/all

```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\>ipconfig/all
Windows IP Configuration

Host Name . . . . . : SRB-PC
Primary Dns Suffix . . . . . :
Node Type . . . . . : Hybrid
IP Routing Enabled: . . . . . : No
WINS Proxy Enabled: . . . . . : No

Ethernet adapter Local Area Connection:

Connection-specific DNS Suffix . . . . . : Realtek PCIe GBE Family Controller
Description . . . . . : Realtek PCIe GBE Family Controller
Physical Address . . . . . : 74-04-35-D2-D7-1E
DHCP Enabled. . . . . : Yes
Autoconfiguration Enabled . . . . . : Yes
Link-Local IPv6 Address . . . . . : fe80::1dcfc:1bac%14<(Preferred)
IPv4 Address . . . . . : 192.168.0.11<(Preferred)
Subnet Mask . . . . . : 255.255.255.0
Lease Obtained. . . . . : 17 July 2015 AM 7:42:53
Lease Expires . . . . . : 17 July 2015 PM 4:05:07
Default Gateway . . . . . : 192.168.0.1
DHCP Server . . . . . : 192.168.0.1
DHCPv6 IID . . . . . : 242537523
DHCPv6 Client DUID . . . . . : 00-01-00-01-C-E9-43-AP-74-04-35-D2-D7-1E
DNS Servers . . . . . : 8.8.8.8
                           4.2.2.2
                           202.62.224.2
NetBIOS over Tcpip. . . . . : Enabled

Tunnel adapter isatap.{5F426C35-C62E-4570-8183-CE731BD108E3}:

Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . . . . . : Microsoft ISATAP Adapter
Description . . . . . : Microsoft ISATAP Adapter
Physical Address . . . . . : 00-00-00-00-00-00
DHCP Enabled. . . . . : No
Autoconfiguration Enabled . . . . . : Yes

C:\>
```

This will display a long list of details about your computer’s network devices and their configuration. To see your private IP address, just scroll down to find something as “IPv4 Address” which is nothing but your private IP.

Hyper Text Transfer Protocol (HTTP)

Hypertext Transfer Protocol, abbreviated as HTTP, is a communications protocol used for the transfer of information over the Internet. A client makes an HTTP request using a web browser to which an HTTP response is sent from the server.

File Transfer Protocol (FTP)

The File Transfer Protocol provides a standard for transferring files between two computers on the network. FTP is most widely used in carrying out upload/download operations between a server and a workstation.

Simple Mail Transfer Protocol (SMTP)

The Simple Mail Transfer Protocol provides a standard for sending e-mails from one server to another. Most e-mail systems that send mail over the Internet use SMTP to exchange messages between the servers.

Telnet

Telnet is a network protocol that allows you to connect to remote hosts on the Internet or on a local network. It requires a telnet client software to implement the protocol using which the connection is established with the remote computer.

In most cases telnet requires you to have a username and a password to establish connection with the remote host. Occasionally, some hosts also allow users to make connection as a guest or public.

After the connection is made, one can use text based commands to communicate with the remote host. The syntax for using the telnet command is as follows:

telnet <hostname or IP> port

WWW

The World Wide Web (abbreviated as WWW or W3, and commonly known as the Web) is a system of interlinked hypertext documents accessed via the Internet. With a web browser, one can view web pages that may contain text, images, videos, and other multimedia, and navigate between them via hyperlinks.

It is the collection of internet resources (such as FTP, telnet, Usenet), hyperlinked text, audio, and video files, and remote sites that can be accessed and searched by browsers based on standards such as HTTP and TCP/IP.

SSH - Secure Shell

Developed by SSH Communications Security Ltd., Secure Shell is a program to log into another computer over a network, to execute commands in a remote machine, and to move files from one machine to another. It provides strong authentication and secure communications over insecure channels. It is a replacement for rlogin, rsh, rcp, and rdist.

SSH protects a network from attacks such as IP spoofing, IP source routing, and DNS spoofing.

An attacker who has managed to take over a network can only force ssh to disconnect. He or she cannot play back the traffic or hijack the connection when encryption is enabled.

When using ssh's slogin (instead of rlogin) the entire login session, including transmission of password, is encrypted; therefore it is almost impossible for an outsider to collect passwords.

SSH port forwarding

An SSH service that provides secure and encrypted connections to traditionally non-encrypted services, such as e-mail or news.

SSH port forwarding allows you to establish a secure SSH session and then tunnel TCP connection through it. It works by opening a connection to forward a local port to a remote port over SSH.

The client software (e.g. your e-mail client) is then set to connect to the local port. With SSH port forwarding passwords are sent over an encrypted connection. Also called SSH tunneling.

Network Port

A computer may be running several services on it like HTTP (web server), SMTP, FTP and so on. Each of these services are uniquely identified by a number called network port (or simply referred to as port). If a computer wants to avail a specific service from another computer, it has to establish a connection to it on the exact port number where the intended service is running.

For example, if a terminal is to request a web document from a remote server using HTTP, it has to first establish a connection with the remote server on port 80 (HTTP service runs on port 80) before placing the request.

In simple words, port numbers can be compared to door numbers where each door grants access to a specific service on a computer.

List of Well-Known Ports

Port Number	Description
1	TCP Port Service Multiplexer (TCPMUX)
5	Remote Job Entry (RJE)
7	ECHO
18	Message Send Protocol (MSP)
20	FTP -- Data
21	FTP -- Control
22	SSH Remote Login Protocol
23	Telnet
25	Simple Mail Transfer Protocol (SMTP)
29	MSG ICP
37	Time
42	Host Name Server (Nameserv)
43	WhoIs
49	Login Host Protocol (Login)
53	Domain Name System (DNS)

69	Trivial File Transfer Protocol (TFTP)
70	Gopher Services
79	Finger
80	HTTP
103	X.400 Standard
108	SNA Gateway Access Server
109	POP2
110	POP3
115	Simple File Transfer Protocol (SFTP)
118	SQL Services
119	Newsgroup (NNTP)
137	NetBIOS Name Service
139	NetBIOS Datagram Service
143	Interim Mail Access Protocol (IMAP)
150	NetBIOS Session Service
156	SQL Server
161	SNMP
179	Border Gateway Protocol (BGP)
190	Gateway Access Control Protocol (GACP)
194	Internet Relay Chat (IRC)
197	Directory Location Service (DLS)
389	Lightweight Directory Access Protocol (LDAP)
396	Novell Netware over IP
443	HTTPS
444	Simple Network Paging Protocol (SNPP)
445	Microsoft-DS
458	Apple QuickTime
546	DHCP Client
547	DHCP Server
563	SNEWS
569	MSN
1080	Socks

A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a server.

A port number is a way to identify a specific process to which an Internet or other network message is to be forwarded when it arrives at a server. For the Transmission Control Protocol and the User Datagram Protocol, a port number is a 16-bit integer that is put in the header appended

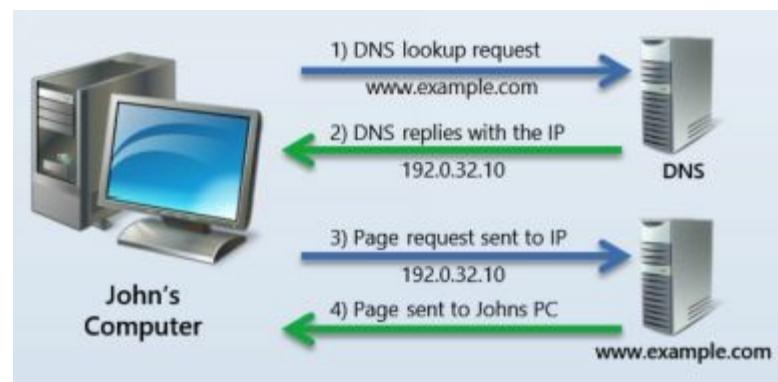
to a message unit. This port number is passed logically between client and server transport layers and physically between the transport layer and the Internet Protocol layer and forwarded on.

Domain Name System

DNS, as it is called, refers to the hierarchical naming system used for computers, resources and services on the Internet. It translates the computer hostnames to IP addresses.

DNS resolves an IP address to a hostname or vice versa.

DNS is basically a large database which resides on various computers that contains the names and IP addresses of various hosts/domains. Other than ip-address DNS also associates various information with the domain names.



Structure of a DNS

DNS uses a hierarchical tree based name structure. At top of the tree is the “root” (represented as a dot (.)) followed by the TLD (Top Level Domain), then by the domain-name and any number of lower level sub-domains separated by a dot.

The Top Level Domains are divided into 2 categories:

1. Generic TLD (gTLD)
2. Country Code TLD (ccTLD)

Below are some of the common Generic Top Level Domains:

- .com – commercial web sites
- .org – non profit organizations web sites
- .edu – restricted to schools and institutions.
- .net – originally for network infrastructures, now unrestricted

Below are some of the Country Code Top Level Domains:

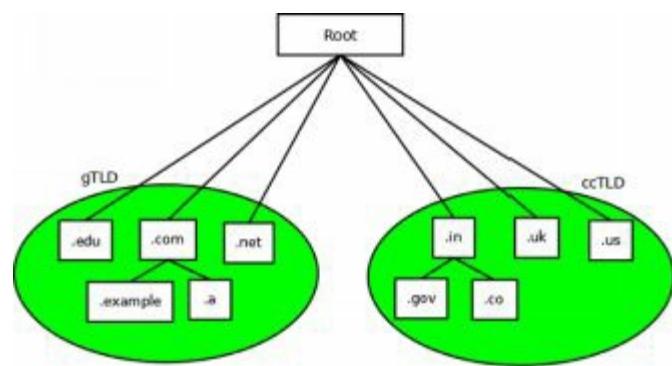
.us – United States

.in – India

.uk – United Kingdom

.ru – Russia

The following shows a sample representation of the structure of the DNS tree:



Authority, Delegation and Zone

The Authority for the root domain and gTLD lies with Internet Corporation for Assigned Numbers and Names (ICANN). ccTLD's are delegated to individual countries for administration purpose. Each level in the hierarchy may delegate the authoritative control to the next lower level. There is a DNS server running in every level of the hierarchy and the responsibility of running the DNS server lies with the Authority at that level.

For Example, when the root domain gets a DNS query for www.example.com, the root will delegate responsibility for resolving to its lower level ".com", which in-turn will delegate to "example". Finally the DNS server in the "example" will respond with the IP address of the hostname "www".

A zone is simply a portion of a domain. For example, the domain example.com may contain all the information for a.example.com, b.example.com and c.example.com. However, the zone example.com contains only information for example.com and delegates the responsibility to the authoritative name servers for the subdomains. In general, if there are no subdomains, then the zone and domain are essentially the same.

Resource Records

A DNS zone database is made up of a collection of resource records. Each resource record specifies information about a particular object. The DNS server uses these records to answer queries for hosts in its zone. For example, address mapping (A) record, map a host name to an IP address, and reverse-lookup pointer (PTR) records map an IP address to a host name. Here are some of commonly used Resource Records.

A Record: The ‘A’ record specifies the IP address of a host. ‘A’ record will have the details of the domain name and its associated IP address. When a Query is given to resolve domain name, DNS server will refer the ‘A’ record and answer with the IP address present in the record.

PTR Record: A PTR record maps the IP address to a specific host.

NS Record: An NS record or name server record maps a domain name to a list of DNS servers authoritative for that domain. Delegations depend on NS records.

MX Record: An MX record or mail exchange record maps a domain name to a list of mail exchange servers for that domain. For example, when you send a mail to alpha@example.com, the mail will be routed to the Mail Server as specified in MX record.

DNS Queries

A DNS query would be something like ‘what is the IP address of a.example.com’. A DNS server may receive such a query for any domain, to which it has no information about. The DNS server will respond in different ways for which it has no information about.

The following are the three types of DNS queries:

1. Recursive query
2. Iterative query
3. Inverse query

In Recursive query, the following are the steps involved when a host queries its local DNS server for ‘a.example.com’.

- Host sends query ‘what is the IP address of a.example.com’ to locally configured DNS server.
- DNS server looks up a.example.com in local tables – not found
- DNS sends query to a root-server for the IP of a.example.com
- The root-server replies with a referral to the TLD servers for .com
- The DNS server sends query ‘what is the IP address a.example.com’ to one of the .com TLD servers.
- The TLD server replies with a referral to the name servers for example.com
- The DNS server sends query ‘what is the IP address a.example.com’ to name server for example.com.
- Zone file defines a A record which shows ‘a’ s IP address is x.x.x.x.
- DNS returns the A record for ‘a’.

In Iterative query, if the DNS server doesn’t know the answer, it will refer other DNS server as response. So the client which initiates the query will once again contact the DNS server which came

in as response.

In Inverse query, an IP address will be provided and a hostname will be asked.

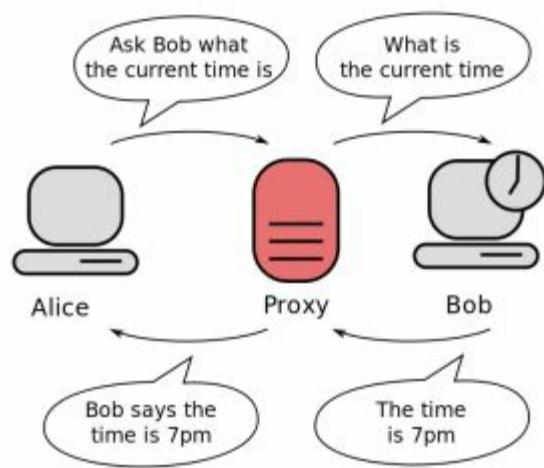
Proxy server

A proxy server is a server (a computer system or an application) that acts as an intermediary for requests from clients seeking resources from other servers.

A client connects to the proxy server, requesting some service, such as a file, connection, web page, or other resource available from a different server and the proxy server evaluates the request as a way to simplify and control its complexity.

Proxies were invented to add structure and encapsulation to distributed systems.

Today, most proxies are web proxies, facilitating access to content on the *World Wide Web* and providing anonymity.



Communication between two computers (shown in grey) connected through a third computer (shown in red) acting as a proxy. Bob does not know whom the information is going to, which is why proxies can be used to protect privacy.

Proxy Server - Types

There are many different types of proxy server and here are some common types:

Anonymous Proxy

Anonymous proxy servers conceal your information. When you go to request something from the webpage, the webpage gets the IP address of the proxy server that you're using instead of your own. The server has no way of accessing your IP address and communication between you and the proxy server is encrypted, in cases where the greatest deal of security is desired.

High Anonymity Proxy

This type of proxy server does not identify itself as a proxy server and does not make available the original IP address. High anonymity proxies, only include the REMOTE_ADDR header with the IP address of the proxy server, making it appear that the proxy server is the client.

Transparent Proxy

An example of a transparent proxy would be a server that simply forwards your request to the resource that you want without concealing any of your information. This may be used in the workplace, where the IP address of the request is revealed to the server being requested from but where the proxy provides access to the resource for a multitude of computers within the network. Transparent proxies are generally not what people are looking for when they go shopping for proxy server access online.

Reverse Proxy

A reverse proxy server is generally used to pass requests from the Internet, through a firewall to isolated, private networks. It is used to prevent Internet clients from having direct, unmonitored access to sensitive data residing on content servers on an isolated network, or intranet. If caching is enabled, a reverse proxy can also lessen network traffic by serving cached information rather than passing all requests to actual content servers.

CHAPTER 5

Various Types of Hacking attacks

Active attacks

An active attack is a network exploit in which a hacker attempts to make changes to data on the target or data en route to the target.

Types of active attacks

Masquerade Attack

In a masquerade attack, the intruder pretends to be a particular user of a system to gain access or to gain greater privileges than they are authorized for. A masquerade may be attempted through the use of stolen login IDs and passwords, through finding security gaps in programs or through bypassing the authentication mechanism.

Session Replay Attack

In a session replay attack, a hacker steals an authorized user's log in information by stealing the session ID. The intruder gains access and the ability to do anything the authorized user can do on the website.

Message Modification Attack

In a message modification attack, an intruder alters packet header addresses to direct a message to a different destination or modify the data on a target machine.

Denial of Service (DoS) attack

In a denial of service (DoS) attack, users are deprived of access to a network or web resource. This is generally accomplished by overwhelming the target with more traffic than it can handle.

Distributed Denial-of-Service (DDoS) exploit

In a distributed denial-of-service (DDoS) exploit, large numbers of compromised systems (sometimes called a botnet or zombie army) attack a single target.

Passive Attack

A passive attack is a network attack in which a system is monitored and sometimes scanned for open ports and vulnerabilities. The purpose is solely to gain information about the target and no data is changed on the target.

Passive attacks include **active reconnaissance** and **passive reconnaissance**.

In passive reconnaissance, an intruder monitors systems for vulnerabilities without interaction, through methods like session capture.

In active reconnaissance, the intruder engages with the target system through methods like port scans.

Methods of passive attacks

War driving detects vulnerable Wi-Fi networks by scanning them from nearby locations with a portable antenna. The attack is typically carried out from a moving vehicle, sometimes with GPS systems that hackers use to plot out areas with vulnerabilities on a map. War driving can be done just to steal an Internet connection or as a preliminary activity for a future attack.

In dumpster diving, intruders look for information stored on discarded computers and other devices or even passwords in trash bins. The intruders can then use this information to facilitate covert entry

to a network or system.

An intruder might masquerade as an authorized network user and spy without interaction. With that access, an intruder might monitor network traffic by setting the network adapter to promiscuous mode.

CHAPTER 6

Hacking Tools

HACKING TOOLS

- *A hacking tool is a program designed to assist with hacking, or a piece of software which can be used for hacking purposes.*
- *Examples include Nmap, Nessus, John the Ripper, p0f, and Winzapper.*
- *Bribes have also been described as among the most potent hacking tools, due to their potential exploitation in social engineering attacks. Occasionally, common software such as ActiveX is exploited as a hacking tool as well.*
- *Hacking tools such as Cain and Abel, however, are well known as Script Kiddie Tools. Script kiddies are people who follow instructions from a manual, without realising how it happens. These Script Kiddies have been an enormous threat to computer security as there are many hacking tools and keyloggers up for download which are free.*

Password Cracker Software

A password cracker software, which is often referred to as a password recovery tool, can be used to crack or recover the password either by removing the original password, after bypassing the data encryption, or by outright discovery of the password. In the process of password cracking, a very common methodology used to crack the user password is to repeatedly make guesses for the probable password and perhaps finally hitting on the correct one. It cannot be denied that whenever we are referring to cyber security, passwords are the most vulnerable security links. On the other hand if the password is too completed, the user might forget it. Password Cracker software are often used by the hackers to crack the password and access a system to manipulate it. Do not unethically use these software for hacking passwords.

In the next section you would be getting familiar with some of the popular Password Cracker tools which are used by hackers for password cracking.

Click the software names to download the software from their website

- [Ophcrack](#)
- [Medusa](#)
- [RainbowCrack](#)
- [Wfuzz](#)
- [Brutus](#)
- [L0phtCrack](#)
- [Fgdump](#)
- [THC Hydra](#)

- [John The Ripper](#)
- [Aircrack](#)

- [Cain And Abel](#)
- [IKECrack](#)

Wireless Hacking Tools

Wireless Hacking Tools are those hacking tools which are used to hack into a wireless network which is usually more susceptible to security threats. One must also ensure that the network is completely secured against hacking or other malwares. The list of wireless hacking tools which would be discussed now can be used to do a Penetration Testing for a Wireless Network. This is an intentional attack on a network to detect security vulnerabilities by accessing its data and functionality.

Click the software names to download the software from their website

- [Aircrack-ng](#)
- [Kismet](#)
- [InSSIDer](#)
- [KisMAC](#)
- [Firesheep](#)
- [Airjack](#)
- [KARMA](#)
- [NetStumbler](#)
- [WepLab](#)

Network Scanning & Hacking Tools

Click the software names to download the software from their website

Nmap

Nmap or Network Mapper is a free open source utility tool for network discovery and security auditing solution for you. It is a flexible, powerful, portable and easy-to-use tool that is supported by most of the operating systems like Linux, Windows, Solaris, Mac OS and others.

[SuperScan](#)

It is an multi-functional application that is designed for scanning TPC port. This is also a pinger and address resolver. It also has useful features like ping, traceroute, WhoIs and HTTP request. There is no need of installation as it is a portable application.

[Angry IP Scanner](#)

It is a fast port and IP address scanner. It is a lightweight and cross-platform application that has the capacity to scan the IP addresses in any range and also in their ports. It simply pings each IP address.

Packet Crafting to Exploit Firewall Weaknesses

Through Packet crafting technique, an attacker capitalizes your firewall's vulnerabilities. Here are some packet crafting tools.

Click the software names to download the software from their website

- [Hping](#)
- [Scapy](#)
- [Netcat](#)
- [Yersinia](#)
- [Nemesis](#)
- [Socat](#)

Traffic Monitoring for Network Related Hacking

These tools allow users to monitor the websites one's children or employees are viewing. Here's a list of some of these tools.

Click the software names to download the software from their website

[Splunk](#)

If you want to convert your data into powerful insights Splunk tools are the best options for you. The Splunk tools are the leading platforms for operational intelligence. It can collect any type of data from any machine in real time.

Nagios

Nagios is the name for the industry standard in monitoring IT infrastructure. The Nagios tools helps you monitor your entire IT infrastructure and have the capability to detect problems well ahead they occur. It can also detect security breaches and share data availability with stakeholders.

P0f

It is versatile passive tool that is used for OS fingerprinting. This passive tool works well in both Linux and Windows operating systems. It has the capability to detect the hooking up of the remote system whether it is Ethernet, DSL or OC3.

[Ngrep](#)

Ngrep or network grep is a pcap-aware tool that allows you to extend hexadecimal or regular expressions in order to match it against the data loads of the packet. It can recognize IPv4/6, UDP, TCP, Ethernet, SLIP, PPP, FDDI and many others.

Packet Sniffers to Analyze Traffic

These tools help capture and analyze incoming traffic on your website. Some of the popular ones are listed below.

Click the software names to download the software from their website

- [Wireshark](#)
- [Tcpdump](#)
- [Ettercap](#)
- [Dsniff](#)
- [EtherApe](#)
- [Paros](#)

- [Fiddler](#)
- [Ratproxy](#)
- [Sslstrip](#)

Rootkit Detectors to Hack File System

This is a directory and file integrity checker. It checks the veracity of files and notifies the user if there's an issue.

Click the software names to download the software from their website

- [**AIDE \(Advanced Intrusion Detection Environment\)**](#)
- [**Netfilter**](#)
- [**PF: OpenBSD Packet Filter**](#)

Fuzzers to Search Vulnerabilities

Fuzzing is a term used by hackers for searching a computer system's security vulnerabilities. Here is a list of a few:

Click the software names to download the software from their website

- [Skipfish](#)
- [Wfuzz](#)
- [Wapiti](#)
- [W3af](#)

Forensics

These tools are used for computer forensics, especially to sniff out any trace of evidence existing in a particular computer system. Here are some of the most popular.

Click the software names to download the software from their website

Sleuth Kit

It is an open source digital intervention or forensic tool kit. It runs on varied operating systems including Windows, Linux, OS X and many other Unix systems. It can be used for analyzing disk images along with in-depth analysis of file system like FAT, Ext3, HFS+, UFS and NTFS.

[Helix](#)

This is a Linux based incident response system. It is also used in system investigation and analysis along with data recovery and security auditing. The most recent version of this tool is based on Ubuntu that promises ease of use and stability.

[Maltego](#)

It is an open source forensic and intelligence application. It can be used for gathering information in all phases of security related work. It saves you time and money by performing the task on time in smarter way.

Encase

Encase is the fastest and most comprehensive network forensic solution available in the market. It is created following the global standard of forensic investigation software. It has the capability of quickly gathering data from wide variety of devices.

Debuggers to Hack Running Programs

These tools are utilized for reverse engineering binary files for writing exploits and analyzing malware.

Click the software names to download the software from their website

- [GDB](#)
- [Immunity Debugger](#)
- [Netcat](#)
- [Traceroute](#)
- [Ping.eu](#)
- [Dig](#)
- [CURL](#)

Hacking Operating Systems

There are numerous professionals who aspire to have a career as ethical hackers. Hacking is not an easy task as it requires great insight about technology and programming. There are specific operating systems as well that are specially designed for the hackers to use. These operating systems have preloaded tools and technologies that hackers can utilize to hack. This article offers a detailed overview of various operating systems that are built keeping hacking in mind. All these operating systems are unique from each other and have proved to be a great resource for the hackers around the world.

Click the software names to download the software from their website

Backtrack 5r3

This operating system is built keeping the most savvy security personnel in mind as audience. This is also a useful tool even for the early newcomers in the information security field. It offers quick and easy way to find and also update the largest database available for the security tools collection till date.

Kali Linux

This is a creation of the makers of BackTrack. This is regarded as the most versatile and advanced penetration testing distribution ever created. The documentation of the software is built in an easy format to make it the most user friendly. It is one of the must-have tools for ethical hackers that is making a buzz in the market.

SELinux

Security Enhanced Linux or SELinux is an upstream repository that is used for various userland tools and libraries. There are various capabilities like policy compilation, policy management and policy development which are incorporated in this utility tool along with SELinux services and utilities. The user can get the software as a tested release or from the development repository.

[Knoppix](#)

The website of Knoppix offers a free open source live Linux CD. The CD and DVD that is available contain the latest and recent updated Linux software along with desktop environments. This is one of the best tools for the beginners and includes programs like OpenOffice.org, Mozilla, Konqueror, Apache, MySQL and PHP.

[BackBox Linux](#)

It is a Linux distribution that is based on Ubuntu. If you want to perform security assessment and penetration tests, this software is the one that you should have in your repository. It proactively protects the IT infrastructure. It has the capability to simplify the complexity of your IT infrastructure with ease as well.

Pentoo

It is security focused live CD that is created based on Gentoo. It has a large number of customized tools and kernels including a hardened kernel consisting of aufs patches. It can backport Wi-Fi stack from the latest kernel release that is stable as well. There are development tools in Pentoo that have Cuda/OPENCL cracking.

Matriux Krypton

If you are looking for a distro to be used in penetration testing and cyber forensic investigation, then Matriux Krypton is the name that you can trust. This is a Debian based GNU/Linux security distribution. It has more than 340 powerful tools for penetration testing and forensics; additionally, it contains custom kernel 3.9.4.

[NodeZero](#)

This is regarded as the specialist tool that is specifically designed for security auditing and penetration testing. It is a reliable, stable and powerful tool to be used for this purpose and is based on the current Ubuntu Linux distribution. It is a free and open source system that you can download from the website.

[Blackbuntu](#)

It is free and open source penetration testing distribution available over the internet. It is based on Ubuntu 10.10, which is designed specifically for the information security training students and professional. It is fast and stable yet a powerful tool that works perfectly for you. This software is a recommendation from most of the users.

[Blackbuntu](#)

It is free and open source penetration testing distribution available over the internet. It is based on Ubuntu 10.10, which is designed specifically for information security, training students and professionals. It is fast and stable, yet a powerful tool that works perfectly for you. This software is a recommendation from most of the users.

[Samurai Web Testing Framework](#)

It is a live Linux environment that is designed in such a way that it functions as a web-pen testing environment. The software CD contains tools and programs that are open source and free. The tool selection is based on the ones that the company themselves use for security of their IT infrastructure.

WEAKERTH4N

It's a great pentesting distro comprising of some innovative pentesting tools. The software uses Fluxbox and is built using Debian Squeeze. One of it's popular features is its ability to hack old Android based systems.

CAINE (Computer Aided Investigative Environment)

It is an Italian GNU/Linux live distribution list that was created as project of Digital Forensic. It offers a complete forensic environment. This environment is organized in such a way that it integrates the existing software tools and software module, and finally throws the result in the form of friendly graphical interface.

[Bugtraq](#)

It is one of the most stable and comprehensive distributions. It offers stable and optimal functionalities with stable manager in real-time. It is based upon 3.2 and 3.4 kernel Generic that is available in both 32 and 64 Bits. Bugtraq has a wide range of tools in various branches of the kernel. The features of the distribution vary as per your desktop environment

DEFT

DEFT is a distribution that is created for computer forensics. It can run in live stream on the system without corrupting the device. The system is based on GNU/Linux and the user can run this live using CD/DVD or USB pendrive. DEFT is now paired with DART, which is a forensic system.

[Helix](#)

There are various versions of Helix released by e-fense that are useful for both home and business use. The Helix3 Enterprise is a cyber-security solution offered by this organization that provides incident response. It throws live response and acquires volatile data. Helix3 Pro is the newest version in the block of Helix family products.

Encryption Tools

Times are changing and spying has become a common phenomenon everywhere. There have been increasing instances where even the governments have been found to be spying on their citizens from time to time. This is one of the prime reasons why the importance of Encryption has increased manifold. Encryption tools are very important because they keep the data safe by encrypting it so that even if someone accesses the data, they can't get through the data unless they know how to decrypt the data. These tools use algorithm schemes to encode the data to prevent unauthorized access to the encrypted data.

Some of the popular Encryption Tools will be listed below:

Click the software names to download the software from their website

TrueCrypt

TrueCrypt is open source encryption tool which can encrypt a partition in the Windows environment (except Windows 8); it's equipped for creating a virtual encrypted disk in a file. Moreover, it has the capability to encrypt the complete storage device. TrueCrypt can run on different operating systems like Linux, Microsoft Windows and OSX. TrueCrypt stores the encryption keys in the RAM of the computer.

[OpenSSH](#)

OpenSSH is the short name for Open Secure Shell and is a free software suite which is used to make your network connections secured. It uses the SSH protocol to provide encrypted communication sessions in a computer network. It was designed originally as an alternative to the Secure Shell Software developed by SSH Communications Security. The tool was designed as a part of the OpenBSD project.

PuTTY

It is an open source encryption tool available on both UNIX and Windows operating system. It is a free implementation of SSH (Secure Shell) and Telnet for both Windows as well as UNIX. The beauty of this tool is that it supports many network protocols like Telnet, SCP, rlogin, SSH and raw socket connection. The word PuTTY has no specific meaning, however as in UNIX tradition, tty is a terminal name.

OpenSSL

OpenSSL is an open source encryption tool which implements the TLS and SSL protocols. OpenSSL's core library is written in the C programming language. The fundamental cryptographic functions are implemented by it. OpenSSL versions are available for operating systems like UNIX, Solaris, Linux and Mac OS X. The project was undertaken in 1988 with the objective of inventing free encryption tools for the programs being used on the internet.

Tor

Tor is a free encryption tool and has the capability to provide online anonymity as well as censorship resistance. Internal traffic is directed through a free network which consists of more than five thousand relays so that the user's actual location can be hidden. It is difficult to track the Internet activities like visiting web sites and instant messages; the most important goal of this tool is to ensure the personal privacy of the users.

[OpenVPN](#)

It is an open source tool for the implementation of virtual private network techniques so that secured site-to-site or point-to-point connections using routers or bridges are possible, also remote access is possible. OpenVPN offers the users a secured authentication process by using secret keys which are pre-shared.

[Stunnel](#)

Stunnel is a multi-platform open source tool which is used to ensure that both the clients and the servers get secured encrypted connections. This encryption software can operate on a number of operating system platforms like Windows as well as all operating systems which are UNIX like. Stunnel depends upon a distinct library like SSLeay or OpenSSL to implement the protocols (SSL or TLS)

KeePass

KeePass is an open source as well as free password management tool for the Microsoft Windows as well as unofficial ports for operating systems such as iOS, Linux, Android, Mac OS X and Windows Phone. All the usernames, passwords and all other fields are stored by KeePass in a secured encrypted database. This database in turn is protected by a single password.

Intrusion Detection System and the IDs Tools

An Intrusion Detection System is a software application or a device which is equipped to do network or system monitoring activities for any malicious threats and sends reports to the management station. Intrusion detection tools can help in identifying potential threats which can be dangerous for the system or the network.

Click the software names to download the software from their website

- [Snort](#)
- [NetCop](#)

Hacking Vulnerability Exploitation Tools

A tool which identifies whether a remote host is vulnerable to a security attack and tries to protect the host by providing a shell or other function remotely, is called a Vulnerability Exploitation tool. Here is a list of some popular ones:

Click the software names to download the software from their website

- [Metasploit](#)
- [Sqlmap](#)
- [Sqlninja](#)
- [Social Engineer Toolkit](#)
- [NetSparkler](#)
- [BeEF](#)
- [Dradis](#)

Vulnerability Scanners

The scanners which assess the vulnerability of a network or a computer to security attacks are known as Vulnerability Scanners. The tools might function differently, however all of them aim to provide an analysis on how vulnerable the system or a network is. Here is a list of the best ones:

Click the software names to download the software from their website

- [Nessus](#)
- [OpenVAS](#)
- [Nipper](#)
- [Secunia PSI](#)
- [Retina](#)
- [QualysGuard](#)
- [Nexpose](#)

Web Vulnerability Scanners

While vulnerability scanners are meant for your system, the web vulnerability scanners assess the vulnerability of web applications. It identifies the security vulnerabilities that your app might have by conducting various tests.

Click the software names to download the software from their website

- [Burp Suite](#)
- [Webscarab](#)
- [Websecurify](#)
- [Nikto](#)
- [W3af](#)

CHAPTER 7

Malware : A hackers Henchman

Malware

Malware, short for malicious software, is any software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems.

Malware is defined by its malicious intent, acting against the requirements of the computer user, and does not include software that causes unintentional harm due to some deficiency. The term badware is sometimes used, and applied to both true (malicious) malware and unintentionally harmful software.

Types of Malware

Adware

Adware (short for advertising-supported software) is a type of malware that automatically delivers advertisements. Common examples of adware include pop-up ads on websites and advertisements that are displayed by software. Software and applications often offer “free” versions that come bundled with adware. Most adware is sponsored or authored by advertisers and serves as a revenue generating tool.

While some adware is solely designed to deliver advertisements, it is not uncommon for adware to come bundled with spyware that is capable of tracking user activity and stealing information. Due to the added capabilities of spyware, adware/spyware bundles are significantly more dangerous than adware on its own.

Spyware

Spyware is a type of malware that functions by spying on user activity without their knowledge. These spying capabilities can include activity monitoring, collecting keystrokes, data harvesting (account information, logins, financial data), and more. Spyware often has additional capabilities as well, ranging from modifying security settings of software or browsers to interfering with network connections. Spyware spreads by exploiting software vulnerabilities, bundling itself with legitimate software or in Trojans.

Bot

Bots are software programs created to automatically perform specific operations. While some bots are created for relatively harmless purposes (video gaming, internet auctions, online contests, etc), it is becoming increasingly common to see bots being used maliciously. Bots can be used in botnets (collections of computers to be controlled by third parties) for DDoS attacks, as spambots that render advertisements on websites, as web spiders that scrape server data, and for distributing malware disguised as popular search items on download sites. Websites can guard against bots with CAPTCHA tests that verify users as human.

Bug

In the context of software, a bug is a flaw that produces an undesired outcome. These flaws are usually the result of human error and typically exist in the source code or compilers of a program. Minor bugs only slightly affect a program's behaviour and, as a result, can go for long periods of time before being discovered. More significant bugs can cause crashing or freezing. Security bugs are the most severe type of bugs and can allow attackers to bypass user authentication, override access privileges, or steal data. Bugs can be prevented with developer education, quality control and code analysis tools.

Ransomware

Ransomware is a form of malware that essentially holds a computer system captive while demanding a ransom. The malware restricts user access to the computer either by encrypting files on the hard drive or locking down the system and displaying messages that are intended to force the user to pay the malware creator to remove the restrictions and regain access to their computer. Ransomware typically spreads like a normal computer worm (see below) ending up on a computer via a downloaded file or through some other vulnerability in a network service.

Rootkit

A rootkit is a type of malicious software designed to remotely access or control a computer without being detected by users or security programs. Once a rootkit has been installed it is possible for the malicious party behind the rootkit to remotely execute files, access/steal information, modify system configurations, alter software (especially any security software that could detect the rootkit), install

concealed malware, or control the computer as part of a botnet.

Rootkit prevention, detection, and removal can be difficult due to their stealthy operation. Because a rootkit continually hides its presence, typical security products are not effective in detecting and removing rootkits. As a result, rootkit detection relies on manual methods such as monitoring computer behaviour for irregular activity, signature scanning, and storage dump analysis. Organisations and users can protect themselves from rootkits by regularly patching vulnerabilities in software, applications and operating systems, updating virus definitions, avoiding suspicious downloads and performing static analysis scans.

Trojan Horse

A Trojan horse, commonly known as a “Trojan,” is a type of malware that disguises itself as a normal file or program to trick users into downloading and installing malware. A Trojan can give a malicious party remote access to an infected computer. Once an attacker has access to an infected computer, it is possible for the attacker to steal data (logins, financial data, even electronic money), install more malware, modify files, monitor user activity (screen watching, keylogging, etc), use the computer in botnets, and anonymise internet activity by the attacker.

Virus

A virus is a form of malware that is capable of copying itself and spreading to other computers. Viruses often spread to other computers by attaching themselves to various programs and executing code when a user launches one of those infected programs. Viruses can also spread through script files, documents, and cross-site scripting vulnerabilities in web apps. Viruses can be used to steal information, harm host computers and networks, create botnets, steal money, render advertisements, and more.

Worm

Computer worms are among the most common types of malware. They spread over computer networks by exploiting operating system vulnerabilities. Worms typically cause harm to their host networks by consuming bandwidth and overloading web servers. Computer worms can also contain “payloads” that damage host computers. Payloads are pieces of code written to perform actions on affected computers beyond simply spreading the worm. Payloads are commonly designed to steal data, delete files, or create botnets.

Computer worms can be classified as a type of computer virus, but there are several characteristics that distinguish computer worms from regular viruses. A major difference is that computer worms have the ability to self-replicate and spread independently while viruses rely on human activity to spread (running a program, opening a file, etc). Worms often spread by sending mass emails with infected attachments to users’ contacts.

Key logger

A special kind of trojan that records the keyboard and/or mouse activity on a PC and relays the information over the Internet to someone wishing to record passwords or other personal information.

Zombie Computer

A Trojan horse is used to plant malware on an unsuspecting PC owner's system that allows a remote computer to use that system to send out spam or to perform other malicious tasks on the Internet without the owner's knowledge.

Drive-by-Download

The automatic download of software to a user's computer triggered simply by visiting a Web site or viewing an HTML formatted email. The download occurs without the user's consent and often without any notice at all.

Scareware

Malware that pops up windows claiming your computer is infected and offers to clean it for a fee or tries to get you to click a link that will install a trojan. The malware can come from a drive-by-download or from a web page that has other malicious JavaScript on it.

Web beacon or web bug

A small, usually 1×1 pixel, transparent image that is placed somewhere in a web page or e-mail. Due to its small size and transparency it is visually undetectable by the reader. Because the computer has to make a request to an external server in order to load this image, whoever planted the image knows that you have visited the web page or opened the e-mail. The server records the date and time of the request, along with any other information it receives such as your IP address and browser version.

Backdoors

A backdoor is a method of bypassing normal authentication procedures, usually over a connection to a network such as the Internet. Once a system has been compromised, one or more backdoors may be installed in order to allow access in the future, invisibly to the user.

The idea has often been suggested that computer manufacturers preinstall backdoors on their systems to provide technical support for customers, but this has never been reliably verified. It was reported in 2014 that US government agencies had been diverting computers purchased by those considered "targets" to secret workshops where software or hardware permitting remote access by the agency was installed, considered to be among the most productive operations to obtain access to networks

around the world. Backdoors may be installed by Trojan horses, worms, implants, or other methods.

Malware Symptoms

While these types of malware differ greatly in how they spread and infect computers, they all can produce similar symptoms. Computers that are infected with malware can exhibit any of the following symptoms:

- Increased CPU usage
- Slow computer or web browser speeds
- Problems connecting to networks
- Freezing or crashing
- Modified or deleted files
- Appearance of strange files, programs, or desktop icons
- Programs running, turning off, or reconfiguring themselves (malware will often reconfigure or turn off antivirus and firewall programs)
- Strange computer behaviour
- Emails/messages being sent automatically and without user's knowledge (a friend receives a strange email from you that you did not send)

Vulnerability to Malware

Security defects in software

Malware exploits security defects (security bugs or vulnerabilities) in the design of the operating system, in applications (such as browsers, e.g. older versions of Microsoft Internet Explorer supported by Windows XP), or in vulnerable versions of browser plugins such as Adobe Flash Player, Adobe Acrobat or Reader, or Java.

Sometimes even installing new versions of such plugins does not automatically uninstall old versions. Security advisories from plug-in providers announce security-related updates.

Common vulnerabilities are assigned **CVE IDs** and listed in the US National Vulnerability Database. **Secunia PSI** is an example of software, free for personal use that will check a PC for vulnerable out-of-date software, and attempt to update it.

Malware authors target bugs, or loopholes, to exploit. A common method is exploitation of a buffer overrun vulnerability, where software designed to store data in a specified region of memory does not prevent more data than the buffer can accommodate being supplied.

Malware may provide data that overflows the buffer, with malicious executable code or data after the end; when this payload is accessed it does what the attacker, not the legitimate software, determines.

Insecure design or user error

Early PCs had to be booted from floppy disks; when built-in hard drives became common the operating system was normally started from them, but it was possible to boot from another boot device if available, such as a floppy disk, CD-ROM, DVD-ROM, or USB flash drive.

It was common to configure the computer to boot from one of these devices when available. Normally none would be available; the user would intentionally insert, say, a CD into the optical drive to boot the computer in some special way, for example to install an operating system. Even without booting, computers can be configured to execute software on some media as soon as they become available, e.g. to autorun a CD or USB device when inserted.

Malicious software distributors would trick the user into booting or running from an infected device or medium; for example, a virus could make an infected computer add autorunnable code to any USB stick plugged into it; anyone who then attached the stick to another computer set to autorun from USB would in turn become infected, and also pass on the infection in the same way.

More generally, any device that plugs into a USB port - "including gadgets like lights, fans, speakers, toys, even a digital microscope" can be used to spread malware. Devices can be infected during manufacturing or supply if quality control is inadequate.

This form of infection can largely be avoided by setting up computers by default to boot from the internal hard drive, if available, and not to autorun from devices. Intentional booting from another device is always possible by pressing certain keys during boot.

Older email software would automatically open HTML email containing potentially malicious JavaScript code; users may also execute disguised malicious email attachments and infected executable files supplied in other ways.

Over-privileged users and over-privileged code

In computing, privilege refers to how much a user or program is allowed to modify a system. In poorly designed computer systems, both users and programs can be assigned more privileges than they should be, and malware can take advantage of this. The two ways that malware does this is through **overprivileged users** and **overprivileged code**.

Some systems allow all users to modify their internal structures, and such users today would be considered over-privileged users. This was the standard operating procedure for early microcomputer and home computer systems, where there was no distinction between an administrator or root, and a regular user of the system. In some systems, non-administrator users are over-privileged by design, in the sense that they are allowed to modify internal structures of the system. In some environments, users are over-privileged because they have been inappropriately granted administrator or equivalent status.

Some systems allow code executed by a user to access all rights of that user, which is known as over-privileged code. This was also standard operating procedure for early microcomputer and home computer systems. Malware, running as over-privileged code, can use this privilege to subvert the system. Almost all currently popular operating systems, and also many scripting applications allow

code too many privileges, usually in the sense that when a user executes code, the system allows that code all rights of that user. This makes users vulnerable to malware in the form of e-mail attachments, which may or may not be disguised.

Homogeneity

When all computers in a network run the same operating system; upon exploiting one, one worm can exploit them all. For example, Microsoft Windows or Mac OS X have such a large share of the market that concentrating on either could enable an exploited vulnerability to subvert a large number of systems.

Instead, introducing diversity, purely for the sake of robustness, could increase short-term costs for training and maintenance. However, having a few diverse nodes could deter total shutdown of the network as long as all the nodes are not part of the same directory service for authentication, and allow those nodes to help with recovery of the infected nodes. Such separate, functional redundancy could avoid the cost of a total shutdown, at the cost of increased complexity and reduced usability in terms of single sign-on authentication.

Malware prevention and removal

There are several general best practices that organisations and individual users should follow to prevent malware infections. Some malware cases require special prevention and treatment methods, but following these recommendations will greatly increase a user's protection from a wide range of malware:

Install and run anti-malware and firewall software. When selecting software, choose a program that offers tools for detecting, quarantining, and removing multiple types of malware. At the minimum, anti-malware software should protect against viruses, spyware, adware, Trojans, and worms. The combination of anti-malware software and a firewall will ensure that all incoming and existing data gets scanned for malware and that malware can be safely removed once detected.

Keep software and operating systems up to date with current vulnerability patches. These patches are often released to patch bugs or other security flaws that could be exploited by attackers.

Be vigilant when downloading files, programs, attachments, etc. Downloads that seem strange or are from an unfamiliar source often contain malware.

Website security scans

As malware also harms the compromised websites (by breaking reputation, blacklisting in search engines, etc.), some websites offer vulnerability scanning. Such scans check the website, detect malware, may note outdated software, and may report known security issues.

"Air gap" isolation or "Parallel Network"

As a last resort, computers can be protected from malware, and infected computers can be prevented from disseminating trusted information, by imposing an "air gap" (i.e. completely disconnecting them from all other networks). However, information can be transmitted in unrecognized ways; in December 2013 researchers in Germany showed one way that an apparent air gap can be defeated.

Later in 2015, "BitWhisper", a Covert Signaling Channel between Air-Gapped Computers using Thermal Manipulations was introduced. "BitWhisper" supports bidirectional communication and requires no additional dedicated peripheral hardware.

Grayware

Grayware is a term applied to unwanted applications or files that are not classified as malware, but can worsen the performance of computers and may cause security risks.

It describes applications that behave in an annoying or undesirable manner, and yet are less serious or troublesome than malware. Grayware encompasses spyware, adware, fraudulent dialers, joke programs, remote access tools and other unwanted programs that harm the performance of computers or cause inconvenience. The term came into use around 2004.

Another term, PUP, which stands for Potentially Unwanted Program (or PUA Potentially Unwanted Application), refers to applications that would be considered unwanted despite often having been downloaded by the user, possibly after failing to read a download agreement. PUPs include spyware, adware, fraudulent dialers. Many security products classify unauthorised key generators as grayware, although they frequently carry true malware in addition to their ostensible purpose.

Software maker Malwarebytes lists several criteria for classifying a program as a PUP.

CHAPTER 8

Common Attacks and Viruses

Identify Theft

Identity theft criminals come in all shapes and sizes these days. If you're ever unlucky enough to be a victim of identity theft, the culprit is far more likely to be a local meth user than a professional hacker. That said, most organized crime gangs around the world are becoming much more involved in computer hacking. Computer identity theft can happen in a number of ways. Criminal organizations can use their own hackers, hire college students, or simply buy large amounts of stolen information from professional hackers. And the result is a spike in the number and size of reported data breaches.

by hackers.

Hacking attacks can be launched in a number of ways:

- Attacking computers that don't have firewalls installed.
- Installing keystroke loggers or other malicious code by hiding it in email attachments.
- Exploiting browser vulnerabilities that have not been properly patched.
- Exploiting weak or poorly protected passwords.
- Hiding malicious code in downloads or free software.
- Hiding malicious code in images on websites and waiting for unsuspecting users to click on them.
- Employees or other trusted users simply accessing an unprotected computer.
- Exploiting poorly installed networks, and especially wireless home networks.

How does identify theft work?



First things first, your social security number isn't necessarily a magic ticket to your identity—it's really more like a cheat code. If you know where, when, and how to use someone else's number, you can effectively steal their identity and cause them significant hardship. Former public and now private investigator Randy Barnhart explains how easy it is to gain a line of credit in someone else's name if you know what to do:

Many retailers offer credit cards, most offer Visa and Master Card accounts as well. If I have someone's social security number, all I have to do is complete a one page credit application using the stolen SSN and hand it to a cashier that is 18-20 years old. The cashier enters the SSN into their system and a line of credit is issued. Depending on the victim's credit rating, the line of credit can be \$1000 to \$100,000. Usually the cashier hands me a temporary shopping pass with a limited balance that I can use immediately. If they have multiple identities, the thief can open several accounts and max out the credit line very quickly.

Barnhart suggests that this would be simple to stop, as additional security checks would be required, but this would involve the sacrifice of convenience—something we're not always eager to abandon. It's also not the sort of thing retailers want to give up because they make a lot of money off of providing you with a credit line.

Even still, that's just one example of the many problems that can arise from identity theft. We tend to concentrate only on the monetary damage, but much more can occur. Matt Davis, a victim advisor for the Identity Theft Resource Center, explains many of the other issues:

ID thieves can use an social security number to procure your medical benefits, social security, unemployment, file false tax returns, and even pawn off their criminal charges when they have run-ins with the law on you. The possibilities are limitless with the right information and an informed thief. A credit report will not show you if anyone is running up criminal charges as you, using your medical insurance to finance medical procedures, or creating a fraudulent job history report by working under your information.

Basically, your identity is valuable to different kinds of people for different reasons. You might be targeted for a line of credit or because an illegal immigrant needs "lawful" employment and health care. Monitoring your credit report isn't enough. You need to pay attention to everything if you're going to catch a thief.

How can one protect them from identity theft?

There's no way you can stop a young retail cashier from processing a credit application they don't know is fraudulent, or much of anything that would stop the thief once they have your social security number. Your goal is to make sure that number stays with you and doesn't get in the hands of anyone you don't trust. The easiest way to procure a social security number from a victim is by going through their trash, as your mail will sometimes have your number on it. There are also other ways your number can leave your protection. As a result, you'll want to do the following:

- If your social security number does appear on any documents, destroy them before you throw them out.
- Never give out your social security number to any third-party unless you know they need it (e.g. a credit application) and you trust the organization. Before handing it over, you may want to ask what measures they take to ensure social security numbers are not recorded. For example, a friend of mine works in a sales job. They're not allowed to have cellphones or any devices connected to the internet. They can't use computers, either, aside from the one provided. This is to make it virtually impossible for them to record any credit card numbers they receive from a customer. While a company is not going to outlaw pencil and paper, therefore not completely eliminating the possibility of your social security number leaving the building, they likely take several countermeasures to help protect you. If you're worried, ask. Whoever is requesting the number likely knows about them since they live with them every day.
- Before handing over your social security number to any company, ask if it will ever appear on a document they send you in the mail. Also find out how it is securely stored on their servers so it will be protected in case of a hack.
- Avoid entering your social security number online unless you are absolutely sure you're on a secure connection and dealing with a company you can trust. If you're not, call them to verify or don't do it.

Spoofing Attacks

A spoofing attack is when a malicious party impersonates another device or user on a network in order to launch attacks against network hosts, steal data, spread malware or bypass access controls. There are several different types of spoofing attacks that malicious parties can use to accomplish this. Some of the most common methods include ***IP address spoofing attacks***, ***ARP spoofing attacks*** and ***DNS server spoofing attacks***.

IP address spoofing attacks

IP address spoofing is one of the most frequently used spoofing attack methods. In an IP address spoofing attack, an attacker sends IP packets from a false (or “spoofed”) source address in order to disguise itself. Denial-of-service attacks often use IP spoofing to overload networks and devices with packets that appear to be from legitimate source IP addresses.

What sorts of attacks are launched through IP spoofing? To name a few:

Blind spoofing: In this type of attack, a cracker outside the perimeter of the local network transmits multiple packets to his intended target to receive a series of sequence numbers, which are generally used to assemble packets in the order in which they were intended -- Packet 1 is to be read first, then Packet 2, 3 and so on. The cracker is blind to how transmissions take place on this network, so he needs to coax the machine into responding to his own requests so he can analyze the sequence numbers. By taking advantage of knowing the sequence number, the cracker can falsify his identity by injecting data into the stream of packets without having to have authenticated himself when the connection was first established. (Generally, current operating systems employ random sequence number generation, so it's more difficult for crackers to predict the correct sequence number.)

Nonblind spoofing: In this type of attack, the cracker resides on the same subnet as his intended target, so by sniffing the wire for existing transmissions, he can understand an entire sequence/acknowledge cycle between his target and other hosts (hence the cracker isn't "blind" to the sequence numbers). Once the sequence is known, the attacker can hijack sessions that have already been built by disguising himself as another machine, bypassing any sort of authentication that was previously conducted on that connection.

Denial-of-service attack: To keep a large-scale attack on a machine or group of machines from being detected, spoofing is often used by the malefactors responsible for the event to disguise the source of the attacks and make it difficult to shut it off. Spoofing takes on a whole new level of severity when multiple hosts are sending constant streams of packet to

the DoS target. In that case, all the transmissions are generally spoofed, making it very difficult to track down the sources of the storm.

Man-in-the-middle attack: Imagine two hosts participating in normal transmissions between each other. In a man-in-the-middle attack, a malicious machine intercepts the packets sent between these machines, alters the packets and then sends them on to the intended destination, with the originating and receiving machines unaware their communications have been tampered with; this is where the spoofing element enters the equation. Typically, this type of attack is used to get targets to reveal secure information and continue such transmissions for a period of time, all the while unaware that the machine in the middle of the transmission is eavesdropping the whole time.

ARP spoofing attacks

ARP is short for Address Resolution Protocol, a protocol that is used to resolve IP addresses to MAC (Media Access Control) addresses for transmitting data. In an ARP spoofing attack, a malicious party sends spoofed ARP messages across a local area network in order to link the attacker's MAC address with the IP address of a legitimate member of the network. This type of spoofing attack results in data that is intended for the host's IP address getting sent to the attacker instead. Malicious parties commonly use ARP spoofing to steal information, modify data in-transit or stop traffic on a LAN. ARP spoofing attacks can also be used to facilitate other types of attacks, including denial-of-service, session hijacking and man-in-the-middle attacks. ARP spoofing only works on local area networks that use the Address Resolution Protocol.

DNS server spoofing attacks

The Domain Name System (DNS) is a system that associates domain names with IP addresses. Devices that connect to the internet or other private networks rely on the DNS for resolving URLs, email addresses and other human-readable domain names into their corresponding IP addresses. In a DNS server spoofing attack, a malicious party modifies the DNS server in order to reroute a specific domain name to a different IP address. In many cases, the new IP address will be for a server that is actually controlled by the attacker and contains files infected with malware. DNS server spoofing attacks are often used to spread computer worms and viruses.

Spoofing attack prevention and mitigation

There are many tools and practices that organisations can employ to reduce the threat of spoofing attacks. Common measures that organisations can take for spoofing attack prevention include:

- **Packet filtering:** packet filters inspect packets as they are transmitted across a network. Packet filters are useful in IP address spoofing attack prevention because they are capable of filtering out and blocking packets with conflicting source address information (packets from

outside the network that show source addresses from inside the network and vice versa).

- **Avoid trust relationships:** organisations should develop protocols that rely on trust relationships as little as possible. It is significantly easier for attackers to run spoofing attacks when trust relationships are in place because trust relationships only use IP addresses for authentication.
- **Use spoofing detection software:** There are many programs available that help organisations detect spoofing attacks, particularly ARP spoofing. These programs work by inspecting and certifying data before it is transmitted and blocking data that appears to be spoofed.
- **Use cryptographic network protocols:** Transport Layer Security (TLS), Secure Shell (SSH), HTTP Secure (HTTPS) and other secure communications protocols bolster spoofing attack prevention efforts by encrypting data before it is sent and authenticating data as it is received.

Phishing Attacks

Phishing is an e-mail fraud method in which the perpetrator sends out legitimate-looking email in an attempt to gather personal and financial information from recipients. Typically, the messages appear to come from well-known and trustworthy Web sites. Web sites that are frequently spoofed by phishers include PayPal, eBay, MSN, Yahoo, BestBuy, and America Online. A phishing expedition like the fishing expedition it's named for, is a speculative venture: the phisher puts the lure hoping to fool at least a few of the prey that encounter the bait.



Fraudsters send fake emails or set up fake web sites that mimic Yahoo!'s sign-in pages (or the sign-in pages of other trusted companies, such as eBay or PayPal) to trick you into disclosing your user name and password. This practice is sometimes referred to as "phishing" — a play on the word "fishing" — because the fraudster is fishing for your private account information. Typically, fraudsters try to trick you into providing your user name and password so that they can gain access to an online account. Once they gain access, they can use your personal information to commit identity theft, charge your credit cards, empty your bank accounts, read your email, and lock you out of your online account by changing your password.

If you receive an email (or instant message) from someone you don't know directing you to sign in to a website, be careful! You may have received a phishing email with links to a phishing website. A phishing website (sometimes called a "spoofed" site) tries to steal your account password or other confidential information by tricking you into believing you're on a legitimate website. You could even land on a phishing site by mistyping a URL (web address).

Is that website legitimate? Don't be fooled by a site that looks real. It's easy for phishers to create

websites that look like the genuine article, complete with the logo and other graphics of a trusted website.

Important: If you're at all unsure about a website, do not sign in. The safest thing to do is to close and then reopen your browser, and then type the URL into your browser's URL bar. Typing the correct URL is the best way to be sure you're not redirected to a spoofed site.

Signs you May have Received a Phishing Email

If you receive an email from a web site or company urging you to provide confidential information, such as a password or Social Security number, you might be the target of a phishing scam. The tips below can help you avoid being taken in by phishers.

Unofficial "From" address

Look out for a sender's email address that is similar to, but not the same as, a company's official email address. Fraudsters often sign up for free email accounts with company names in them (such as "ysmallbusiness@yahoo.com"). These email addresses are meant to fool you. Official email from Yahoo! always comes from an "@yahoo-inc.com" email address.

Urgent action required

Fraudsters often include urgent "calls to action" to try to get you to react immediately. Be wary of emails containing phrases like "your account will be closed," "your account has been compromised," or "urgent action required." The fraudster is taking advantage of your concern to trick you into providing confidential information.

Generic greeting

Fraudsters often send thousands of phishing emails at one time. They may have your email address, but they seldom have your name. Be skeptical of an email sent with a generic greeting such as "Dear Customer" or "Dear Member".

Link to a fake web site

To trick you into disclosing your user name and password, fraudsters often include a link to a fake web site that looks like (sometimes exactly like) the sign-in page of a legitimate web site. Just because a site includes a company's logo or looks like the real page doesn't mean it is! Logos and the appearance of legitimate web sites are easy to copy. In the email, look out for:

Links containing an official company name, but in the wrong location. For example: "<https://www.yahoo.com>" is a fake address that doesn't go to a real Yahoo! web site. A real Yahoo! web address has a forward slash ("/") after "yahoo.com" — for example, "<https://www.yahoo.com/>" or "<https://login.yahoo.com/>".

Legitimate links mixed with fake links

Fraudsters sometimes include authentic links in their spoof pages, such as to the genuine privacy policy and terms of service pages for the site they're mimicking. These authentic links are mixed in

with links to a fake phishing web site in order to make the spoof site appear more realistic.

- And look for these other indicators that an email might not be trustworthy:
- Spelling errors, poor grammar, or inferior graphics.
- Requests for personal information such as your password, Social Security number, or bank account or credit card number. Legitimate companies will never ask you to verify or provide confidential information in an unsolicited email.
- Attachments (which might contain viruses or keystroke loggers, which record what you type).

Signs you May be on a Phishing Site

Phishers are becoming more and more sophisticated in designing their phony websites, follow these steps if you think you've been phished. There's no surefire way to know if you're on a phishing site, but here are some hints that can help you distinguish a real website from a phishing site:

Check the Web address

Just because the address looks OK, don't assume you're on a legitimate site. Look in your browser's URL bar for these signs that you may be on a phishing site:

- Incorrect company name. Often the web address of a phishing site looks correct but actually contains a common misspelling of the company name or a character or symbol before or after the company name. Look for tricks such as substituting the number "1" for the letter "l" in a Web address (for example, www.paypa1.com instead of www.paypal.com).
- "http://" at the start of the address on Yahoo sign-in pages. A legitimate Yahoo sign-in page address starts with "https://" — the letter "s" must be included. So check the website address for any Yahoo sign-in page.
- A missing forward slash. To verify that you're on a legitimate Yahoo site, make sure a forward slash (/) appears after "yahoo.com" in the URL bar, for example, "https://www.yahoo.com" is a fake website address.

Be leery of pop-ups

Be careful if you're sent to a website that immediately displays a pop-up window asking you to enter your username and password. Phishing scams may direct you to a legitimate website and then use a pop-up to gain your account information.

Give a fake password

If you not sure if a site is authentic, don't use your real password to sign in. If you enter a fake password and appear to be signed in, you're likely on a phishing site. Do not enter any more information; close your browser. Keep in mind, though, that some phishing sites automatically display an error message regardless of the password you enter. So, just because your fake password is rejected, don't assume the site is legitimate.

Use a Web browser with antiphishing detection

Internet Explorer, Mozilla Firefox, Web browsers have free add-ons (or "plug-ins") that can help you detect phishing sites.

Be wary of other methods to identify a legitimate site

Some methods used to indicate a safe site can't always be trusted. A small unbroken key or locked padlock at the left of the URL bar of your browser is not a reliable indicator of a legitimate website. Just because there's a key or lock and the security certificate looks authentic, don't assume the site is legitimate.

Different types of Phishing

- Deceptive Phishing
- Malware-Based Phishing
- Keyloggers and Screenloggers
- Session Hijacking
- Web Trojans
- Hosts File Poisoning
- System Reconfiguration Attacks
- Data Theft
- DNS-Based Phishing ("Pharming")
- Content-Injection Phishing
- Man-in-the-Middle Phishing
- Search Engine Phishing

Deceptive Phishing

A phisher sends bulk email with a message. Users are influenced to click on a link.

Examples: An email stating that there is a problem with recipient's account at financial institutions and requests the recipient to click on a website link to update his details. A statement may be sent to the recipient stating that his account is at risk and offering to enroll him to an anti-fraud program. In any of the case, the website collects the user's confidential information. The phisher will subsequently impersonate the victim and transfer funds from his account, purchase merchandise, take a second mortgage on the victim's house or cause any other damage. In most of these cases, the phisher does not directly cause any economic damage, but sells the illegally obtained information on a secondary market.

Malware-based Phishing

Malware-based phishing involves running malicious software on the user's machine. The malware can be introduced as an email attachment or as a downloadable file exploiting security vulnerabilities. This is a particular threat for small and medium businesses (SMBs) who fails to update their software applications.

Keyloggers and Screenloggers

Keyloggers and screenloggers are varieties of malware that track input from the keyboard and send relevant information to the hacker via the Internet. They can embed themselves into the user's browsers as small utility programs.

Session Hijacking

Session Hijacking is a kind of phishing attack where user's activities are monitored clearly until they log into a target account like the bank account and establish their credentials. At that point, the malicious software takes control and can undertake unauthorized actions, such as transferring funds, without the knowledge of the user.

Web Trojans

Web Trojans pop up when the users attempt to log in to an important website or performing any transaction. These web trojans are invisible to the users. They collect user's credentials locally and transmit them to the phisher.

Hosts File Poisoning

When a user types a URL of a website it is first translated into an IP address before it's transmitted over the Internet. The majority of user's PCs running a Microsoft Windows operating system first look up these "host names" in their "hosts" file before undertaking a Domain Name System (DNS) lookup. Phishers steal information by "poisoning" the hosts file. They transmit a bogus address, taking the user unwittingly to a fake "look alike" website.

System Reconfiguration Attacks

This is a kind of phishing attack where the settings on a user's PC are modified with bad intentions. For example: URLs in a favorites file might be modified to direct users to bogus websites that look alike. For example: a financial institution's website URL may be changed from "bankofxyz.com" to "bancofxyz.com".

Data Theft

Malicious code running on a user's computer, can directly steal confidential information stored on the computer. This information can include activation keys to software, passwords, sensitive and personal email and any other data that is stored on the victim's computer. Data theft is also widely used for phishing attacks aimed at corporate espionage. In addition, confidential memos, design

documents or billing info can be publicly leaked, causing embarrassment or financial damage to the organization. This data can also be leaked to competitors.

DNS-Based Phishing

Domain Name System (DNS)-based phishing or hosts file modification is called Pharming. The requests for URLs or name service return a bogus address and subsequent communications are directed to a fake site when the hackers tamper a company's host files or domain name. As a result, users remain unaware about the fraud website controlled by hackers.

Content-Injection Phishing

Content-injection phishing means inserting malicious content into a legitimate website. The malicious content can redirect to other websites or may install malware on a user's computer and also insert a frame of content that will redirect data to the phishing server.

Man-in-the-Middle Phishing

Man-in-the-Middle Phishing is hard to detect than many other forms of phishing. In these attacks hackers sit between the user and the website or the system. They record the information being entered by the user but continue to pass the user on to the next steps so that user transactions are not affected and the user remains unaware. Later, they sell or use the information which may be credentials, credit card details, and bank account details.

Search Engine Phishing

Phishers develop e-commerce websites with attractive offers. Later these sites are indexed legitimately with different search engines. When users search for products or services, these sites are shown by the search engine and are fooled into giving up their information. For example, scammers have set up false banking sites that offer lower credit costs or better interest rates than other banks. Victims are often encouraged to transfer account details. In this way, they are deceived into giving up their details.

Social Engineering

Social engineering, in the context of information security, refers to psychological manipulation of people into performing actions or divulging confidential information. A type of confidence trick for the purpose of information gathering, fraud, or system access, it differs from a traditional "con" in that it is often one of many steps in a more complex fraud scheme.

The term "social engineering" as an act of psychological manipulation is also associated with the social sciences, but its usage has caught on among computer and information security professionals.

All social engineering techniques are based on specific attributes of human decision-making known as cognitive biases. These biases, sometimes called "bugs in the human hardware", are exploited in various combinations to create attack techniques, some of which are listed. The attacks used in social engineering can be used to steal employees' confidential information. The most common type of social engineering happens over the phone. Other examples of social engineering attacks are criminals posing as exterminators, fire marshals and technicians to go unnoticed as they steal company secrets.

One example of social engineering is an individual who walks into a building and posts an official-looking announcement to the company bulletin that says the number for the help desk has changed. So, when employees call for help the individual asks them for their passwords and ID's thereby gaining the ability to access the company's private information. Another example of social engineering would be that the hacker contacts the target on social networking site and start conversation with the target. Slowly and gradually, the hacker gains trust of the target and then uses it to get access to sensitive information like password or bank account details.

Pretexting

Pretexting (adj. *pretextual*), also known in the UK as blagging or bohoing, is the act of creating and using an invented scenario (the *pretext*) to engage a targeted victim in a manner that increases the chance the victim will divulge information or perform actions that would be unlikely in ordinary circumstances. An elaborate lie, it most often involves some prior research or setup and the use of this information for impersonation (e.g., date of birth, Social Security number, last bill amount) to establish legitimacy in the mind of the target.

Diversion Theft

Diversion theft, also known as the "Corner Game" or "Round the Corner Game", originated in the East End of London.

In summary, diversion theft is a "con" exercised by professional thieves, normally against a transport or courier company. The objective is to persuade the persons responsible for a legitimate delivery that the consignment is requested elsewhere hence, "round the corner".

Baiting

Baiting is like the real-world Trojan Horse that uses physical media and relies on the curiosity or greed of the victim.

In this attack, the attacker leaves a malware infected floppy disk, CD-ROM, or USB flash drive in location sure to be found (bathroom, elevator, sidewalk, parking lot), gives it a legitimate looking and curiosity-piquing label, and simply waits for the victim to use the device.

In either case, as a consequence of merely inserting the disk into a computer to see the contents, the user would unknowingly install malware on it, likely giving an attacker unfettered access to the

victim's PC and, perhaps, the targeted company's internal computer network.

Unless computer controls block the infection, PCs set to "auto-run" inserted media may be compromised as soon as a rogue disk is inserted.

Hostile devices, more attractive than simple memory, can also be used. For instance, a "lucky winner" is sent a free digital audio player that actually compromises any computer it is plugged to.

Tailgating

An attacker, seeking entry to a restricted area secured by unattended, electronic access control, e.g. by RFID card, simply walks in behind a person who has legitimate access. Following common courtesy, the legitimate person will usually hold the door open for the attacker or the attackers themselves may ask the employee to hold it open for them. The legitimate person may fail to ask for identification for any of several reasons, or may accept an assertion that the attacker has forgotten or lost the appropriate identity token. The attacker may also fake the action of presenting an identity token.

Shoulder Surfing

Shoulder surfing is using direct observation techniques, such as looking over someone's shoulder, to get information. Shoulder surfing is an effective way to get information in crowded places because it's relatively easy to stand next to someone and watch as they fill out a form, enter a PIN number at an ATM machine, or use a calling card at a public pay phone. Shoulder surfing can also be done long distance with the aid of binoculars or other vision-enhancing devices. To prevent shoulder surfing, experts recommend that you shield paperwork or your keypad from view by using your body or cupping your hand.

Dumpster Diving

Alternatively referred to as trashing, dumpster diving is the practice of digging through a company's trash bins or dumpsters to gain information. This act is carried out for a number of reasons, from seeking passwords for a network attack, to personal information for social engineering.

When dumpster diving, hackers look for:

Phone lists

Helps map out the power structure of the company, and gives possible account names, and is essential in appearing as a member of the organization.

Memos

Reveal activities inside the target organization.

Policy manuals

Today's employee manuals give instructions on how not to be victimized by hackers, and likewise help the hacker know which attacks to avoid, or at least try in a different manner than specified in the policy manual.

Calenders of events

Tells the hackers when everyone will be elsewhere and not logged into the system. Best time to break in.

System Manuals, Packing Crates

Tells the hackers about new systems that they can break into.

Print outs

Source code is frequently found in dumpsters, along with e-mails (revealing account names), and PostIt&tm; notes containing written passwords.

Disks, Tapes, CD-ROMs

People forget to erase storage media, leaving sensitive data exposed. These days, dumpsters may contain larger number of "broken" CD-Rs. The CD-ROM "burning" process is sensitive, and can lead to failures, which are simply thrown away. However, some drives can still read these disks, allowing the hacker to read a half-way completed backup or other sensitive piece of information.

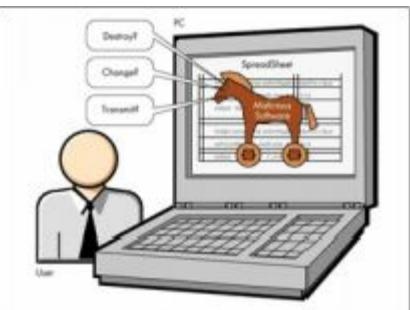
Old Hard Drives

Like CD-ROMs, information from broken drives can usually be recovered. It depends only upon the hacker's determination.

Organizational changes, such as mergers, acquisitions, and "re-orgs" leave the company in disarray that can be exploited by hackers (in much the same way that hackers look upon January 1, 2000 as a prime hacking day)

Trojan Horses

A trojan horse is a program that appears to be something safe, but is performing tasks such as giving access to your computer or sending personal information to other computers. Trojan horses are one of the most common methods a criminal uses to infect your computer and collect personal information from your computer. Below are some basic examples of how your computer could become infected with a trojan horse.



If you were referred here, you may have been “hacked” by a Trojan horse attack. It’s crucial that you read this page and fix yourself immediately. Failure to do so could result in being disconnected from the IRC network, letting strangers access your private files, or worst yet, allowing your computer to be hijacked and used in criminal attacks on others.

How do I avoid getting infected in the future?

You must be certain of BOTH the source AND content of each file you download! In other words you need to be sure that you trust not only the person or file server that gave you the file, but also the contents of the file itself.

- Know the source.
- Ask questions. Even when you trust the source, it’s easy for a trojan to impersonate a user when it has control of their computer. Ask questions to determine what the file is before you download.
- Expect the file. If you weren’t expecting a file transfer or attachment, then don’t download it until you check with the sender personally.
- Does everything make sense? If it looks suspicious, it probably is. File types, filenames, and descriptions should all agree. Your dear aunt Sally wouldn’t put family photos in an Excel spreadsheet, right? :)
- Even when everything else is in order, check the contents with virus scanners.

Remember: Better to ask and feel silly, than to download blindly and be sorry.

Here are some practical tips to avoid getting infected (again). For more general security information, please see our main security help page.

1. **NEVER download blindly from people or sites which you aren’t 100% sure about. In other words, as the old saying goes, don’t accept candy from strangers. If you do a lot of file downloading, it’s often just a matter of time before you fall victim to a trojan.**
2. **Even if the file comes from a friend, you still must be sure what the file is before opening it, because many trojans will automatically try to spread themselves to friends in an email address book or on an IRC channel. There is seldom reason for a friend to send you a file that you didn’t ask for. When in doubt, ask them first, and scan the attachment with a fully updated anti-virus program.**

3. Beware of hidden file extensions! Windows by default hides the last extension of a file, so that innocuous-looking “susie.jpg” might really be “susie.jpg.exe” - an executable trojan! To reduce the chances of being tricked, unhide those pesky extensions.
4. NEVER use features in your programs that automatically get or preview files. Those features may seem convenient, but they let anybody send you anything which is extremely reckless. For example, never turn on “auto DCC get” in mIRC, instead ALWAYS screen every single file you get manually. Likewise, disable the preview mode in Outlook and other email programs.
5. Never blindly type commands that others tell you to type, or go to web addresses mentioned by strangers, or run pre-fabricated programs or scripts (not even popular ones). If you do so, you are potentially trusting a stranger with control over your computer, which can lead to trojan infection or other serious harm.
6. Don’t be lulled into a false sense of security just because you run anti-virus programs. Those do not protect perfectly against many viruses and trojans, even when fully up to date. Anti-virus programs should not be your front line of security, but instead they serve as a backup in case something sneaks onto your computer.
7. Finally, don’t download an executable program just to “check it out” - if it’s a trojan, the first time you run it, you’re already infected!

How do I get rid of trojans?

Here are your many options, none of them are perfect. I strongly suggest you read through all of them before rushing out and trying to run some program blindly. Remember - that’s how you got in this trouble in the first place.

To repair or to reformat?

The decision whether to attempt to repair an infected computer or reformat and do a clean reinstallation is a difficult one. On one hand, no antimalware software will ever be able to provide 100% assurance that all malware has been removed. On the other hand, most infections are from the same couple of hundred actively circulating trojans, that are well understood and reliably removed by the appropriate removal tool, and a clean reformat and reinstall will take anywhere from several hours to several days.

As a practical matter, it’s worth trying to repair infected computers first. Most of the time, you can completely get rid of the infection quickly and easily. If an infection persistantly returns, it’s likely that it wasn’t completely removed in the first place, at which point stronger measures should be considered.

Repairing the Damage

Anti-Virus Software: Some of these can handle most of the well known trojans, but none are perfect, no matter what their advertising claims. You absolutely MUST make sure you have the very latest update files for your programs, or else they will miss the latest trojans.

Compared to traditional viruses, today's trojans evolve much quicker and come in many seemingly innocuous forms, so anti-virus software is always going to be playing catch up. Also, if they fail to find every trojan, anti-virus software can give you a false sense of security, such that you go about your business not realizing that you are still dangerously compromised. There are many products to choose from, but the following are generally effective: AVP, PC-cillin, and McAfee VirusScan.

Anti-Trojan Programs: These programs are the most effective against trojan horse attacks, because they specialize in trojans instead of general viruses.

Clean Re-installation

When all else fails, or when any risk of continued infection is unacceptable, the only option left is a clean re-installation. Although arduous, this will always be the only sure way to eradicate a trojan or virus.

A clean re-installation will take anywhere from several hours to several days to fully complete, depending on your system configuration, operating system, amount of data to be recovered, and many other factors. This will require some degree of technical competency, and you will need to have your original operating system or recovery media, as well as original media for any application software, as well as any license keys ready before you begin.

Extreme caution must be taken in backing up and restoring data to make sure that the infection is not reintroduced when data is restored.

A professional PC repair shop can be contracted locally to perform a clean reinstallation, should you not feel capable of doing so yourself.

- 1. Back up your entire hard disk.**
- 2. Reformat the disk.**
- 3. Re-install the operating system and all your applications from original CDs**
- 4. Install security software and configure it according to manufacturer's recommendations.**
- 5. Install all operating system updates. (Setting updates to automatically install here is a good idea too.)**
- 6. Install all updates to your application software.**
- 7. Make sure system is clean up to this point by scanning the system.**
- 8. At this point, you may wish to make an image of your system in a pristine state, before restoring anything from backup. You can use this image at a later time to speed up a clean reinstallation by only needing to download updates.**
- 9. Treat the contents of the backup as infected, and handle accordingly during the restore process. Scan everything you decide to restore, and restore only your user files, and not configuration files for programs, registry settings, or**

applications.

This will take several hours, and require some degree of technical competency. If you are not up to the task a professional repair shop can be paid to perform these steps.

Computer Virus

A computer virus is a computer program that can replicate itself and spread from one computer to another. When these infected programs are run, the viral code is executed and the virus spreads further. Sometimes, what constitutes “programs” is more than simply applications: boot code, device drivers, and command interpreters also can be infected.



A **computer virus** is one of thousands of programs that can invade computer and perform a variety of functions ranging from annoying (e.g., popping up messages as a joke) to dangerous (e.g., deleting files or destroying your hard disk).

Viruses can increase their chances of spreading to other computers by infecting files on a network file system or a file system that is accessed by other computers.

The term "computer virus" is sometimes used as a catch-all phrase to include all types of malware, even those that do not have the ability to replicate themselves. Malware includes computer viruses, computer worms, Trojan horses, most rootkits, spyware, dishonest adware and other malicious or unwanted software, including true viruses. Viruses are sometimes confused with worms and Trojan horses, which are technically different.

How Do Viruses Spread

Computer viruses are programs that must be triggered or somehow executed before they can infect your computer system and spread to others. Examples include opening a document infected with a “macro virus,” booting with a diskette infected with a “boot sector” virus, or double-clicking on an infected program file. Viruses can then be spread by sharing infected files on a diskette, network drive, or other media, by exchanging infected files over the Internet via e-mail attachments, or by downloading questionable files from the Internet.

Types of Virus

Viruses come in a variety of types. Breaking them into categories is not easy as many viruses have multiple characteristics and so would fall into multiple categories. We're going to describe two different types of category systems: what they infect and how they infect. Because they are so common, we're also going to include a category specific to worms.

These categories include :

- **System Sector Viruses** : These infect control information on the disk itself.

- **File Viruses** : These infect program (COM and EXE) files.
- **Macro Viruses** : These infect files you might think of as data files. But, because they contain macro programs they can be infected,
- **Companion Viruses** : A special type that adds files that run first to your disk.
- **Cluster Viruses** : A special type that infects through the disk directory.
- **Batch File Viruses** : These use text batch files to infect.
- **Source Code Viruses** : These add code to actual program source code.
- **Visual Basic Worms** : These worms use the Visual Basic language to control the computer and perform tasks.

How They Infect

Viruses are sometimes also categorized by how they infect. These categorizations often overlap the categories above and may even be included in the description (e.g., polymorphic file virus). These categories include:

- **Polymorphic Viruses** : Viruses that change their characteristics as they infect.
- **Stealth Viruses** : Viruses that try to actively hide themselves from anti-virus or system software.
- **Fast and Slow Infectors** : Viruses that infect in a particular way to try to avoid specific anti-virus software.
- **Sparse Infectors** : Viruses that don't infect very often.
- **Armored Viruses** : Viruses that are programmed to make disassembly difficult.
- **Multipartite Viruses** : Viruses that may fall into more than one of the top classes.
- **Cavity (Spacefiller) Viruses** : Viruses that attempt to maintain a constant file size when infecting.
- **Tunneling Viruses** : Viruses that try to "tunnel" under anti-virus software while infecting.
- **Camouflage Viruses** : Viruses that attempted to appear as a benign program to scanners.
- **NTFS ADS Viruses** : Viruses that ride on the alternate data streams in the NT File System.
- **Virus Droppers** : Programs that place viruses onto your system but themselves may not be viruses (a special form of Trojan).

Some Famous & Worst Computer Virus

Year	Computer Virus Name	Description
1971	Creeper	This is noted as possibly the first ever computer virus. It infected computers on ARPANET.
1982	Elk Cloner	Despite Apple's marketing that their

		systems are less prone to viruses than was not always the case. Notable as possible the first personal computer virus, Elk Cloner infected the boot sector of Apple II floppies.
1988	The Morris Internet Worm	The grandfather of computer worms, the Morris worm infected Unix systems and was notable for its "accidental" virulence.
1999	Melissa	The Melissa virus is notable because it is a Word macro virus. It cleverly spread via e-mails sent to contacts from the infected users' address books.
2000	ILOVEYOU	One of the most widespread and rapidly spreading viruses ever, the ILOVEYOU virus spread via e-mail, posing as an executable attachment sent by a friend from the target's contact list.
2001	Code Red	Code Red was a computer worm observed on the Internet on July 13, 2001. It attacked computers running Microsoft's IIS web server.
2001	Nimda	Nimda is a computer worm, also a file infector. It quickly spread, surpassing the economic damage caused by previous outbreaks such as Code Red. Nimda utilized several types of propagation technique and this caused it to become the Internet's most widespread virus/worm within 22 minutes.
2003	SQL Slammer	This tiny virus infected servers running Microsoft's SQL Server Desktop Engine, and was very fast to spread.
2003	Blaster	Blaster exploited a Windows operating system vulnerability and let users know of its presence with a system shutdown warning.
2004	Sasser	Sasser exploited a buffer overflow and spread by connecting to port 445 on networked Windows systems. The chaos caused was possibly the worst ever, as systems restarted or crashed.

Anti-Virus Software

- Anti-virus software are programs that are installed onto your computer and can scan and remove known viruses which you may have contracted. The software can also be set to automatically scan diskettes when inserted into the disk drive, scan files when downloaded from the Internet, or scan e-mail when received.
- Antivirus or anti-virus software is used to prevent, detect, and remove malware, including but not limited to computer viruses, computer worms, Trojan horses, spyware and adware. Computer security, including protection from social engineering techniques, is commonly

offered in products and services of antivirus software companies.

- Example of Antivirus Software: AVG, Kaspersky, Avira, Quick-Heal, Bit-defender, McAfee, Trend Micro, etc.

How can you protect yourself?

With dangerous viruses on the network, what can computer users do to protect their systems? Here are just a few hints:

- Be sure to install an anti-virus software program to guard against virus attacks. Also, be sure you **turn on** the scanning features. It can't protect you if it's not enabled.
- Practice caution when working with files from unknown or questionable sources.
- Do not open e-mail attachments if you do not recognize the sender (though you may also receive viruses from people you know). Scan the attachments with anti-virus software before opening them.
- Download files only from reputable Internet sites, and be wary when exchanging diskettes or other media with friends.
- Scan your hard drive for viruses monthly.

Note : Even with these precautions, new viruses may find ways to enter your computer system.

Worm



Like a virus, a worm is also a self-replicating program. A worm differs from a virus in that it propagates through computer networks without user intervention. Unlike a virus, it does not need to attach itself to an existing program. Many people conflate the terms "virus" and "worm", using them both to describe any self-propagating program.

CHAPTER 9

Password cracking and How to hack an Email password?

Password cracking



Password cracking is the process of recovering passwords from data that has been stored in or transmitted by a computer system. A common approach is to repeatedly try guesses for the password.

Passwords are the most widely used form of authentication throughout the world. A username and password are used on computer systems, bank accounts, ATMs, and more. The ability to crack passwords is an essential skill to both the hacker and the forensic investigator, the latter needing to hack passwords for accessing the suspect's system, hard drive, email account, etc.

Although some passwords are very easy to crack, some are very difficult. In those cases, the hacker or forensic investigator can either employ greater computing resources (a botnet, supercomputer, GPU, ASIC, etc.), or they can look to obtain the password in other ways.

These ways might include insecure storage. In addition, sometimes you don't need a password to access password-protected resources. For instance, if you can replay a cookie, session ID, a Kerberos ticket, an authenticated session, or other resource that authenticates the user after the password authentication process, you can access the password protected resource without ever knowing the password.

Sometimes these attacks can be much easier than cracking a complex and long password. I will do a tutorial on various replay attacks in the near future (look out specifically for my upcoming article on stealing the Facebook cookie to access someone's Facebook account).

Password Storage

In general, passwords are not stored in clear text. As a rule, passwords are stored as hashes. Hashes are one-way encryption that are unique for a given input. These systems very often use MD5 or SHA1 to hash the passwords.

In the Windows operating system, passwords on the local system are stored in the SAM file, while Linux stores them in the /etc/shadow file. These files are accessible only by someone with root/sysadmin privileges. In both cases, you can use a service or file that has root/sysadmin privileges to grab the password file (e.g. DLL injection with samdump.dll in Windows).

Types of Attacks

Dictionary

A dictionary attack is the simplest and fastest password cracking attack. To put it simply, it just runs through a dictionary of words trying each one of them to see if they work. Although such an approach would seem impractical to do manually, computers can do this very fast and run through millions of words in a few hours. This should usually be your first approach to attacking any password, and in some cases, it can prove successful in mere minutes.

Rainbow Table

Most modern systems now store passwords in a hash. This means that even if you can get to the area or file that stores the password, what you get is an encrypted password. One approach to cracking this encryption is to take dictionary file and hash each word and compare it to the hashed password. This is very time- and CPU-intensive. A faster approach is to take a table with all the words in the dictionary already hashed and compare the hash from the password file to your list of hashes. If there is a match, you now know the password.

Brute Force

Brute force is the most time consuming approach to password cracking. It should always be your last resort. Brute force password cracking attempts all possibilities of all the letters, number, special characters that might be combined for a password and attempts them. As you might expect, the more computing horsepower you have, the more successful you will be with this approach.

Hybrid

A hybrid password attack is one that uses a combination of dictionary words with special characters, numbers, etc. Often these hybrid attacks use a combination of dictionary words with numbers appending and prepending them, and replacing letters with numbers and special characters. For instance, a dictionary attack would look for the word "password", but a hybrid attack might look for "p@\$\$w0rd123".

Commonly Used Passwords

As much as we think each of us is unique, we do show some common patterns of behavior within our species. One of those patterns is the words we choose for passwords. There are number of wordlists that have been compiled of common passwords. In recent years, many systems have been cracked and passwords captured from millions of users. By using these already captured passwords, you are likely to find at least a few on the network you are trying to hack.

Password Cracking Strategy

Many newbies, when they start cracking passwords, simply choose a tool and word list and then turn them loose. They are often disappointed with the results. Expert password crackers have a strategy. They don't expect to be able to crack every password, but with a well-developed strategy, they can crack most passwords in a very short amount of time.

The key to develop a successful strategy of password cracking is to use multiple iterations, going after the easiest passwords with the first iteration to the most difficult passwords using different techniques for each iteration.

CHAPTER 10

Penetration Testing

Penetration Testing

Penetration testing is the process of attempting to gain access to resources without knowledge of usernames, passwords and other normal means of access. If the focus is on computer resources, then examples of a successful penetration would be obtaining or subverting confidential documents, pricelists, databases and other protected information.

The main thing that separates a penetration tester from an attacker is permission. The penetration tester will have permission from the owner of the computing resources that are being tested and will be responsible to provide a report. The goal of a penetration test is to increase the security of the computing resources being tested.

In many cases, a penetration tester will be given user-level access and in those cases, the goal would be to elevate the status of the account or user other means to gain access to additional information that a user of that level should not have access to.

Some penetration testers are contracted to find one hole, but in many cases, they are expected to keep looking past the first hole so that additional vulnerabilities can be identified and fixed. It is important for the pen-tester to keep detailed notes about how the tests were done so that the results can be verified and so that any issues that were uncovered can be resolved.

It's important to understand that it is very unlikely that a pen-tester will find all the security issues. As an example, if a penetration test was done yesterday, the organization may pass the test. However, today is Microsoft's "patch Tuesday" and now there's a brand new vulnerability in some Exchange mail servers that were previously considered secure, and next month it will be something else. Maintaining a secure network requires constant vigilance.

Pen-Testing vs. Vulnerability Assessment

The main focus of this paper is penetration testing but there is often some confusion between penetration testing and vulnerability assessment. The two terms are related but penetration testing has more of an emphasis on gaining as much access as possible while vulnerability testing places the emphasis on identifying areas that are vulnerable to a computer attack. An automated vulnerability scanner will often identify possible vulnerabilities based on service banners or other network responses that are not in fact what they seem. A vulnerability assessor will stop just before compromising a system, whereas a penetration tester will go as far as they can within the scope of the contract.

It is important to keep in mind that you are dealing with a 'Test.' A penetration test is like any other test in the sense that it is a sampling of all possible systems and configurations. Unless the contractor

is hired to test only a single system, they will be unable to identify and penetrate all possible systems using all possible vulnerabilities. As such, any Penetration Test is a sampling of the environment. Furthermore, most testers will go after the easiest targets first.

How Vulnerabilities Are Identified

Vulnerabilities need to be identified by both the penetration tester and the vulnerability scanner. The steps are similar for the security tester and an unauthorized attacker. The attacker may choose to proceed more slowly to avoid detection, but some penetration testers will also start slowly so that the target company can learn where their detection threshold is and make improvements.

The first step in either a penetration test or a vulnerability scan is reconnaissance. This is where the tester attempts to learn as much as possible about the target network as possible. This normally starts with identifying publicly accessible services such as mail and web servers from their service banners. Many servers will report the Operating System they are running on, the version of software they are running, patches and modules that have been enabled, the current time, and perhaps even some internal information like an internal server name or IP address.

Once the tester has an idea what software might be running on the target computers, that information needs to be verified. The tester really doesn't KNOW what is running but he may have a pretty good idea.

The information that the tester has can be combined and then compared with known vulnerabilities, and then those vulnerabilities can be tested to see if the results support or contradict the prior information.

In a stealthy penetration test, these first steps may be repeated for some time before the tester decides to launch a specific attack. In the case of a strict vulnerability assessment, the attack may never be launched so the owners of the target computer would never really know if this was an exploitable vulnerability or not.

Why Perform Penetration Testing?

Security breaches and service interruptions are costly

Security breaches and any related interruptions in the performance of services or applications, can result in direct financial losses, threaten organizations' reputations, erode customer loyalties, attract negative press, and trigger significant fines and penalties. A recent study conducted by the Ponemon Institute (2014 Cost of Data Breach Study: Global Analysis) reported the average cost of a data breach for the affected company is now \$3.5 million. Costs associated with the Target data breach that occurred in 2013 reached \$148 million by the second quarter of 2014.

It is impossible to safeguard all information, all the time

Organizations have traditionally sought to prevent breaches by installing and maintaining layers of defensive security mechanisms, including user access controls, cryptography, IPS, IDS and firewalls

However, the continued adoption of new technologies, including some of these security systems, and the resulting complexity introduced, has made it even harder to find and eliminate all of an organizations' vulnerabilities and protect against many types of potential security incidents. New vulnerabilities are discovered each day, and attacks constantly evolve in terms of their technical and social sophistication, as well as in their overall automation.

Penetration testing identifies and prioritizes security risks

Penetration testing evaluates an organization's ability to protect its networks, applications, endpoints and users from external or internal attempts to circumvent its security controls to gain unauthorized or privileged access to protected assets. Test results validate the risk posed by specific security vulnerabilities or flawed processes, enabling IT management and security professionals to prioritize remediation efforts. By embracing more frequent and comprehensive penetration testing, organizations can more effectively anticipate emerging security risks and prevent unauthorized access to critical systems and valuable information.

Pen test strategies

Targeted testing

Targeted testing is performed by the organization's IT team and the penetration testing team working together. It's sometimes referred to as a "lights-turned-on" approach because everyone can see the test being carried out.

External testing

This type of pen test targets a company's externally visible servers or devices including domain name servers (DNS), e-mail servers, Web servers or firewalls. The objective is to find out if an outside attacker can get in and how far they can get in once they've gained access.

Internal testing

This test mimics an inside attack behind the firewall by an authorized user with standard access privileges. This kind of test is useful for estimating how much damage a disgruntled employee could cause.

Blind testing

A blind test strategy simulates the actions and procedures of a real attacker by severely limiting the information given to the person or team that's performing the test beforehand. Typically, they may only be given the name of the company. Because this type of test can require a considerable amount of time for reconnaissance, it can be expensive.

Double blind testing

Double blind testing takes the blind test and carries it a step further. In this type of pen test, only one or two people within the organization might be aware a test is being conducted. Double-blind tests can be useful for testing an organization's security monitoring and incident identification as well as its response procedures.

Four distinct pen testing service offerings you can provide customers to ensure they have full coverage.

Vulnerability scanning

This is a straightforward opportunity and a mature offering. The biggest question you'll face is whether to resell a service offering (like that from Qualys) or to buy a tool and use it internally to scan your customer's networks and systems. Scanning is one of the requirements for nearly every regulation, so this is an easy step along the path to security assurance, since all of your regulated customers need to scan.

Infrastructure pen testing

This offering involves a tool that uses live exploits, like Metasploit or Core Impact. You'll use live ammunition, so orchestrate these tests with the client to ensure the minimum amount of disruption. You should test all externally visible IP addresses -- that's what the bad guys out there can see and are likely trying to penetrate. You may also want to see what you can find if you attach to a conference room network, one of the softest parts of a customer's defenses.

Application pen testing

Trying to break into applications is probably the most important step nowadays, given that so many attacks directly target applications. You can use a Web application scanner (HP's WebInspect, IBM's AppScan), but you should also invest in some people that know how to exploit application logic errors. There's no substitute for a skilled application tester to determine what's broken in an application. Once the initial application is compromised, go directly after the database, where the valuable stuff is. If you can get into the database, the customer is owned. It's much better for you to figure this out than a malicious hacker.

User testing

This is actually the most fun task for penetration testers. You get to see how gullible most users are. This type of testing can involve emailing fake messages to customer service reps, trying to talk your way into the facility (past security or the receptionist) or even dropping thumb drives in the parking lot to see who will plug them into their machines. Many folks are against social-engineering end users, but not me. Remember, malicious hackers don't have a set of rules. They use social engineering because it works. Don't let social engineering surprise your customer and catch them off-guard.

Reconnaissance Tools

Reconnaissance often begins with searches of internet databases including DNS registries, WHOIS databases, Google, on-line news sources, business postings, and many other on-line resources. The reconnaissance phase often includes print media as well, specifically electronically searchable archives that would be found at a college library or large public library.

Nmap

Nmap is a popular port scanning tool. Port scanning is typically a part of the reconnaissance phase of a penetration test or an attack. Sometimes attackers will limit their testing to a few ports while other times they will scan all available ports. To do a thorough job, a vulnerability scanner should scan all ports and, in most cases, a penetration tester will scan all ports. An actual attacker may choose to not scan all ports if he finds a vulnerability that can be exploited because of the “noise” (excess traffic) a port scanner creates.

Another capability of nmap is its ability to determine the operating system of the target computer.

Different networking implementations will respond differently to different network packets. Nmap maintains a type of database and will match the responses to make a guess at what type of operating system the target computer is running. This OS detection isn't perfectly accurate but it can help the attacker tailor his attack strategy, especially when coupled with other pieces of information.

Nessus

Nessus is a popular vulnerability scanner that many security professionals use regularly. Nessus has a huge library of vulnerabilities and tests to identify them. In many cases, Nessus relies on the responses from the target computer without actually trying to exploit the system. Depending on the scope of a vulnerability assessment, the security tester may choose an exploitation tool to verify that reported vulnerabilities are exploitable.

Nessus includes port scanning and OS detection, so sometimes a vulnerability assessment will just use Nessus and let Nessus call nmap or other scanners for these components of the test. For a stealthy scan, a security professional or an attacker may choose to run these tools separately to avoid detection.

Packet Manipulation and Password Cracking Tools

There are many other reconnaissance tools within the penetration tester arsenal, but two categories bear special mention here: packet manipulation tools and password cracking tools. The former category includes tools like hping that allows a penetration tester or attacker to create and send all types of specially crafted TCP/IP packets in order to test and exploit network-based security protections, such as firewalls and IDS/IPS. The password cracking category includes tools like John the Ripper or Cain and Able, which is used to detect and obtain weak password for multiple

authentication mechanisms, such as the ones supported by most Unix and Windows operating systems.

Exploitation Tools

Exploitation tools are used to verify that an actual vulnerability exists by exploiting it. It's one thing to have vulnerability testing software or banners indicate the possibility of an exploitable service, but quite another to exploit that vulnerability. Some of the tools in this category are used by both attackers and penetration testers. There are many more exploitation tools than the ones listed here. Many tools in this category are single-purpose tools that are designed to exploit one vulnerability on a particular hardware platform running a particular version of an exploitable system. The tools that we've highlighted here are unique in the fact that they have the ability to exploit multiple vulnerabilities on a variety of hardware and software platforms.

Metasploit Version 2.5

Metasploit is a relatively new addition to the penetration tester's tool belt. It provides attack libraries and attack payloads that can be put together in a modular manner. The main purpose of Metasploit is to get to a command prompt on the target computer. Once a security tester has gotten to a command-line, it is quite possible that the target computer will be under his total control in a short time. The currently released version of Metasploit Framework as of June, 2006 is version 2.5. Version 3.0 is expected out shortly.

This is a tool that attackers would use to take over, or own, a computer. Once an attacker can gain this level of access to a computer, they would often install code that would allow them to get back onto the computer more easily in the future. In some cases, a penetration tester would also install tools on the computer, but often they would simply document the access and what data was available and move on to other testing.

This would depend on the defined scope of the testing. The security professional also would want to be careful about causing data loss or server instability that may result in lost productivity. A malicious attacker may be more cavalier about using the computer without regard to lost productivity, though a highly skilled attacker targeting a specific company may be very careful not to damage the system so that they can avoid detection.

SecurityForest Exploitation Framework

Although still technically in Beta version, the SecurityForest Exploitation Framework is another open-source tool that can be leveraged by penetration testers. This framework leverages a collection of exploit code known as the ExploitTree, and the Exploitation Framework is a front-end GUI that allows testers to launch exploit code through a Web browser (similar to Metasploit's Web interface). The Framework is very similar to Metasploit, in fact, with a few key differences. ExploitTree has a remarkable number of exploits included, but the vast majority of these are in pre-compiled format (most likely in a C file) or exist as Perl executables.

They are also not natively integrated into the Framework. This framework is not nearly as extensible as some other tools; it primarily functions as a GUI to launch attacks from.

CORE IMPACT (version 5.1)

CORE IMPACT is a commercial penetration testing tool that combines a healthy dose of reconnaissance with exploitation and reporting into one point and click penetration testing tool. The main purpose of CORE

IMPACT is to identify possible vulnerabilities in a program, exploit those vulnerabilities without causing system outages, and clearly document every step along the way so that the entire procedure can be verified by another party.

The CORE IMPACT penetration testing tool makes it easy for a network administrator or penetration tester to run tests against a network or host without having a whole suite of security testing utilities. Overall, we found the program to do a good job of scanning the network for vulnerabilities, successfully exploiting them, and reporting on the results.

One really slick feature of CORE IMPACT is the ability to install an agent on a compromised computer and then launch additional attacks from that computer. This proved useful in an actual penetration testing assignment by allowing the tester to compromise one machine and from there run automated scans inside the network looking for additional machines. Those scans weren't quite as good as actually being on-site, but it did allow us to discover internal hosts from outside the network.

For most systems, CORE IMPACT will work well, but as Core Security Technologies states in their documentation, it isn't meant to be a replacement for an experienced penetration tester. One of the areas we ran into some trouble on was when a single IP address had different ports mapped to different servers with different operating systems. Sometimes CORE IMPACT would identify a host as having a given operating system and then refuse to launch a vulnerability against a service that did not match that operating system. In one tested network, a single public IP address was in use by three different computers: an Exchange server, an IIS web server, and a Linux computer running SSH. The OS had been identified as being in the Linux family so an attack against IIS vulnerability wasn't an option. We were able to work around this by re-scanning the machine using only the ports that mapped to the Windows system.

As a commercial vendor, Core Security Technologies does a lot of testing of their exploit code to ensure that it will not adversely affect the target hosts. In testing CORE IMPACT, we found that it was rare for it to crash systems. There was one case where an unpatched Windows 2003 server rebooted a few times in different testing scenarios. Later, the same test was used to exploit the system and gain access to a command prompt. Other than this one test against an unpatched Windows 2003 server, we did not crash any systems.

The reporting feature of CORE IMPACT is quite good. It includes an executive report, a report that lists vulnerabilities and all the machines affected by those vulnerabilities, a detailed report of all hosts and an exhaustive report of every test that was run, when it ran, how long it ran and detailed results of the running.

This last report is one that you don't need very often but if you do need it, it has all the details do duplicate a test. Keeping accurate notes is one of the most difficult and time consuming tasks for a pen-tester because often many tests are attempted with small variations to the test. CORE IMPACT makes it easy to go back and find any steps that weren't properly recorded.

Manual Penetration Test

Manual penetration testing layers human expertise on top of professional penetration testing software and tools, such as automated binary static and automated dynamic analysis, when assessing high assurance applications. A manual penetration test provides complete coverage for standard vulnerability classes, as well as other design, business logic and compound flaw risks that can only be detected through manual testing.

Penetration Testing Methodology

Once the threats and vulnerabilities have been evaluated, the penetration testing should address the risks identified throughout the environment. The penetration testing should be appropriate for the complexity and size of an organisation. All locations of sensitive data; all key applications that store, process or transmit such data; all key network connections; and all key access points should be included. The penetration testing should attempt to exploit security vulnerabilities and weaknesses throughout the environment, attempting to penetrate both at the network level and key applications. The goal of penetration testing is to determine if unauthorised access to key systems and files can be achieved. If access is achieved, the vulnerability should be corrected and the penetration testing re-performed until the test is clean and no longer allows unauthorised access or other malicious activity.

CHAPTER 11

WINDOWS HACKING TRICKS

Windows Hacking

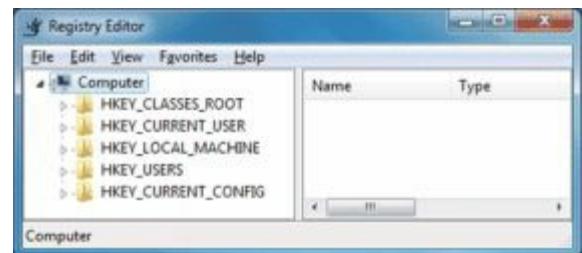
Windows hacking is the practice of modifying Windows Operating System to accomplish a goal outside of the creator's original purpose. People who engage in hacking activities are often called hackers. Since the word "hack" has long been used to describe someone who is incompetent at his/her profession, some hackers claim this term is offensive and fails to give appropriate recognition to their skills. Windows hacking is most common among teenagers and young adults, although there are many older hackers as well.

REGISTRY EDITOR RELATED HACKING

What is Windows Registry? (Registry Editor)

Windows Registry is a database used to store information that is necessary to configure the system for one or more users, applications and hardware devices and it keeps record of the settings of all the Software installed in Computer including Operating System.

To open Registry Editor: Start > All Programs > Accessories > Run > regedit



Registry Editor Window

Windows Registry contains **Five Hives** and hives contain **Keys** and **Sub keys** and their respective Values.

HKEY_CLASSES_ROOT: The information that is stored here makes sure that the correct program opens when you open a file by using Windows Explorer.

HKEY_CURRENT_USER: Contains the configuration information for the user who is currently logged on. The user's folders, screen colors, and Control Panel settings are stored here.

HKEY_LOCAL_MACHINE: Contains configuration information particular to the computer (for any user).

HKEY_USERS: Contains all the actively loaded user profiles on the computer.
HKEY_CURRENT_USER is a subkey of HKEY_USERS.

HKEY_CURRENT_CONFIG: Contains information about the hardware profile that is used by the local computer at system startup.

Types of Keys

Binary Value (REG_BINARY): Raw binary data. Most hardware component information is stored as binary data and is displayed in Registry Editor in hexadecimal format

DWORD Value (REG_DWORD): Data represented by a number that is 4 bytes long (a 32-bit integer). Can also contain binary, hexadecimal, or decimal format

Expandable String Value (REG_EXPAND_SZ): A variable-length data string. This data type includes variables that are resolved when a program or service uses the data

String Value (REG_SZ): A fixed-length text string

Multi-String Value (REG_MULTI_SZ): Values that contain lists or multiple values in a form that people can read are generally this type.

Disclaimer: Modifying the registry can cause serious problems that may require you to reinstall your operating system. We cannot guarantee that problems resulting from modifications to the registry can

be solved. Use the information provided at your own risk.

Back up the registry

Before you make changes to a **registry key** or **subkey**, we recommend that you **export**, or make a **backup copy**, of the key or sub key. You can save the backup copy to a location you specify, such as a folder on your hard disk or a removable storage device. If you make changes that you want to undo, you can **import** the **backupcopy**.

1. Open the **Registry Editor** by clicking the **Start button**, typing **regedit** into the search box, and then pressing **Enter**.
2. Locate and click the **key** or **subkey** that you want to back up.
3. Click the **File** menu, and then click **Export**.
4. In the **Save in** box, select the location where you want to save the backup copy to, and then type a name for the backup file in the **Filenamebox**.
5. Click **Save**.

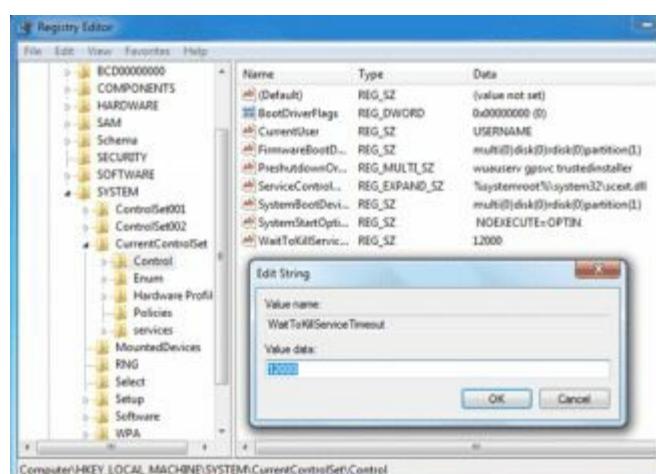
Tips:

- You must be logged on as an administrator to perform these steps. If you aren't logged in as an administrator, you can only change settings that apply to your user account.
- Although you can back up more than just the registry key or subkey that you are modifying, doing so adds to the size of the backup file.

Ultra-speed Shutdown of Windows 7

Follow the following steps to shutdown your Computer with ultra-speed

1. Open the **Registry Editor** by clicking the **Start button**, typing **regedit** into the search box, and then pressing **Enter**.
2. In left pane of Registry Editor, go to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control**
3. In the right pane, right click on **WaitToKillServiceTimeout** and click on **Modify**.



4. Type in a number between **2000-20000** (*2-20 seconds*) and click on **OK**.

NOTE: The default time is **12000** (*12 seconds*).

5. Close **regeedit**.
6. After rebooting (restart) Windows the new settings will take effect. The time to wait for terminating services will be faster and shutdown won't drag on forever.

NOTE: If you have problems with programs from your computer shutting down too quickly, then repeat the above steps and increase the time (Step 5) a bit.

Change the log-on screen of Windows 7

1. Press **Windows Logo key + R** to open **Run**, type **regedit** and press **Enter**.
2. Go to:
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\Authentica
LogonUI\Background
3. Double-click the **OEMBackground** DWORD key and Set value of the key to **1**.
4. Select a background image for logon screen with size less than 256 KB and **Rename** that image as **BackgroundDefault**.
5. **Copy** that image, **Open My Computer** and go to **C:\Windows\system32\oobe\info\backgrounds folder**
6. Paste it and select **Copy and Replace**.

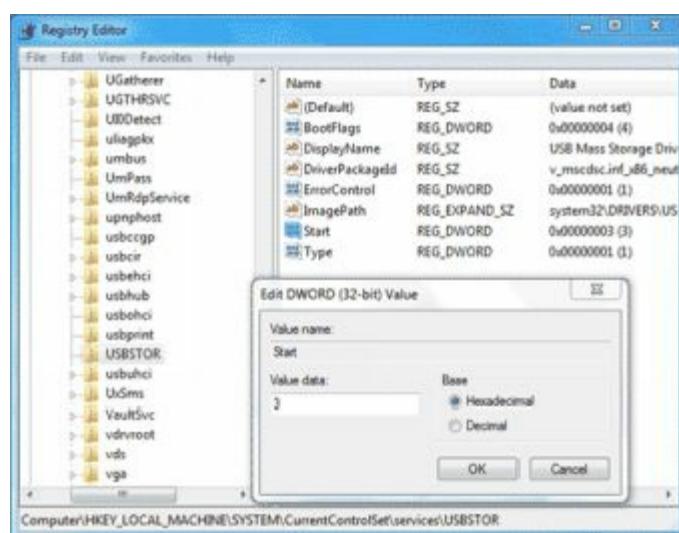
Tips: Cut and paste the original log-on Screen image in a folder for further use.

7. **Reboot**, and now your logon image would have changed.

Disable or Enable USB Ports/USB drive/Pen-Drive in Windows 7

It's really very easy to enable and disable a USB port of your Laptop and desktop computer. Many companies disabled their employee's laptop to prevent data threat. Also many schools, colleges and universities block the USB ports of their computer. So, here is the easy way to enable USB ports access it and disable it back.

1. Open the Registry Editor by clicking the **Start** button, typing **regedit** into the search box, and then pressing **Enter**.
2. In left pane of Registry Editor, go to **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\USBSTOR**
3. Right Click **Start** and Click **Modify** on right pane of Registry Editor.



4. Do one of the following:
 - To **enable** USB ports: change the value from 4 to 3
 - To **disable** USB ports: change the Value from 3 to 4
5. After **rebooting (restart)** Windows the new settings will take effect. The time to wait for terminating services will be faster and shutdown won't drag on forever.

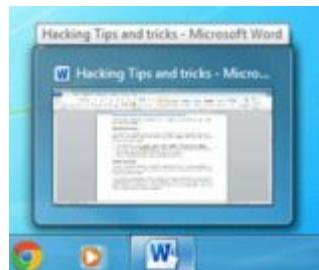
How to Display Legal Notice on Start up of your Windows

If your PC has multiple users then you can display legal notice to every user before they login to your PC. This legal notice will be displayed at every startup just before the Desktop is loaded. Using this you can tell your friends about the do's and don'ts in your computer when they login in your absence. To do this:

1. Click on **Start** button and type **regedit** and press **Enter**
2. Navigate to the following key in the registry
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\policies\sys
3. On the right side pane look for **legalnoticecaption**, double click on it and enter the desired Legal Notice Caption.
4. Next below this look for **legalnoticetext** and enter the desired Legal Notice Text. The legal notice text can be up to a page in its size so that it can include a set of do's and don'ts for your computer.
5. After you does this just restart your computer and upon the next startup you can see the legal notice information for your computer.

Faster Thumbnail Previews

The taskbar shows thumbnail previews of opened windows when you hover the mouse over the program icon. By default, it takes a little time for the preview to appear. Make the previews appear faster with this registry tweak:



1. Open the **Registry Editor** by clicking the **Start button**, typing **regedit** into the search box, and then pressing **Enter**.
2. Navigate to **HKEY_CURRENT_USER\Control Panel\Mouse**.
3. On the right, open the **MouseHoverTime** key and reduce its value from the default **400** to around **150**. (Be careful, as decreasing the key further may cause problems.)
4. After **rebooting (restart)** Windows the new settings will take effect.

Disable Right-Click

This trick removes the context menu that would normally appear when the user right clicks on the desktop or in the Explorer right results pane.

1. Open the **Registry Editor** by clicking the **Start** button, typing **regedit** into the search box, and then pressing **Enter**.
2. **Browse to this key in the registry:**
HKEY_Current_User\Software\Microsoft\Windows\CurrentVersion\Policies\Explorer
3. Change the value of **NoViewContextMenu** to 1.
4. Now close the registry editor and restart your computer after any changes to go into effect.

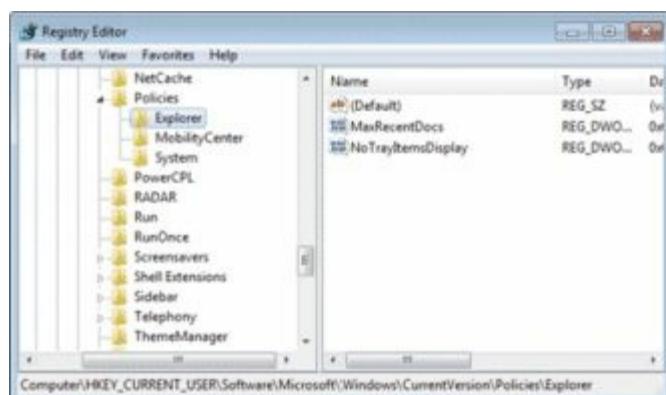
Tips: If **NoViewContextMenu** doesn't exist then you can create it. Right click in the right-hand pane; select **New**, then **DWORD (32-bit) Value** for 32 bit on Windows 7.

How to Disable or Enable Folder Options in Windows 7

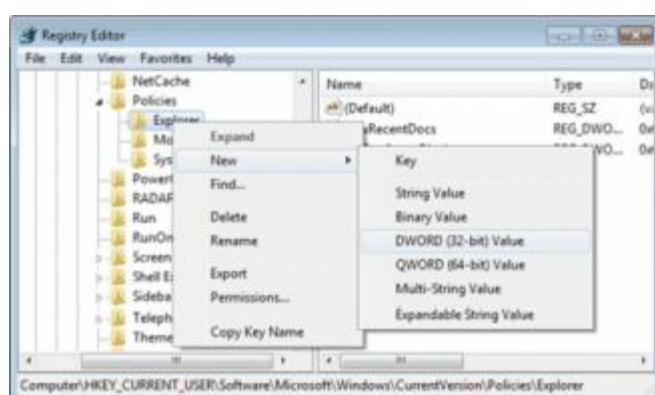
Disable Folder Options in Windows 7

1. Click the **Start** button, and type **regedit** in the search box.
2. Browse the list as

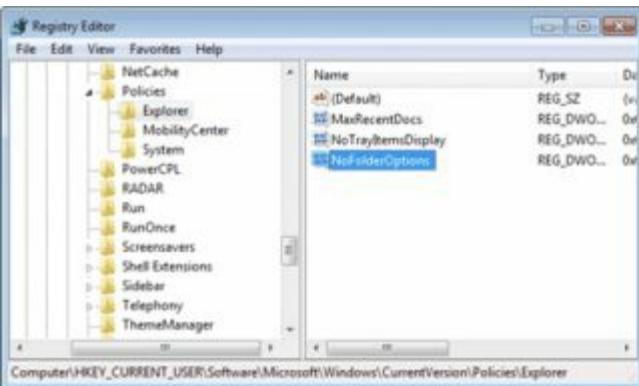
HKEY_CURRENT_USER\Software\Microsoft\Windows\Current Version\Policies\Explorer



3. Create a new 32-bit DWORD value.



4. Name it **NoFolderOptions**.



5. Double click on it to set its value data to **1**.



Enable Folder Options in Windows 7

Double click on the value named **NoFolderOptions** to set its value data to **0**.

Clean up the “Open With” Menu in Explorer

Have you ever accidentally opened an mp3 with Notepad, or a zip file with Word? If so, you’re also likely irritated that these programs now show up in the Open with menu in Windows Explorer every time you select one of those files. Whenever you open a file type with a particular program, Windows will add an entry for it to the Open with menu. Usually this is helpful, but it can also clutter up the menu with wrong entries. On our computer, we have tried to open a PDF file with Word and Notepad, neither of which can actually view the PDF itself. Let’s remove these entries. To do this, we need to remove the registry entries for these programs.

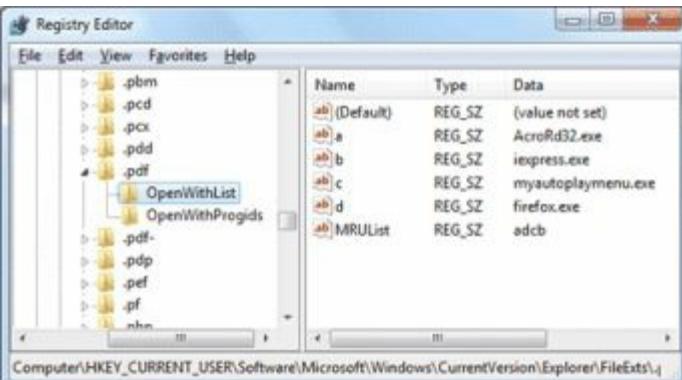
1. Enter **regedit** in your **Start** menu search or in the **Run** command to open the **Registry editor**.

Tips: Backup your registry first just in case, so you can roll-back any changes you make if you accidentally delete the wrong value.

2. Now, browse to the following key:

HKEY_CURRENT_USER \Software \Microsoft \Windows \CurrentVersion \ Explorer \FileExts

3. Now, you will see a list of all the file extensions that are registered on your computer.



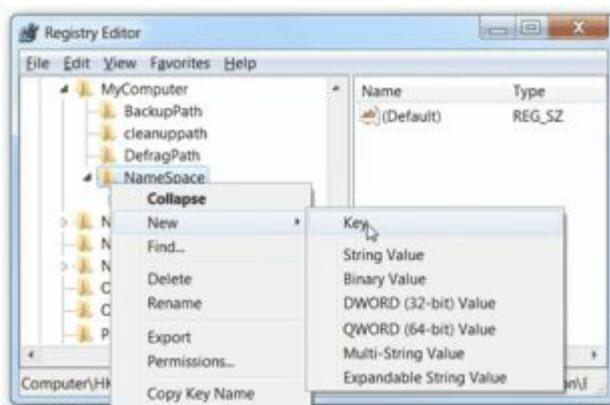
4. Browse to the file extension you wish to edit, click the white triangle beside it to see the subfolders, and select **OpenWithList**. In our test, we want to change the programs associated with PDF files, so we select the **OpenWithList** folder under **.pdf**.
5. Notice the names of the programs under the **Data** column on the right. **Right-click** the value for the program you don't want to see in the Open With menu and select **Delete**.
6. Click **Yes** at the prompt to confirm that you want to delete this value.
7. Repeat these steps with all the programs you want to remove from this file type's Open with menu. You can go ahead and remove entries from other file types as well if you wish.
8. Restart the computer and check out the **Open with** menu in Explorer again. Now it will be much more streamlined and will only show the programs you want to see.

Add Recycle Bin to My Computer in Windows 7



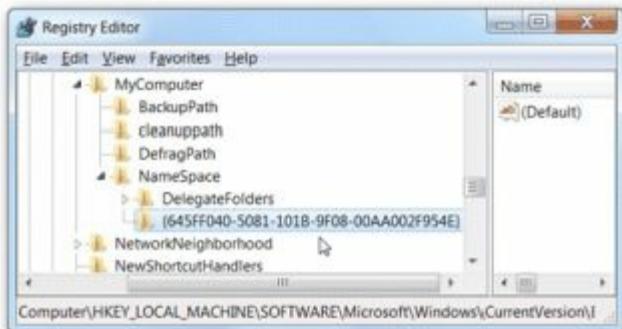
To add the Recycle Bin on My Computer, follow the steps:

1. Open up **regedit.exe** through the start menu search or run box
2. Go to:
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explor
3. Now **right-click** and create a **New Key**



4. Name the key with the following text as shown in the below figure:

{645FF040-5081-101B-9F08-00AA002F954E}



5. Close the Registry Editor and Open My Computer.

Add Control Panel to My Computer in Windows 7

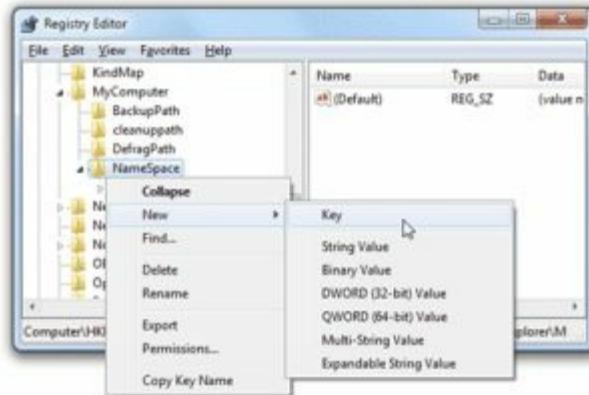
To add the Control Panel on My Computer, follow the steps:

1. Open up `regedit.exe` through the start menu search or run box

2. Go to:

`HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Explor`

3. Now right-click and create a New Key



4. Name the key with the following text as shown in the below figure

{26EE0668-A00A-44D7-9371-BEB064C98683}

Or

{21EC2020-3AEA-1069-A2DD-08002B30309D}

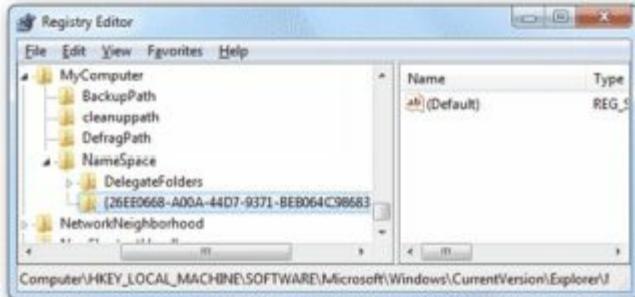
Tips:

- **Category View**

{26EE0668-A00A-44D7-9371-BEB064C98683}

- **Icon View**

{21EC2020-3AEA-1069-A2DD-08002B30309D}

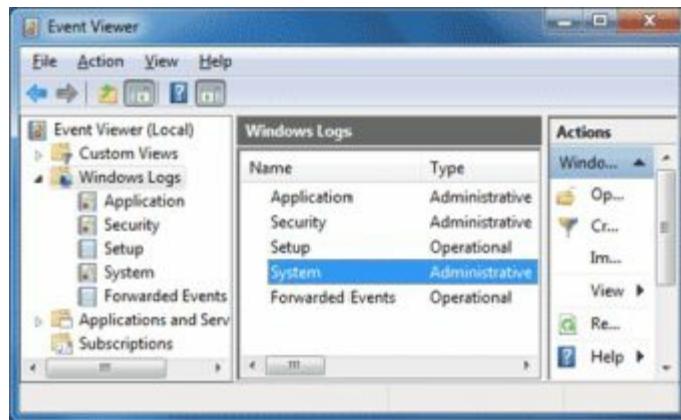


5. Close the Registry Editor and Open My Computer.

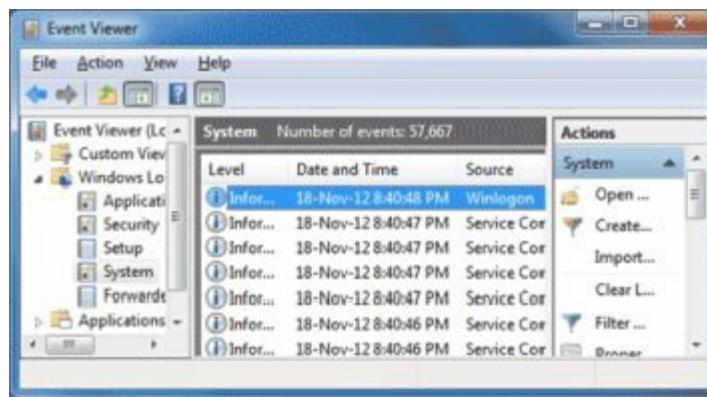
LOCAL GROUP POLICIES RELATED HACKING

Want to know: What happened in your absences on your PC?

1. Press **Windows logo key + R** to open **Run**
2. Type **eventvwr.msc** and press **Enter**. Then **Event Viewer** window will open. (Events are stored in three log files: **Application**, **Security**, and **System**. These logs can be reviewed and archived. For our purposes we want the **System** log.)



3. Click on **Windows Log** and then double-click on **System** in the left-hand column for a list of events.



4. Look for a date and time when you weren't home and your computer should have been off. Double click on the eg: **Information** and it will show u the detail.

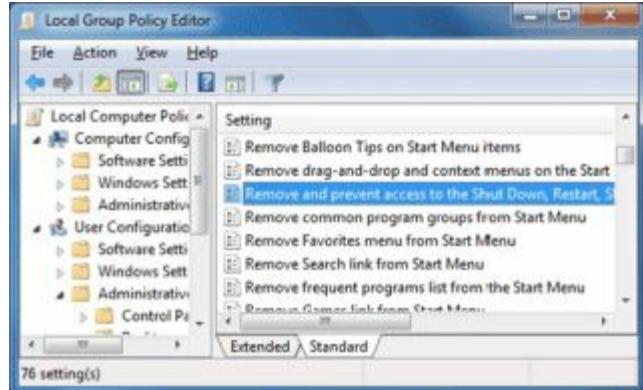
Tips: You can also use this log to see how long someone was on the computer. Just look at the time the computer was turned on and off for that day.

How to Disable Shutdown, Restart, Sleep and Hibernate

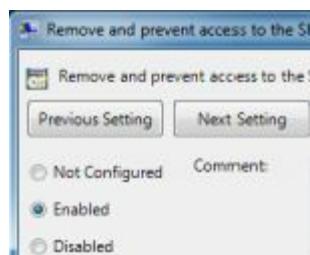
Someday, you might want to make a computer could not be turned off easily. For example because you are running a program that needs a long time to wait (download a big file, rendering a video, etc.) and you have to leave the room. To prevent anyone else to turn off the computer, then one way is to disable the function of Shutdown, Restart, Sleep or Hibernate menu.

Follow these easy steps to disable Shutdown, Restart, Sleep and Hibernate:

1. Click **Start** button, type **gpedit.msc** in the Start menu's search box and then press **Enter**.
Local Group Policy editor window will open.
2. Go to **User Configuration > Administrative Templates > Start Menu And Taskbar**



3. In the right pane, find the **Remove and Prevent Access to the shutdown, Restart, Sleep and Hibernate**. Then double click on it.



4. Select **Enable**, and then click **OK**.

Tips:

- To make it back in to the normal function, just follow all the steps above, except for the last one; you need to change back the option from **Enable** to **Disable**.
- When being in a state of disable, in fact we can still shutdown the computer. The way is by typing the below instructions in the search (Windows 7) and press **Enter**.

shutdown /s (for shutdown)

shutdown /r (to restart)

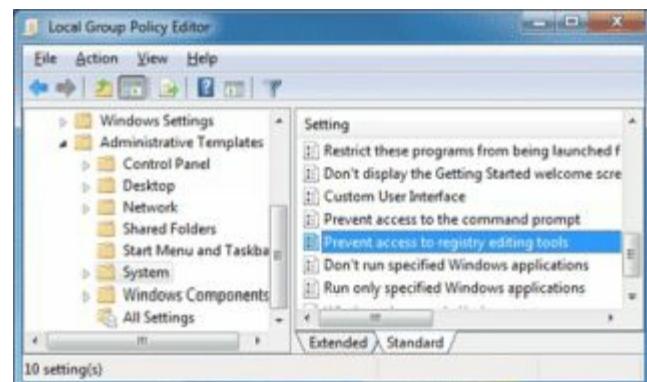
How to Disable Access to the Registry in Windows 7

If you don't know what you're doing in the Registry, you can mess up your computer pretty good. This trick helps you to prevent users from accessing the Registry and making any changes to it.

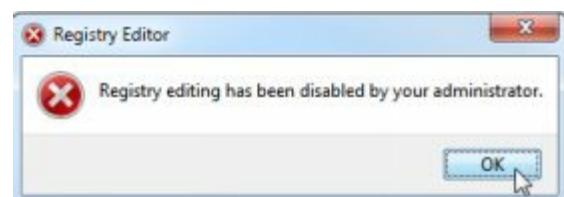
To do this using **Local Group Policy Editor**:

Tips: This method uses Group Policy Editor which is not available in Home versions of Windows.

1. Type **gpedit.msc** into the Search box in the **Start** menu
2. When Group Policy Editor opens, navigate to **User Configuration \ Administrative Templates** then select **System**. Under **Setting** in the right panel double-click on **Prevent access to registry editing tools**.



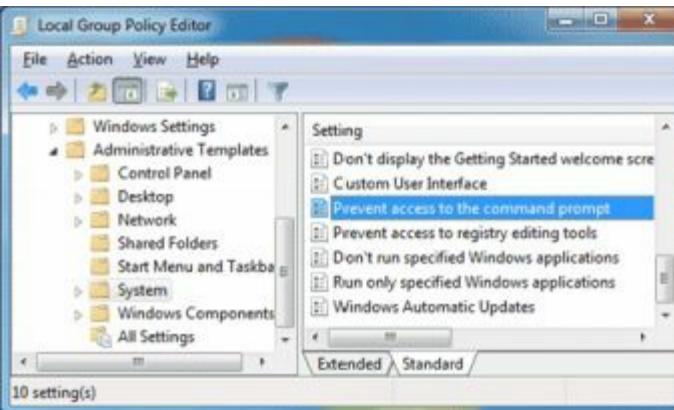
3. Select the radio button next to **Enabled**, click **OK**, then close out of Group Policy Editor.
4. Now if a user tries to access the Registry, Then he will get the following message advising they cannot access it.



Prevent access to the command prompt

This trick helps you to prevent users from accessing the Command prompt.

1. Type **gpedit.msc** into the Search box in the **Start** menu
2. When **Group Policy Editor** opens, navigate to **User Configuration \ Administrative Templates** then select **System**. Under **Setting** in the right panel double-click on **Prevent access to the command prompt**.



3. Select the radio button next to **Enabled**, click **OK**, and then close out of **Group Policy Editor**.

How to show or hide Control Panel items in Windows 7

One of the common lock down's that administrator apply to Remote Desktop Services Servers is to remove all but the essential control panel items. The .cpl (e.g. timedate.cpl) file name of the control panel item you wanted to show or hide however this has changed in Windows 7 and you now need to use the Canonical Name when hiding or showing specific items. Below I will explain the new way of configuring control panel items for Windows 7 and show you the affect that this has on the control panel.

Before you begin I recommend that you take a look at the below table which lists all the Canonical names for the control panel items for Windows 7. You will need to know what Canonical names of the item you want to restrict or allow.

Windows 7 Control Panel Canonical Names

The following canonical names are defined for Control Panel items in Windows 7. Not all Control Panel items are available on all varieties of Windows and some Control Panel items might appear only when appropriate hardware is detected.

Control Panel Item	Canonical name
Action Center	Microsoft.ActionCenter
Administrative Tools	Microsoft.AdministrativeTools
AutoPlay	Microsoft.AutoPlay
Backup and Restore	Microsoft.BackupAndRestore
Biometric Devices	Microsoft.BiometricDevices
BitLocker Drive Encryption	Microsoft.BitLockerDriveEncryption
Color Management	Microsoft.ColorManagement
Credential Manager	Microsoft.CredentialManager

Date and Time	Microsoft.DateTime
Default Location	Microsoft.DefaultLocation
Default Programs	Microsoft.DefaultPrograms
Desktop Gadgets	Microsoft.DesktopGadgets
Device Manager	Microsoft.DeviceManager
Devices and Printers	Microsoft.DevicesAndPrinters
Display	Microsoft.Display
Ease of Access Center	Microsoft.EaseOfAccessCenter
Folder Options	Microsoft.FolderOptions
Fonts	Microsoft.Fonts
Game Controllers	Microsoft.GameControllers
Get Programs	Microsoft.GetPrograms
Getting Started	Microsoft.GettingStarted
HomeGroup	Microsoft.HomeGroup
Indexing Options	Microsoft.IndexingOptions
Infrared	Microsoft.Infrared
Internet Options	Microsoft.InternetOptions
iSCSI Initiator	Microsoft.iSCSIInitiator
Keyboard	Microsoft.Keyboard
Location and Other Sensors	Microsoft.LocationAndOtherSensors
Mouse	Microsoft.Mouse
Network and Sharing Center	Microsoft.NetworkAndSharingCenter
Notification Area Icons	Microsoft.NotificationAreaIcons
Offline Files	Microsoft.OfflineFiles
Parental Controls	Microsoft.ParentalControls
Pen and Touch	Microsoft.PenAndTouch
People Near Me	Microsoft.PeopleNearMe
Performance Information and Tools	Microsoft.PerformanceInformationAndTools
Personalization	Microsoft.Personalization
Phone and Modem	Microsoft.PhoneAndModem
Power Options	Microsoft.PowerOptions
Programs and Features	Microsoft.ProgramsAndFeatures
Recovery	Microsoft.Recovery
Region and Language	Microsoft.RegionAndLanguage
RemoteApp	Microsoft.RemoteAppAndDesktopConnections

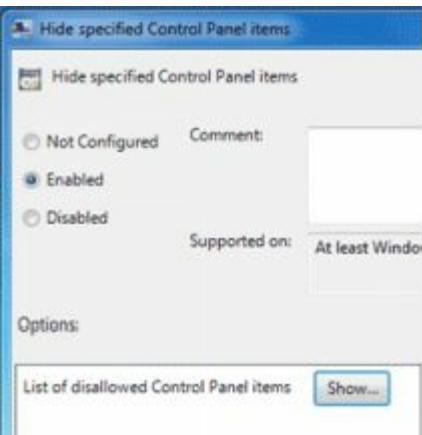
and Desktop Connections	
Scanners and Cameras	Microsoft.ScannersAndCameras
Sound	Microsoft.Sound
Speech Recognition	Microsoft.SpeechRecognition
Sync Center	Microsoft.SyncCenter
System	Microsoft.System
Tablet PC Settings	Microsoft.TabletPCSettings
Taskbar and Start Menu	Microsoft.TaskbarAndStartMenu
Text to Speech	Microsoft.TextToSpeech
Troubleshooting	Microsoft.Troubleshooting
User Accounts	Microsoft.UserAccounts
Windows Anytime Upgrade	Microsoft.WindowsAnytimeUpgrade
Windows CardSpace	Microsoft.CardSpace
Windows Defender	Microsoft.WindowsDefender
Windows Firewall	Microsoft.WindowsFirewall
Windows Mobility Center	Microsoft.MobilityCenter
Windows SideShow	Microsoft.WindowsSideShow
Windows Update	Microsoft.WindowsUpdate

To hide Control Panel items in Windows 7, do the followings:

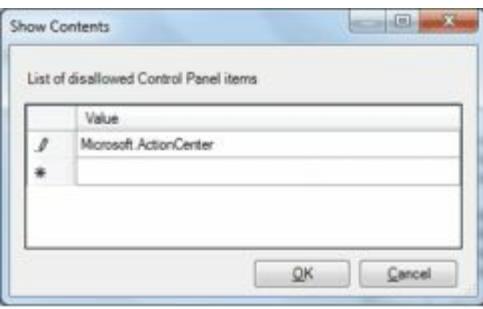
1. Type **gpedit.msc** into the Search box in the **Start** menu
2. When **Group Policy Editor** opens, navigate to **User Configuration\Policies\Administrative Templates\Control Panel**. Under **Setting** in the right panel double-click on **Hide specified Control Panel items**.



3. Select the radio button next to **Enabled**, Click **Show** button.



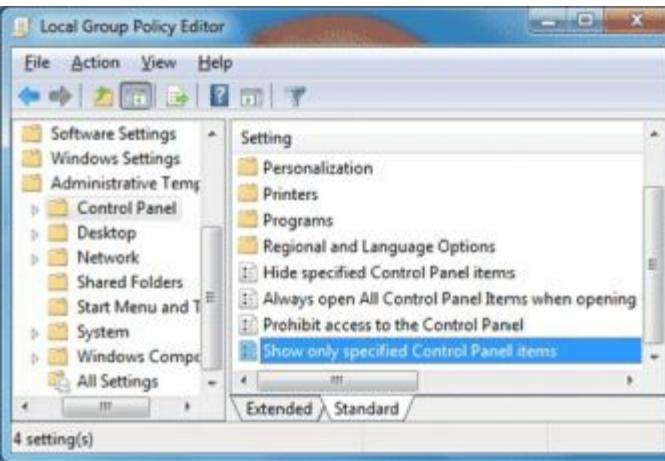
4. Then **Show Content** dialog-box will appear. Type the required **Canonical names** and click **OK**.



*For example: If i want to hide Action Center, then I will type **Microsoft.ActionCenter** in the Value field.*

5. Click **OK**, and then close out of **Group Policy Editor**.

Note: In this example we are only going to hide the control panel items we want to see (white list) however if you use the Show specified Control Panel items policy setting you can black list only the items you don't want listed.



How to Disable Control Panel in Windows 7

If you have a shared computer that your family and friends can access, you might not want them to mess around in the Control Panel, and fortunately with a simple tweak you can disable it.

1. Type **gpedit.msc** into the Search box in the **Start** menu

2. When Group Policy Editor opens, navigate to User Configuration \ Administrative Templates then select Control Panel in the left Column. In the right column double-click on Prohibit access to the Control Panel.

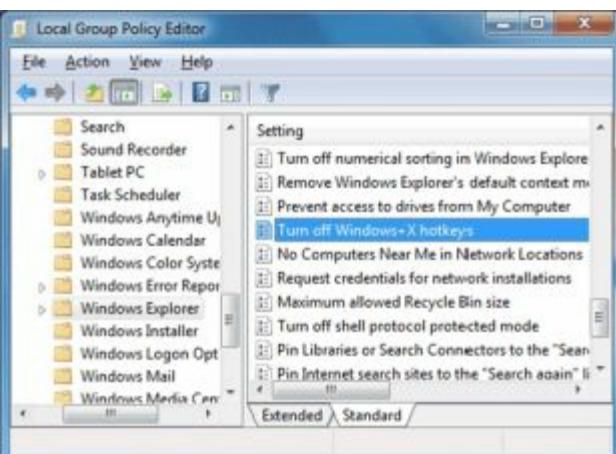


3. Select the radio button next to **Enabled**, click **OK**, and then close out of **Group Policy Editor**.
4. After the Control Panel is disabled, you'll notice it's no longer listed in the Start Menu.
5. If the user tries to type Control Panel into the Search box in the Start menu, they will get the following message indicating it's restricted.



Disable Windows Hotkeys

1. Click **Start** button, type **gpedit.msc** in the Start menu's search box and then press **Enter**. **Local Group Policy editor** window will open.
2. **Navigate to User Configuration > Administrative Templates > Windows Components and then select Windows Explorer in the left column of the Local Group Policy editor.**



3. Double-click **Turn off Windows+X Hotkeys** in the Settings section of the Group Policy editor.



4. Select **Enable** and then click **OK** to save the changes.

SHORTCUTS RELATED HACKING

One Click Shutdown / Restart / LogOff / Sleep / Hibernate – (Creating a Shortcut)

Windows operating System has come with a remote shutdown tool to shut down and restart Windows. You can control this tool through the command line, but a much faster alternative is to create a shortcut.

1. Right-click your Windows 7 desktop and select **New>Shortcut**
2. Type **shutdown.exe -s -t 00** in the location field
3. Click **Next**, give a name to the shortcut, e.g. **Shut Down Computer**, and click **Finish**.



4. **Double-click** the shortcut to instantly shut down the system. (For Single Click Follow the below tips)

Tips:

- To Customize the Shortcut icon – Right-click on the shortcut > Click **Properties** > Click **Change Icon** > Choose an icon > Click **OK** > Click **OK**
- You can pin this shortcut from the desktop to the taskbar by **right-click** on the shortcut and click **Pin to Taskbar**.



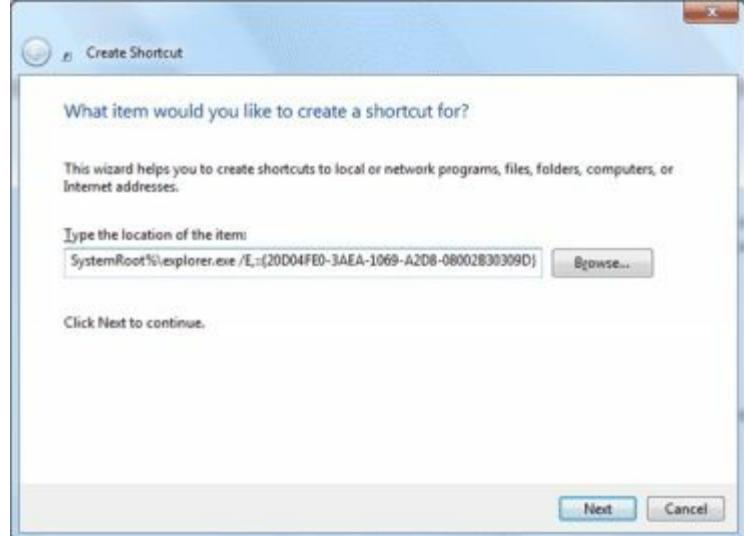
To	Type the Following code in the location field of Create Shortcut dialog-box
Shutdown	shutdown.exe -s -t 00
Restart	shutdown.exe -r -t 00
Logoff	shutdown.exe -l
Hibernate	rundll32.exe PowrProf.dll,SetSuspendState

How to pin My Computer to Windows 7 taskbar directly

Windows 7 has come out with lots of new and exciting features. You may have noticed that, we can't open My Computer directly from Windows 7 Taskbar. If we drag & drop **My computer** to taskbar, it gets pinned to windows explorer rather than creating a new place for itself. Windows explorer opens libraries which irritates me and quite a lot of users. So, let's pin My Computer to Windows 7 taskbar.

1. Right click on **Desktop**, and select **New>Shortcut**
2. In location of the item enter the following string exactly as given below:

%SystemRoot%\explorer.exe /E,::{20D04FE0-3AEA-1069-A2D8-08002B30309D}



3. Click Next and give a name to shortcut. For example, **My Computer**. Click **Finish**.



4. A new shortcut of **My Computer** placed on desktop. It has the same icon like that of Windows explorer. You can change its icon if you wish.



After change the icon My Computer

5. To pin the shortcut to Windows 7 Taskbar, just right click on it and select **Pin to Taskbar**.



6. Your direct shortcut to **My Computer** is pinned on taskbar now.

Lock your computer in single click

You can lock your computer using the **Windows logo key + L** keyboard shortcut. Here's another way to do it with a single mouse click.

1. **Right-click** on your desktop and select **New>Shortcut**.
2. In **Type the location of the item** field, type **rundll32.exe user32.dll,LockWorkStation**.
3. Click **Next**, name the shortcut **Quick Lock**, and **Finish**.
4. If you wish, you can make it look pretty by giving it a lock or keys icon: **Right-click**, **selectProperties**, click **ChangeIcon**, enter **shell32.dll**, and select any icon you wish. Click **OK**.

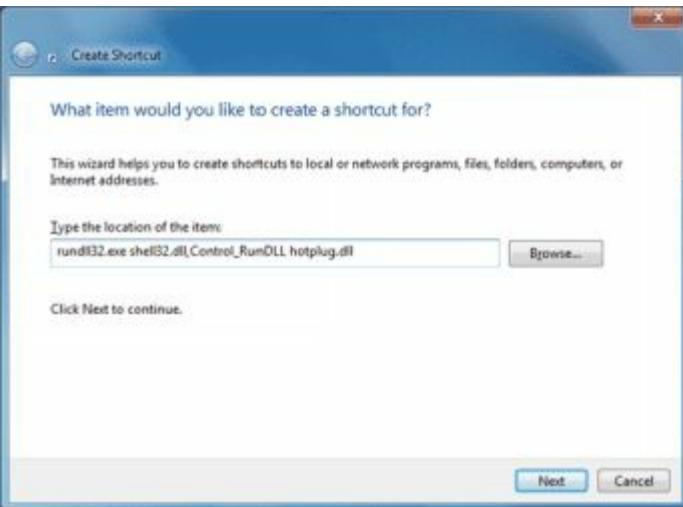


5. Drag this shortcut and pin it to the taskbar, after which you can delete the desktop shortcut.

Safety Remove Hardware from desktop

1. **Right Click** on your desktop and Click on **New** and Click on **Shortcut** from the list.
2. Type the below code in the location field as shown in below figure

rundll32.exe shell32.dll,Control_RunDLL hotplug.dll



3. Now click on **Next**
4. Now give a desired Name for your Shortcut and Click on **Finish**.



5. Now you have created a shortcut for Safety Remove Hardware on your desktop!!! Now whenever you want to eject your hardware device like pen drive, and then just double click on it and you can remove your Hardware device safely.

NOTEBOOK RELATED HACKING

Dancing Keyboard Led Light Trick



1. Open Notepad and type below codes into it.

```
Set wshShell =wscript.CreateObject("WScript.Shell")
```

```
do
```

```
wscript.sleep 100
```

```
wshshell.sendkeys "{CAPSLOCK}"
```

```
wshshell.sendkeys "{NUMLOCK}"
```

```
wshshell.sendkeys "{SCROLLLOCK}"
```

loop

2. Click **File** (from the **Menu bar**) and **Save as** the notepad file as **anything.vbs** (.vbs is must)
3. Open your save file and see your keyboard led blinking like disco lights.

Tips: How to stop this?

1. First open Task Manager by pressing **Ctrl +Alt +Delete**
2. Then go to **Processes** tab.
3. Select **wscript.exe**
4. Click on **End Process**.

Make your computer talk what you type!



This is very good and interesting javascript trick which let your computer speaks whatever you type. There is no requirement of any software. Just follow below simple steps.

1. Open **NotePad** and type below codes into it.

Dim message, sapi

```
message=InputBox("What do you want me to say?","TALKING COMPUTER")
```

```
Set sapi=CreateObject("sapi.spvoice")
```

```
sapi.Speak message
```

2. Click **File** (from the **Menu bar**) and **Save as** the notepad file as **anything.vbs**
3. **Open** that save file.
4. **Type** anything and click **ok** to make your computer talk whatever you typed.

Pin a drive to the taskbar

1. **Open** NotePad, and click on **File** (Menu bar) and **Saveas**.

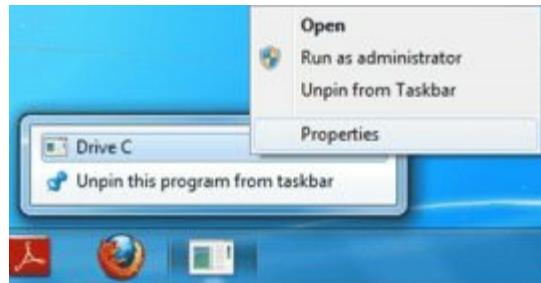
Tips: You will need to leave notepad blank.

2. Navigate to your desktop. Under **Save as type**, change it to **All Files (*.*)**, type in a name you want for this (ex: **Drive C.exe**) with the **.exe** file extension at the end, and click on the **Save** button.

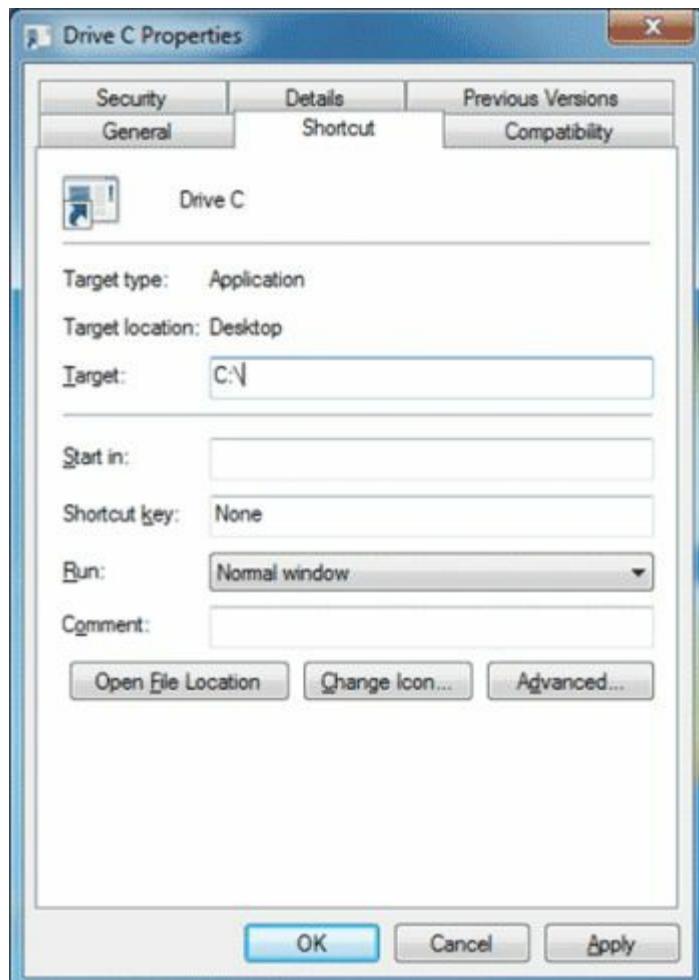


Drive C

3. Close Notepad.
4. Right click on the saved .exe file on your desktop (ex: **Drive C.exe**), and click on **Pin to Taskbar**.
5. Right click on the pinned .exe icon on the taskbar, right click on the .exe file (ex: **Drive C.exe**) in the jump list, and click on **Properties**.



6. In the **Start in** field, make sure it's blank. In the **Target field**, change it to be the drive letter path (ex: **C:**) that you want the pinned icon on the taskbar to open. Click on **OK**. (Just Looks Like the below image)



7. **Log off and log on, or restart** the computer to have the icon on the taskbar to change to the correct drive icon afterwards.



8. You can now drag the drive icon anywhere you like within the other pinned icons on the taskbar if you like.
9. You can now delete the .exe file on your desktop (ex: **Drive C.exe**) if you like.

Tips: To Unpin Drive from Taskbar: **Right click** on the pinned drive icon on the taskbar, and click on **Unpin this program from taskbar**.

Shut-down the computer after conveying a message

What this trick does is, after conveying a (any) message it shuts down the computer without any confirmation. In order to create the Shutdown file, follow the below mentioned steps:

1. Open **NotePad**.
2. Type the following code in it:

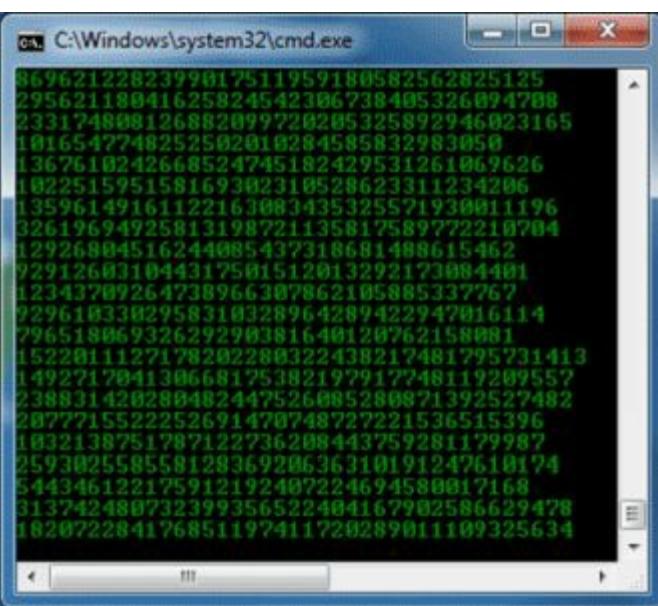
```
@echo off  
msg * Shutting Down.  
shutdown -c "Hello the computer is shutting down! Bye" -s
```

3. Click **File** (from **Menu bar**) and Select **Save as**.
4. Choose **Desktop** to save the file on desktop.
5. In the File name field type **shutdownmsg.bat** and click **Save**.
6. **Double Click** the batch file on desktop to execute the batch file.

Tips:

- Make sure the file name has **.bat** extension.
- Use this carefully. The Computer shuts down the computer forcefully.

Matrix Falling Code Effect



```
C:\Windows\system32\cmd.exe
6696212282399817511959180582562825125
29562118941625824542366738405326094708
2331748481268820997292465325892946823165
1816547740252902818284585832983050
1367618242668524745182429531261869626
182251595158169302310528623311234206
1359614916112216349834435325571930011196
32619614925813198721135817589772216704
12926884516244685437318681488615462
129126031044317501512013292173084401
12343789264738966307862105885337767
12961033029583103289642897422747016114
29651886932629294381648124762158881
15220111271782022881122438217481795731413
149271784130668175382197917748119209557
238831420288482447526085280871392527482
2077715522252691470748727221536515396
1032138751787122736200443759281179987
25930255855812836928636310191247618174
544346122175912192487224694580017168
013742480732399356522404167902586629478
182072284176851197411720289011109325634
```

Inspired by the movie Matrix, this falling code trick is extremely popular on social networking websites. Type the code given below in Notepad and save the file as "Matrix.bat" or anything.bat (File Extension must be .bat). Upon running the bat file, you will see the "Matrix falling code" effect.

```
@echo off
color 02
:matrix tricks
echo
%random%%random%%random%%random%%random%%random%%random%%random%
goto matrix tricks
```

Make Your Keyboard Type (Any) Message Continuously

This VBS trick can make keyboard type any message continuously. Open **Notepad**, type the code given below and save the file as keyboard.vbs or anything.vbs (File Extension must be .vbs).

```
Set wshShell = wscript.CreateObject("WScript.Shell")
do
wscript.sleep 100
wshshell.sendkeys "This is a Virus. You have been infected."
loop
```

Tips: If you will open the VBS file then you might need to restart your computer to stop this.

Continuously eject CD/DVD drives

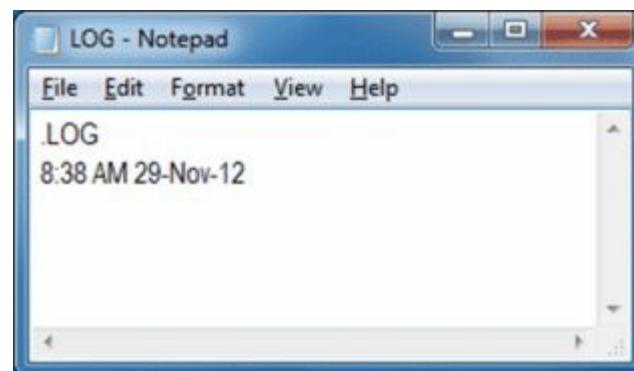
This VBS trick will create a code which will continuously eject all your connected Optical drives. I

you put them back in, it will pop them out again. Type the code given below in Notepad as eject.vbs or anything.vbs (File Extension must be .vbs)

```
Set oWMP = CreateObject("WMPlayer.OCX.7")
Set colCDROMs = oWMP.cdromCollection
do
if colCDROMs.Count >= 1 then
For i = 0 to colCDROMs.Count - 1
colCDROMs.Item(i).Eject
Next
For i = 0 to colCDROMs.Count - 1
colCDROMs.Item(i).Eject
Next
End If
wscript.sleep 5000
loop
```

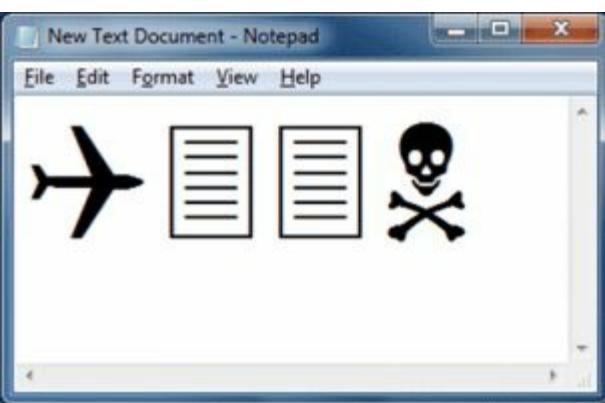
Double click to open this file and you will be impressed by this awesome trick.

Notepad trick to use it as a Diary



1. Open **Notepad**.
2. Type **.LOG**
3. Save the file as **LOG.txt**
4. Write anything in it and it will be saved with the time when you edit it.

World Trade Center Notepad Trick



1. Open **Notepad**.
2. Type the flight number **Q33N**
3. Go to Format > Font and then Change the Font to **Wingdings**
4. Increase the Font Size to **72**, Click **OK**.

MISCELLANEOUS RELATED HACKING

Increase Windows Boot Up Speed

Increase the speed of Startup

1. Press **Windows logo key + R** to open **Run**
2. Type **msconfig** and press **Enter**. The **System Configuration** window appears.
3. Go to **Boot** tab and change Timeout to **5 sec** from **30**. Then click **OK**.

Remove Unwanted Startup Programs

1. Press **Windows logo key + R** to open **Run**
2. Type **msconfig** and press **Enter**. The **System Configuration** window appears.
3. Go to **Services or Startup** tab.
4. **Uncheck** the programs that you are no longer want to run in the background. Then click **OK**.

Defragmentation of Hard Drive

1. Go to **Start > All Programs > Accessories > System Tools > Disk Defragment**
2. Select the **Disk(s)**. If you want to select all disks, then hold **Ctrl** key and click the disks.
3. Click **Analyze disks** and after analyzing is over click on **Defragment disks**.

Delete Temporary & Recent files from your PC regularly

Delete Temporary files

1. Press **Windows logo key + R** to open **Run**
2. Type **%temp%** and press **Enter**. Now the folder of temporary files will be open.
3. Select all files by pressing **Ctrl + A**, press **Delete** and then **Enter** (You may press **Shift + Delete** to delete those files permanently)

Tips: If a popup window (**File In Use** windows) opens, then **Skip** those items.

Delete Recent files

1. Press **Windows logo key + R** to open **Run**
2. Type **recent** and press **Enter**. Now the folder of recent files will be open.
3. Select all files by pressing **Ctrl + A**, press **Delete** and then **Enter** (You may press **Shift + Delete** to delete those files permanently)

Scan disk regularly for fix issues

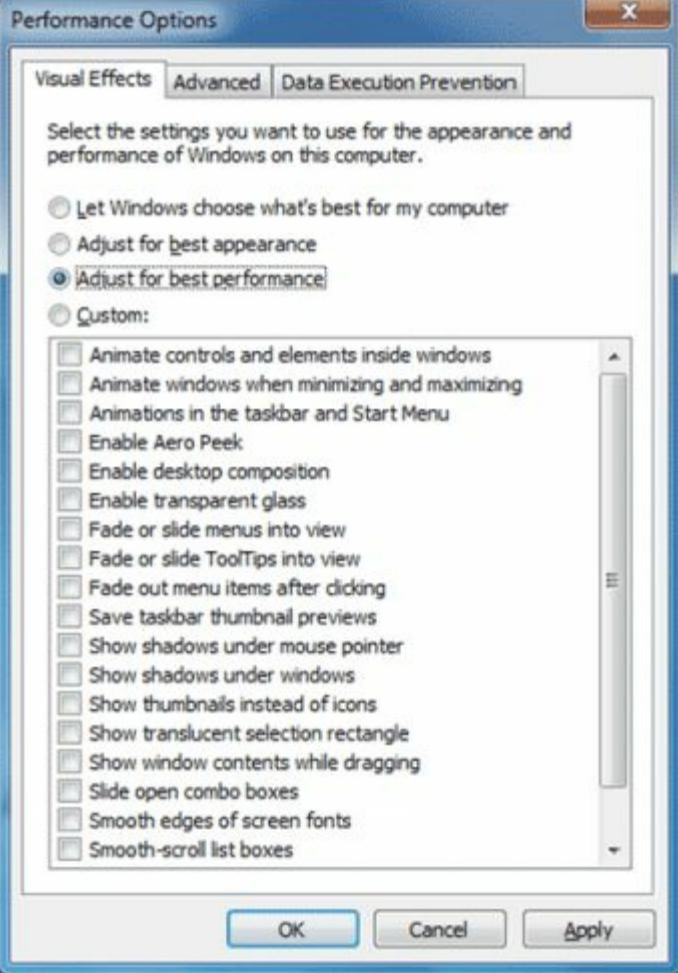
1. Open **My Computer** and right click on **C: drive**.
2. Select **Properties**. A popup menu will be open. Then click on **Tools** tab.
3. Under **Error-Checking Option** click on **Check Now** and fix issues. Then click **Start**.

Tips: If you have any other drives like **D:, E:** etc., then scan those disks also.

Speed up the Windows 7

Windows 7 is starved for resources. It features many visual effects that draw heavy on your graphics card and system memory. If your system was slow out of the box, chances are you can easily fix that by turning off excessive effects.

1. Click on the **Start** button and then click **Control Panel**.
2. Click on **System and Security**
3. Click on **System** and then click on **Advanced system settings** from the left hand pane.
4. On **Advance tab**, under **Performance** Click **Settings**
5. The **Performance Options** window will open.
6. Under **Visual Effects** select **Adjust for best performance**.



Tips: If you would like to retain a nice interface, select **Custom** and check **Use visual styles on windows and buttons**.

God Mode of Windows 7

Windows 7 has changed Control Panel a little, but it's still too difficult to locate all the applets and options that you might need. God Mode, however, while not being particularly godlike, does offer an easier way to access everything you could want from a single folder.

To create God Mode,

1. Create a **New folder** and rename it to **GodMode.{ED7BA470-8E54-465E-825C-99712043E01C}**



2. The extension, **{ED7BA470-8E54-465E-825C-99712043E01C}**, must be entered exactly

as it is here, though, including the curly brackets. When you press **Enter** the extension of the name will disappear

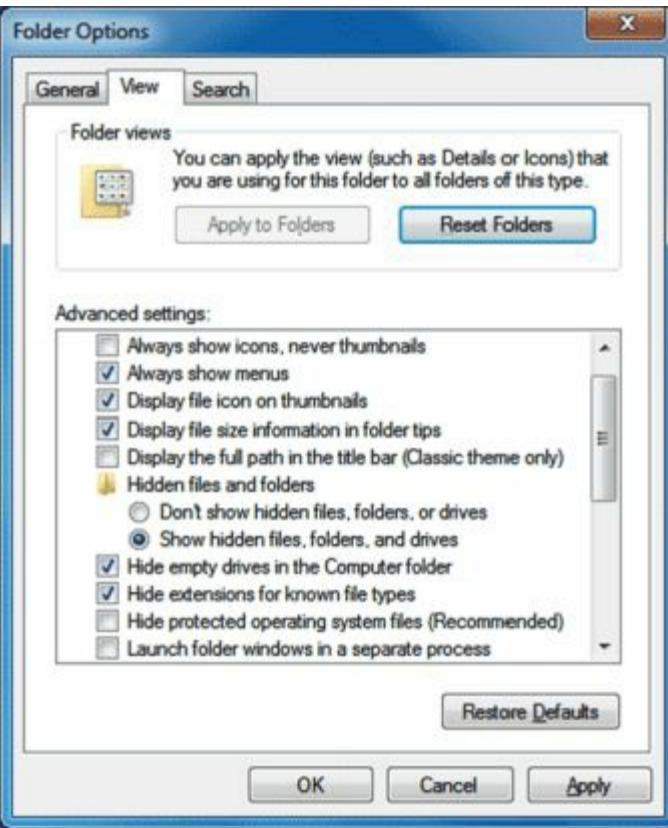
3. Double-clicking the **GodMode** will display shortcuts to functions in the Action Centre, the Network and Sharing Centre, Power options, troubleshooting tools, user accounts and others - more than 260 options in total. You can rename the folder as you wish.

Tips:

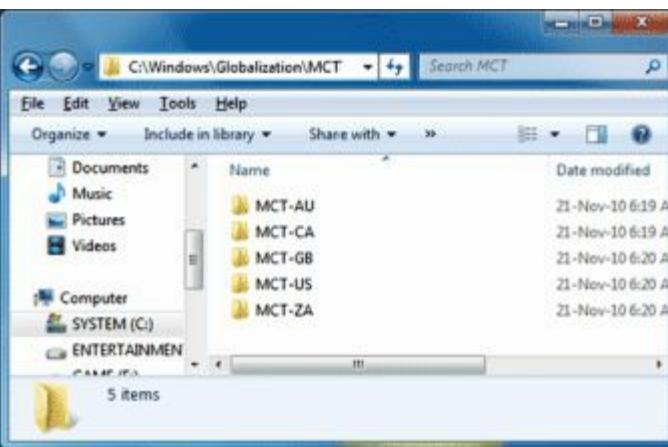
To create	Create a New Folder and Rename the folder as the below codes
GodMode	GodMode.{ED7BA470-8E54-465E-825C-99712043E01C}
Recycle Bin	Recycle Bin.{645FF040-5081-101B-9F08-00AA002F954E}
My Computer	My Computer.{20D04FE0-3AEA-1069-A2D8-08002B30309D}
Network Connections	Network Connections.{7007ACC7-3202-11D1-AAD2-00805FC1270E}
User Accounts	User Accounts.{60632754-c523-4b62-b45c-4172da012619}
Libraries	Libraries.{031E4825-7B94-4dc3-B131-E946B44C8DD5}

Unlock Hidden Themes in Windows 7

1. Go to **Control Panel**.
2. If you are in **Category view**: Click on **Appearance and Personalization> Folder Option**
3. If you are in **Large icon/Small icon view**: Click on **Folder Options**
4. Click on **View tab**



5. Click on **Show hidden files, folders and drives**
6. Then uncheck the box **Hide protected operating system files(Recommended)**.
7. It will show you a warning, Click **Yes**.
8. Click **OK**.
9. Go to **C:\Windows\Globalization\MCT**

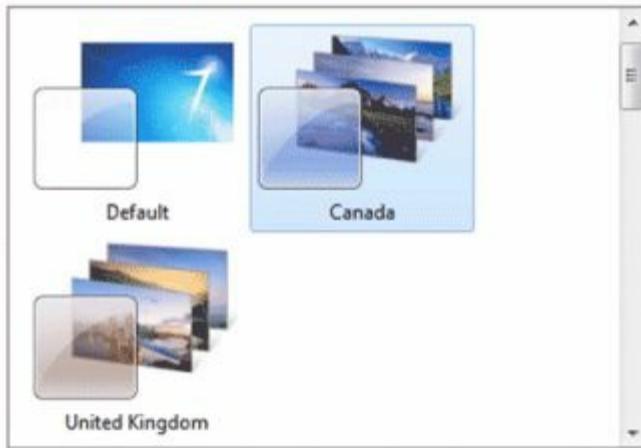


This is the inside of MCT folder in My Computer.

10. Inside **MCT folder** you will see folders with name **MCT-AU/CA** etc. These are the country codes in which these themes are automatically available.
11. Inside each **MCT-XX** (where **XX** will be **AU, CA** etc) you will see a **Theme** folder. Open it and Double-click on the theme file to unlock it.
12. Once you unlocked the theme will be available to you in personalization option.

Change the visuals and sounds on your computer

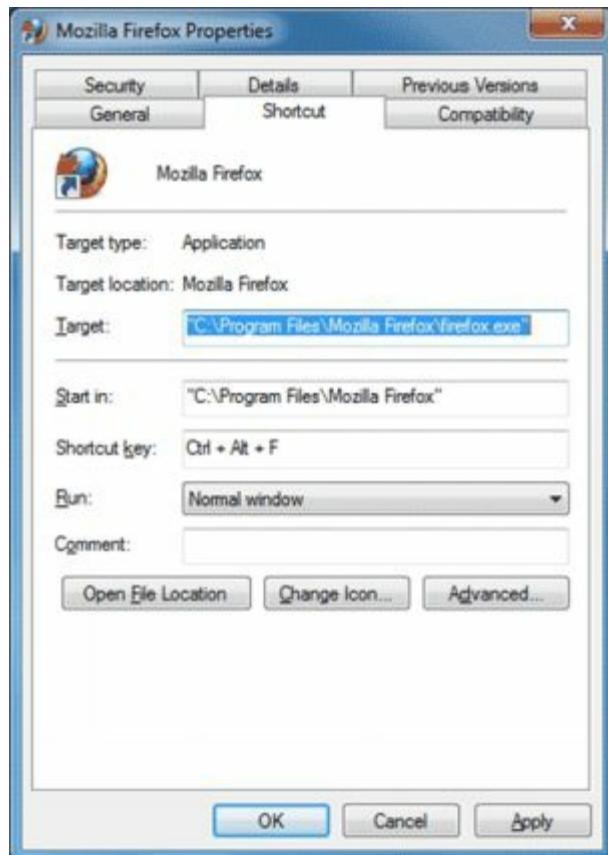
Click a theme to change the desktop background, window color, sounds, and screen saver all at once.



Create Keyboard Shortcuts for Programs

You can create keyboard shortcuts for any program in Windows 7.

1. Right-click on the program icon and then click **Properties**
2. Select the **Shortcut** tab, click in **Shortcut key** and enter a key to set the keyboard shortcut for that program.



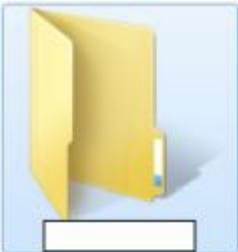
3. Click **OK**.

Invisible a folder

1. Create a **New folder** on the desktop.



2. Select to **rename** it, **delete** the default **New folder** title. (do not Press **Enter**)



3. Press and hold **Alt** then **0160** (press the numbers from **Number pad** which is located on the right hand side of the keyboard), release the **Alt key** and then press **Enter**. This names the folder as a **Space**. (Make sure **Num Lock** is **ON**)

Tips: Desktops must use the number keys on the right of the keyboard and not above the letters. For it to work on your laptop you need to keep Holding down the **Alt** key you will also need to hold the **Fn** key and type the numbers "**0160**." These are over the letters m, j, o, m. Let go of all of the keys and hit enter. Holding the Alt and typing those numbers will name the folder as a space, pretty much giving it no name. Make sure the **Num Lock** on the laptop is selected from on screen keyboard.



4. Select and right click on the folder. Select **Properties**, then **Customize** tab, and then **Change icon**.



5. If you scroll through the provided icons, you will see a certain area that seems a few icons are simply missing. Select one of those empty spaces, or in other words, invisible folders.
6. Click **OK**, then **Apply**, then **OK**.
7. You now have an invisible folder on your desktop to place any files you want to make transparent. Please remember that this is not a secured file, just invisible to the eyes.



Tips: Alternate code is **Alt + 225**

Open any folder in Command Prompt instantly

Press **Shift** when right-clicking on a folder to get that option in the context menu. This also works on the desktop.

View Expanded ‘Send To’ Menu



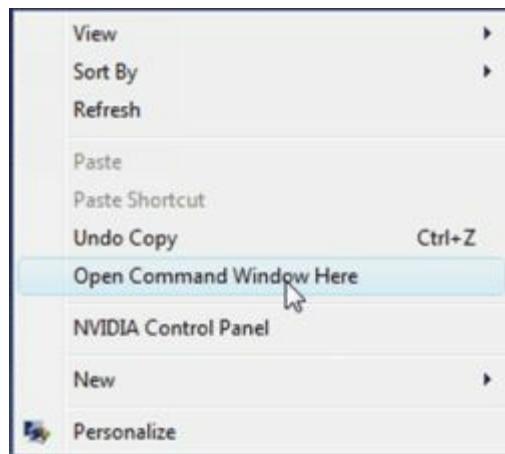
Press **Shift** when right-clicking on a folder to get an expanded **Send To** menu.

Open Command Prompt with right click

If you don't already have a quick launch icon or a hotkey set to open a command prompt, there's really quick trick that you can do on any Windows 7 computer to open up a command prompt without having to navigate the menu.

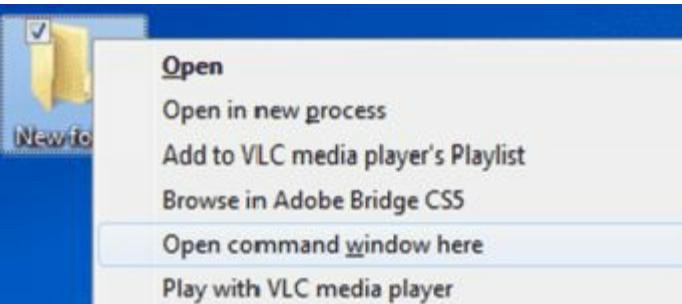
Open Command prompt from Desktop

1. Hold down the **Shift** key and **right-click** on the desktop.
2. Choose **Open Command Window Here** from the menu.



Open a folder with Command prompt

1. Hold down the **Shift** key and **right-click** on any folder.
2. Choose **Open Command Window Here** form the menu.



OR inside any folder

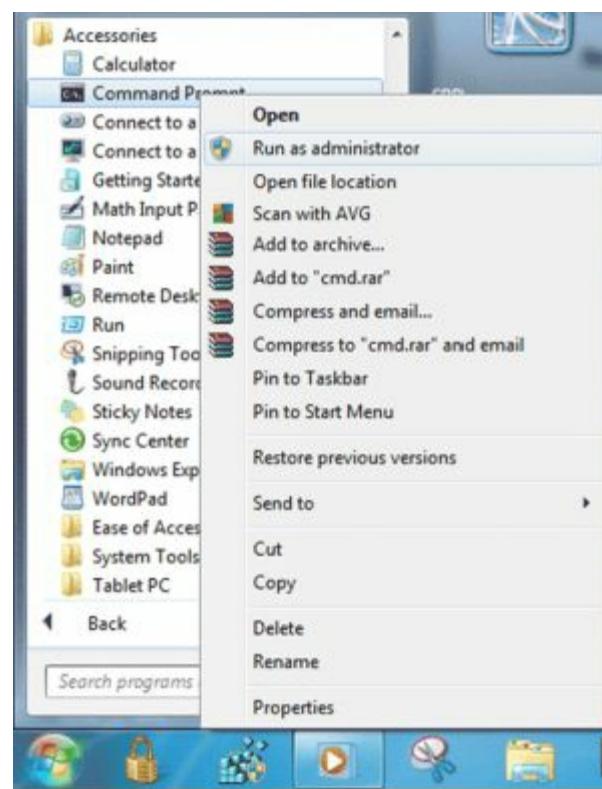
1. **Open** the folder that you want to open with Command Prompt.
2. **Right-click** on inside the folder and choose **Open Command Window Here** form the menu.



Reset Windows 7 password with Simple Command

If you forget your password in windows 7, then don't be panic. By this simple process you can easily change your Windows 7 password without knowing current password.

1. Click on **Start>All Programs>Accessories**
2. Right click on **Command Prompt** and click on **Run as administrator**.



3. In the **Command Prompt** window type the below command and Press **Enter**
4. **net user Account Name Your New Password**

```
C:\Windows\system32>net user SRB 123456
The command completed successfully.

C:\Windows\system32>_
```

A screenshot of an 'Administrator: Command Prompt' window. The command 'net user SRB 123456' is entered at the prompt. The output shows 'The command completed successfully.' followed by a new line. The window has standard Windows-style buttons (Minimize, Maximize, Close) at the top.

*Example of Reset password on Command Prompt : In the above picture **SRB** is the Account Name and **123456** is the new password*

5. At last a message will show "The command completed successfully".
6. Lock your computer and type the new password to unlock it.

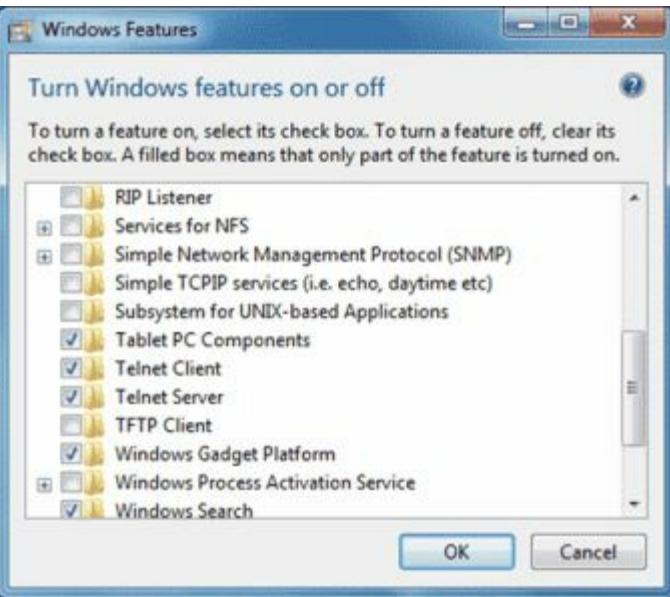
Tips: Remember the new password, don't forget it.

Watch Star War Episode IV in Command Prompt

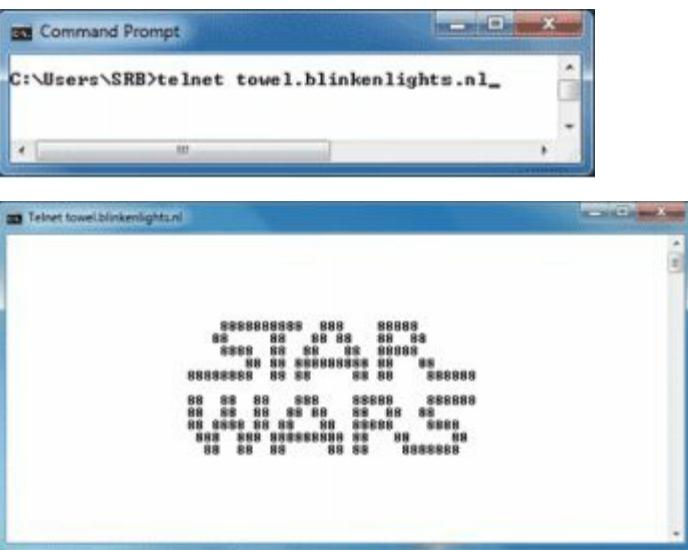
You can watch an ASCII version of the full Star Wars Episode IV movie right in the Command Prompt window. Just follow the steps –

1. Open **Control Panel**.
2. In Category View: Click **Programs and features** > **Click Turn Windows features on or off** on the left side of the window.
OR In Large/Small icons View: Click **Programs and features** > **Click Turn Windows features on or off** on the left side of the window.

3. Then Windows Features window will open.

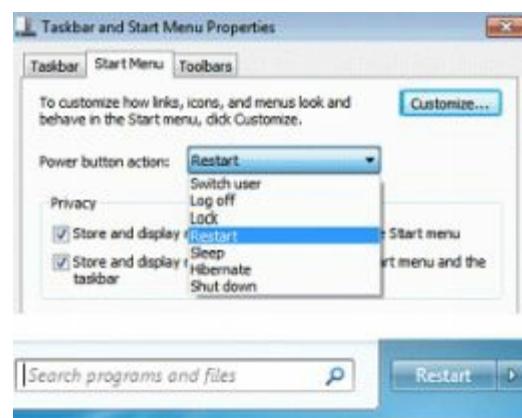


4. Put tick mark in **Telnet Client** and **Telnet Server** like the above image. Then click **OK**.
5. Open **Command Prompt**. Type **telnet towel.blinkenlights.nl** and press **Enter**. The Star Wars movie will start immediately.



Set your Shutdown Button / Power button

If you restart your computer more often than you shut it down, change the default **Shutdown** power button to **Restart**. Right-click on **Start**, select **Properties**, and choose the Power button action that you use the most and Click **OK**.



Shutdown button changes to **Restart** button

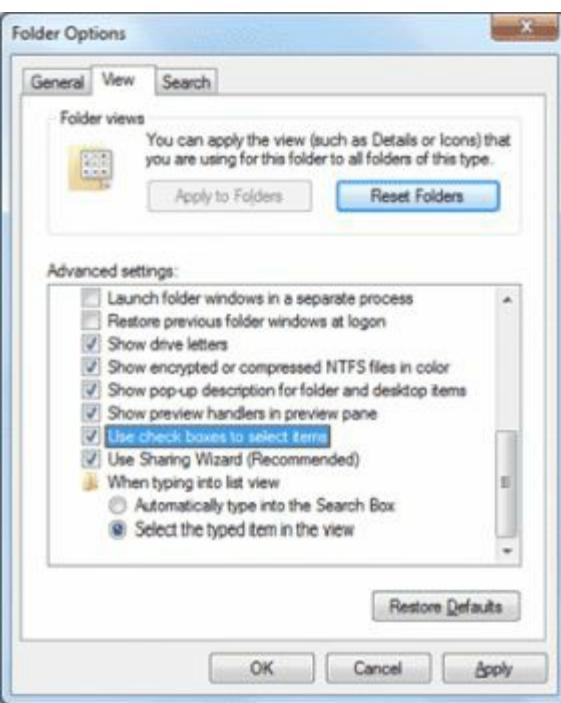
Use Check Boxes in Windows Explorer

You can select non-adjacent files in Explorer using **Ctrl-click**, but there is an easier way using check boxes.



Selecting multiple items using check box

1. Open **MyComputer**, click **Tool**, then select **Folder options** from the **File** menu.
2. Click on the **View** tab, under **Advanced Settings**, scroll down to select **Use check boxes to select items**.



3. Click **OK**.

Now you can easily select multiple items using only the mouse.

Use Pen drive to fast your computer (Boost performance with **ReadyBoost**)

Windows 7 has a feature called **ReadyBoost** which enables its users to use their pen drives as temporary RAM for their systems. This feature is helpful when because of any reason you need to speed up your system for short time. Instructions to do this are given below:

1. Insert a **Pen Drive/USB** drive in the USB port.
2. Open **My Computer**.
3. **Right-click** on the icon of the newly inserted **USB drive** and select **Properties**.
4. In the **Removable Disk Properties** dialog-box go to **ReadyBoost** tab.



5. If you want to dedicate the entire space of your pen drive for **ReadyBoost** you can select the radio button that says **Dedicate this device to ReadyBoost**. Alternatively you can dedicate any specified amount of space from the pen drive for ReadyBoost. To do this you can select **Use this device** radio button and in the text box you can specify the amount of space from the pen drive that you want Windows 7 to use as RAM.
6. Click **OK** buttons on all Windows to accept and confirm your selections and configurations.

More Info: When ReadyBoost is enabled a file named **ReadyBoost.sfcache** is created. This file is compressed and encrypted so that even if anyone steals the pen drive, the thief cannot read data the pen drive contains.

Recommendations: Don't pull flash drive out of USB Port while it is being used as a ReadyBoos device. Don't save any data files on the flash drive when it is being used as ReadyBoost device.

Secure USB Drives with BitLocker

Secure your USB flash drives using BitLocker encryption. Right-click on your **USB drive** in **My Computer**, select **Turn on BitLocker** and follow the instructions to protect sensitive data on your thumb drives.



The next time you use your USB drive on another computer, it will prompt you for the **password** before allowing you read-only access to your flash drive. You can even use the drive on older

computers running Windows XP/Vista.

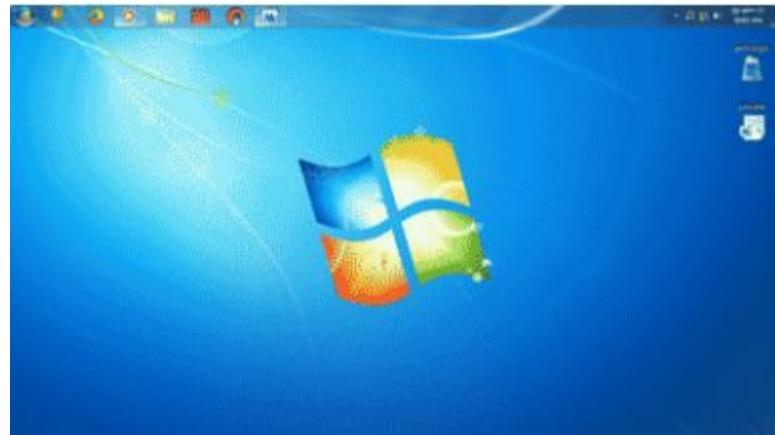
Create a System Recovery Disc

A system recovery disc helps you in situations where Windows cannot start successfully. Your Windows 7 installation disc also serves as a recovery disc. When Windows 7 comes pre-installed on computers, you will need to create a system recovery disc.



Click **Start**, type **recdisc.exe** in the search box and press **Enter**. Insert a blank CD/DVD in your CD/DVD drive, and click **Create Disc**.

Rotate Upside-Down Desktop Screen



You can rotate Desktop Screen by **90** or **180** or **360** angles. You can invert your window screen and can impress your friends; this is one of the scariest tricks which turn **Windows upside down**. Here are steps:

Press	To
Ctrl + Alt + Down arrow key	Rotate by 180 degree, invert screen.
Ctrl + Alt + Left arrow key	Rotate by 90 degree.
Ctrl + Alt + Right arrow key	Rotate by 270 degree
Ctrl + Alt + Up	Make it normal again.

Tips: If the keyboard shortcut doesn't work, then follow the below steps

1. Go to **Control Panel\Appearance and Personalization\Display\Screen Resolution** OR Right-click on the Desktop and click **Screen Resolution**.
2. Click on the drop-down menu labeled **Orientation** and choose your desired screen rotation.
3. Click **Apply** to preview the changes. If the changes are acceptable, click **Keep changes** from the confirmation pop-up window.
4. Click **OK** to close the Display Settings window.

Disable Error Reporting in Windows 7

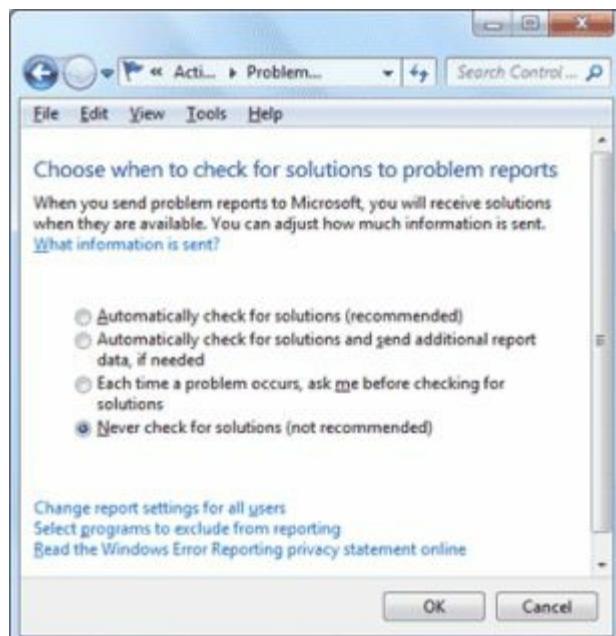
Error reporting is enabled by default in Windows 7. You might want to disable error reporting for privacy concerns, if you're not connected to the Internet all the time, or maybe just to stop being annoyed by the alerts. Error reporting works by prompting you after a critical error in the Windows 7 operating system or in other programs and then notifying Microsoft about it.

To disable error reporting in Windows 7:

1. Click on the **Start** button and then **Control Panel**.
2. Click on the **System and Security**

Tips: If you're viewing the **Large icons** or **Small icons** view of **Control Panel**, click on **Action Center** and skip to **Step 4**.

3. Click on the **Action Center**.
4. In the **Action Center** window, click the **Change Action Center settings** on the left.
5. In the **Related settings** section at the bottom of the **Change Action Center settings** window, click on the **Problem reporting settings**.
6. Choosing **Never check for solutions** will fully disable error reporting in Windows 7.



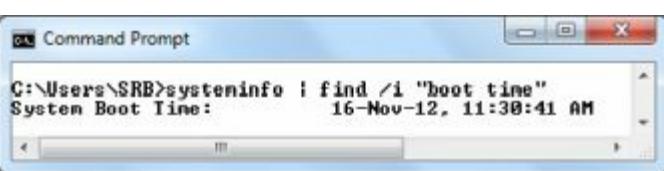
7. Click the **OK**.
8. Click the **OK** button of the **Change Action Center settings** window.
9. Close the **Action Center** window and it's done.

Know the Exact time of Last Turn on the Computer

Do you remember the exact date or time when you last turn on the computer? If you don't know, then the following two processes will help you out.

Process - 1

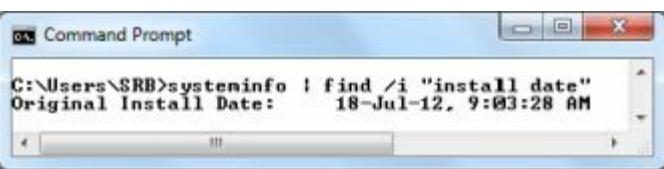
1. Open **Command Prompt**.
2. Type **systeminfo | find /I "boot time"**
3. Press **Enter**.



```
C:\>systeminfo | find /i "boot time"
System Boot Time: 16-Nov-12, 11:38:41 AM
```

4. This will show the time when you last rebooted the computer. Subtract that from the current date-time to know for how long you have been running the computer.

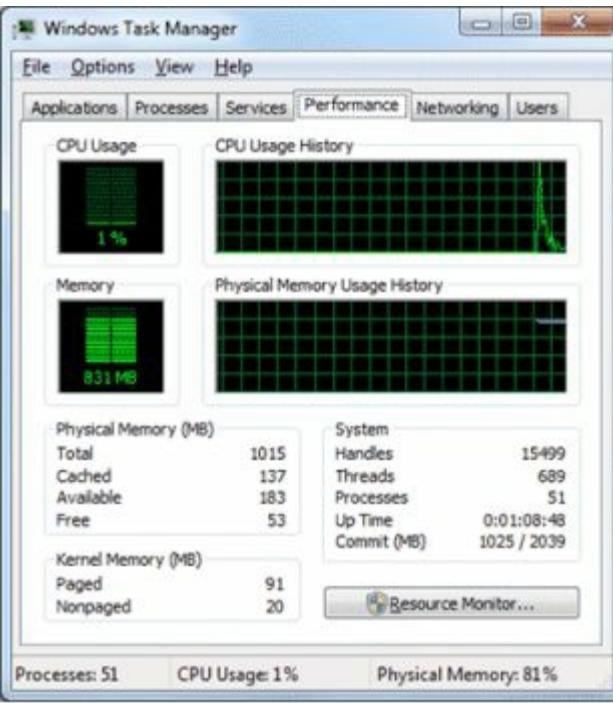
Tips: To know the date of installation of Windows on your PC –Type **systeminfo | find /I "install date"**



```
C:\>systeminfo | find /i "install date"
Original Install Date: 18-Jul-12, 9:03:28 AM
```

Process – 2

1. Open Task Manager by pressing **Alt + Ctrl + Delete** or right click on the taskbar and click **Start Task Manager**.
2. Switch to the **Performance tab** and you should see a field that says **Up Time** as shown in the below figure.



Make a Private Folder – no-one can enter, copy, cut, delete Private Folder

To make **Private folder** which nobody can open, delete, see properties, rename. To make such a folder you need to make a folder with any name.

Follow the steps to make a Private Folder:

1. Create a New Folder and rename as you wish. In this example I rename the folder to **Secret**.



2. Press Windows logo key + R to open Run



3. Type cmd and Press Enter to open cmd.exe
4. Type cd desktop and press Enter

```
C:\Windows\system32\cmd.exe
C:\Users\SRB>cd desktop
C:\Users\SRB\Desktop>
```

5. Then type **cacls secret /E /P everyone:n** and Press Enter to Lock the **Secret** folder.

6. To unlock the **Secret** folder type **cacls secret /E /P everyone:f** and Press Enter.



```
C:\Windows\system32\cmd.exe
C:\Users\SRB>cd desktop
C:\Users\SRB\Desktop>cacls secret /E /P everyone:n
processed dir: C:\Users\SRB\Desktop\Secret
C:\Users\SRB\Desktop>cacls secret /E /P everyone:f
processed dir: C:\Users\SRB\Desktop\Secret
C:\Users\SRB\Desktop>_
```

How to Make Your PDF Files Speak To You

Would you like to know if someone reads it for you & that too free of cost. I know you guys are eager to know that, so here it is.

1. First of all install Adobe Reader, if you haven't already.
2. Go to **View > Read out Loud > Activate Read Out Loud**.
3. After you have done, the go to **View > Read out Loud > Read To End of Document**
4. Now it will read it to you out loud in the Default **Microsoft Sam** voice.

Swap Mouse Right & Left Click

1. Open **Control Panel**.
2. Do one of the following:
 - For Category View: Click **Hardware and Sound** and then click on **Mouse**
 - For Large/Small View: Click on **Mouse**.
3. **Mouse Properties Dialog-box** will appear.



4. Check the **Switch primary and secondary buttons** option as shown in the above image.
5. Left click on **Apply** and **OK**.

Enable / Disable Automatic Updates in Windows 7

1. Open Control Panel.
2. Do one of the following:
 - For Category View: Click **System and Security** and then click on **Windows Update**
 - For Large/Small View: Click on **Windows Update**.
3. On the Left side, click **Change Setting**.



4. Choose one of the following:
 - Install updates automatically (recommended)
 - Download updates but let me choose whether to install them
 - Check for updates but let me choose whether to download and install them
 - Never check for updates (not recommended)
5. In order to have the same behavior for **Recommended updates** also tick the **Give me recommended updates the same way I receive important updates** check box.
6. You can also choose if you want to allow anyone to install updates by selecting the **Allow all users to install updates on this computer** check box.
7. Click **OK** to save the settings. If you are prompted for an administrator password or confirmation, type the password or provide confirmation.

Note: Microsoft recommends that you must keep your windows up-to-date in order to remain secure. And I recommend the same, my computer is always up-to-date, this is one reason I never get attacked by any kind of virus.

Change Your Computer Name in Windows 7

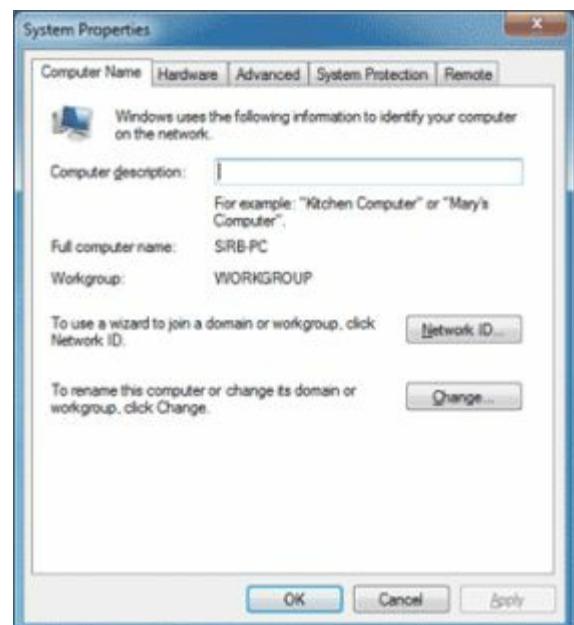
If you've ever bought a new computer with the operating system already installed, you might be annoyed by the default name of the computer when you start trying to connect different computers

together. I like to use more descriptive names than SR782711OI... for example; I called my new desktop ULTRACOMPUTER.

1. Right-click on **MY Computer** and click on **Properties**. Then a window opens as shown in the below image.



2. Click on **Advanced System Settings** on the left menu.
3. Now **System Properties** dialog-box opens as shown in the below image.



4. Click on **Computer Name** tab and click on **Change** button on the right-low side.



5. Enter a name in **Computer name** field. You could also change the name of the workgroup to something more descriptive as well. Click **OK**. You'll have to reboot after you make this change.

Steganography – Hide a text behind an image



Steganography is the art and science of hiding messages. Steganography is often combined with cryptography so that even if the message is discovered it cannot be read. The word steganography is derived from the Greek words "steganos" and "graphein", which mean "covered" and "writing." Steganography, therefore, is covered writing. Historical steganography involved techniques such as disappearing ink or microdots. Modern steganography involves hiding data in computer files. It is fairly easy to hide a secret message in a graphic file without obviously altering the visible appearance of that file.

To hide a text behind an image:

To hide a file behind a image file which means that if any one opens that image he will see the image only but if you open in a special way then you can open the hidden file behind the image.

1. Open **Command Prompt**, by going to **Start > All Programs > Accessories > Command Prompt**
2. Select an image to be used for hiding file behind the image.
3. Now select a file to hide behind the image and make it in **.RAR** format with the help of the **WinRAR**.
4. And most important is that paste both the files on desktop and run the following command on the command prompt.

5. And then type the following command.

cd desktop <press **Enter**>

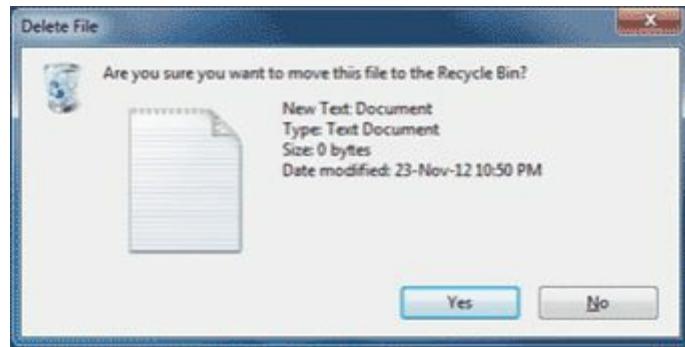
Copy /b imagename.jpg + filename.rar finalnameofimage.jpg

6. Then press **Enter** the file will be created with the file final file name of the image.

Warning: Using this method for the illegal Activities is against the Laws this tutorial is for educational Purpose only.

Disable delete confirmation dialog box

The delete confirmation dialog box appears every time you give the command of deleting a file. However, there are times you are deleting many unnecessary files in order to clean up your hard drive. This delete confirmation dialog box will really bother you at such times and you would want to get rid of it as it takes up a lot of your time while you are deleting numerous files.

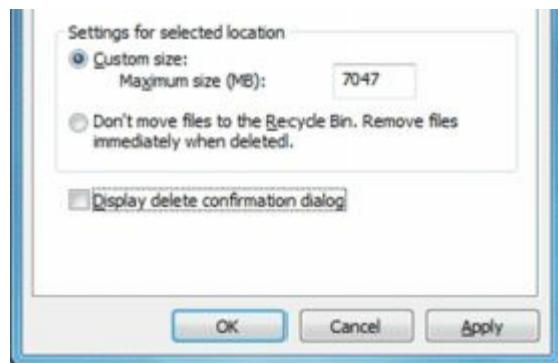


There is an easy way to disable delete confirmation dialog box in Windows 7. As you disable delete confirmation dialog box in Windows 7, you will be able to save a lot of your time. However, it is recommended that you do not disable delete confirmation dialog box in Windows 7 unless really necessary. You should turn it back on after you are done with your cleaning up of the computer.

Follow these easy steps to disable delete confirmation dialog box in Windows 7:

1. Right-click on the **Recycle Bin** icon on the **desktop**

2. Select **Properties**. The Recycle Bin Properties dialog box will appear.



3. Uncheck the Display delete confirmation dialog box at the bottom.

4. Click on the **Apply** and then the **OK** button.

You have been successful to disable delete confirmation dialog box in Windows 7. The method to turn it on again is very simple too. Just follow the above steps and check the Display delete

confirmation dialog box.

Minimize quickly with shake

Using Shake, you can quickly minimize all open windows on the desktop except the one you want to focus on. Just click the title bar of the window you want to keep open and drag (or shake) the window back and forth quickly, and the other open windows are minimized.

To restore the minimized windows, shake the open window again.



Shake a window to minimize all other windows

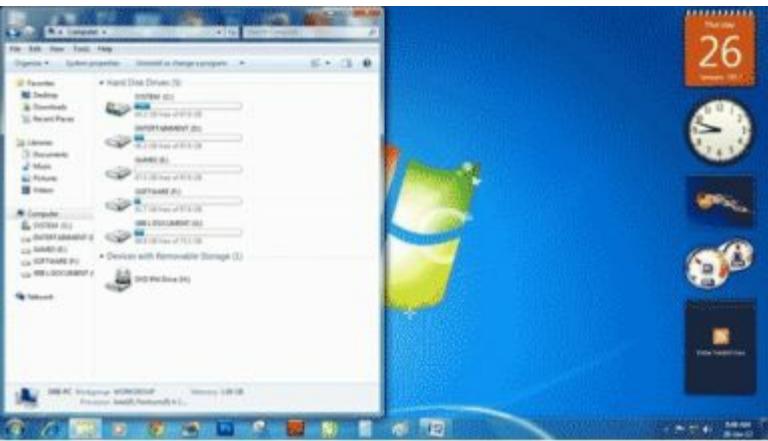
Snap

- You can use Snap to arrange and resize windows on the desktop with a simple mouse movement.
- Using Snap, you can quickly align windows at the side of the desktop, expand them vertically to the entire height of the screen, or maximize them to completely fill the desktop.

Snap to sides of the desktop



Drag a window to the side of the desktop to expand it to half of the screen



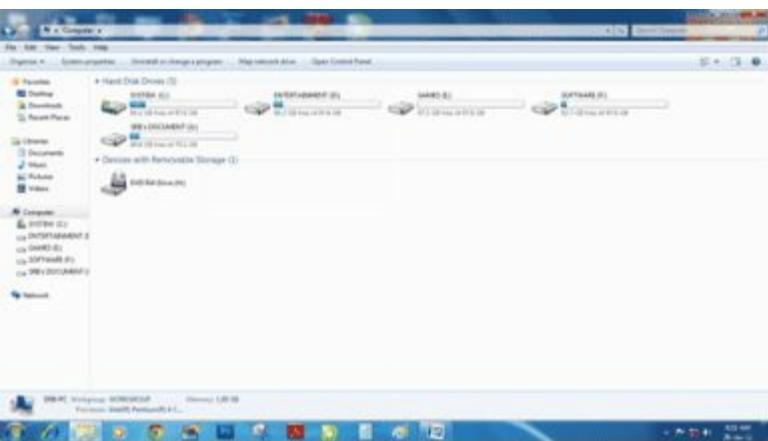
Note: By snapping the other side, the window maximizing in that manner.

Snap to top of the desktop

To use Snap, drag the title bar of an open window to either side of the desktop to align it there, or drag it to the top of the desktop to maximize the window. To expand a window vertically using Snap, drag the top edge of the window to the top of the desktop.



Drag a window to the top of the desktop to expand it to full of the screen



Aero Peek

You can use Aero Peek features to quickly preview the desktop without minimizing all your windows, or preview an open window by pointing at its icon on the taskbar.

Peek at the desktop

The Show desktop button has been moved the opposite end of the taskbar from the Start button, making it easier to click or point at the button without accidentally opening the Start menu.

In addition to clicking the Show desktop button to get to the desktop, you can temporarily view or peek at the desktop by just pointing your mouse at the Show desktop button. When you point at the Show desktop button at the end of the taskbar, any open windows fade from view, revealing the desktop. To make the windows reappear, move the mouse away from the Show desktop button.



Quickly view your desktop using Peek

This can be useful for quickly viewing desktop gadgets, or when you don't want to minimize all open windows and then have to restore them.

Peek at an open file on the desktop

You can also use Aero Peek to take a quick look at other open windows without clicking away from the window you are currently working on.



Peek at open window using thumbnails on the taskbar

Point your mouse at a program icon on the taskbar that has open files. Thumbnail previews of any open files associated with that program appear above the taskbar. You can point at a thumbnail to preview that window's contents, and all the other open windows on the desktop fade away to reveal just the window you're previewing. To open the window you're previewing, click the thumbnail.

Change how icons appear on the taskbar

You can customize the taskbar, including the appearance of icons and how they group together when you have multiple items open. Here are your choices:

- Always combine, hide labels

This is the default setting. Each program appears as a single, unlabeled icon, even when

multiple items for a program are open.



A single icon represents both a program and open items

- Combine when taskbar is full

This setting shows each item as an individual, labeled icon. When the taskbar becomes crowded, programs with multiple open items collapse into a single program icon. Clicking the icon displays a list of the items that are open. Both this setting and Never combine resemble the look and behavior of earlier versions of Windows.



Individually labeled icons combine when the taskbar is full

- Never combine

This setting is similar to Combine when taskbar is full, except icons never collapse into a single icon, regardless of how many windows are open. As more programs and windows open, icons decrease in size and eventually scroll within the taskbar.



Individually labeled icons always appear

To change how programs and icons appear on the taskbar

1. To open Taskbar and Start Menu Properties-right click on the **Taskbar** and then left click on the **Properties**.
2. Under **Taskbar appearance**, select one of the options from the Taskbar buttons list:
 - Always combine, hide labels
 - Combine when taskbar is full
 - Never combine
3. To use small icons, select the **Use small icons** check box. To use large icons, clear the check box.
4. Click **OK**.

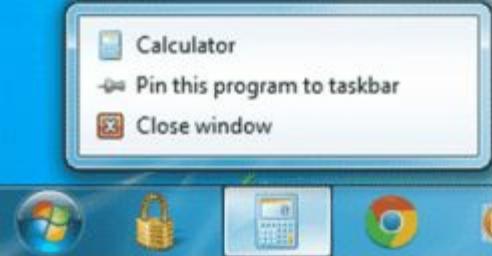
Pin any item to the Windows 7 taskbar



You can pin your favorite applications or files so that you could open them quickly from any window at any time. In Windows 7, you can pin shortcuts for favorite or frequently used files, folders, and websites to the Jump Lists for each of those programs to the taskbar.

To pin a program shortcut to the taskbar, do one of the following:

- If the program is already running, **right-click** the program's button on the taskbar (or drag the button toward the desktop) to open the program's Jump List, and then click **Pin this program to taskbar**.



- If the program isn't running, click **Start**, find the program's icon, right-click the icon, and then click **Pin to Taskbar**.

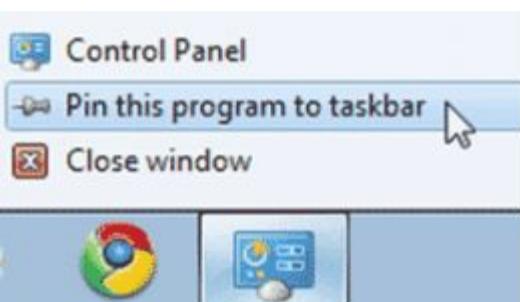


- You can also pin a program by dragging the program's shortcut from the **Desktop** or **Start menu** to the taskbar.



Example of dragging and pin: Pin a program from desktop (Left) : Pin a program from Start menu (Right)

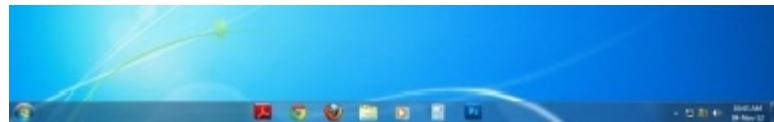
Pin Control Panel to the Taskbar



You cannot pin the Control Panel to the taskbar via the Start Menu or by drag and drop. Open the Control Panel and right-click its taskbar icon to pin it to the taskbar. An advantage of this is that Control Panel's Jump List allows quick access to recently used functions.

Windows 7 Taskbar icons appears in the center of the taskbar

Everything that comes out of the box by default lacks the ability to re-adjust. Windows 7 Taskbar is the single biggest feature of Windows 7 and yet, you can't do much about it other than re-arrange the icon in order. Also, by default the icons will always be aligned to the left, what if you want to make them align to the center or even right?

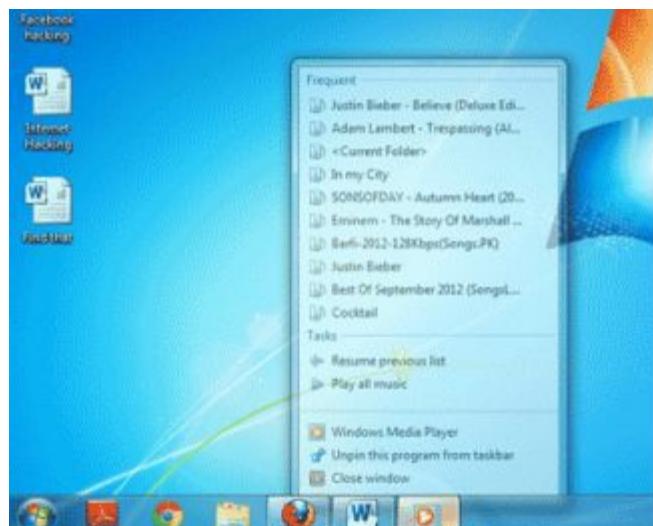


Center align icons on taskbar

1. You need to create a **New folder** (that should be an empty folder), Name it as you wish.
2. Right click on the **taskbar**, Uncheck **Lock the taskbar** to unlock the taskbar
3. Go to **Toolbars>Newtoolbar** (by using right-click on taskbar)
4. Select the folder that you've just created. (Hint: New empty folder)
5. Drag the new toolbar all the way to the left, and here you can adjust any extra spaces you would like to have between the start menu button and the icons.
6. Right-click on the new toolbar and Uncheck **Showtitle**, and **ShowText**.
7. Adjust the taskbar icons to center of the taskbar.
8. Right-click on taskbar and check **Lock the taskbar** to lock the taskbar when you are done.

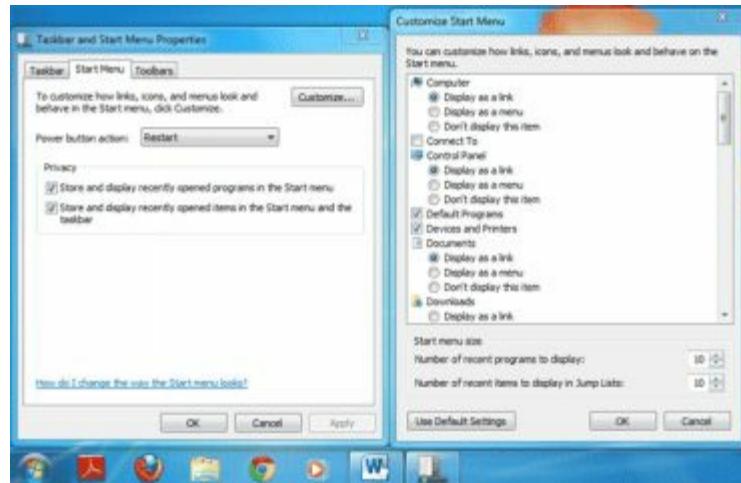
Access Jump Lists with the Left Mouse Button

Jump Lists usually show up when you right-click on a taskbar icon. However, they can also be accessed by holding the left mouse button and dragging upwards. If you're using a laptop touchpad or a touch screen, this is convenient because you do not have to click any button to access a context menu.

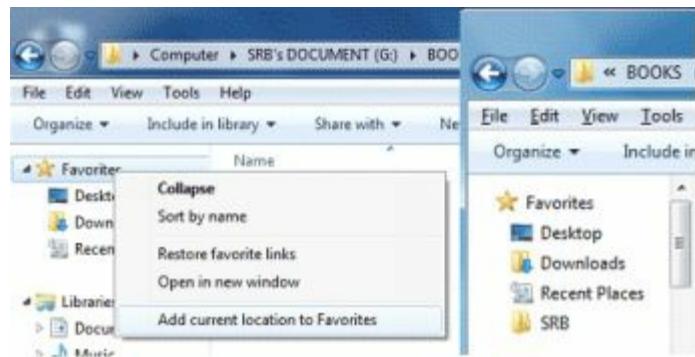


Customize Number of Items in Jump Lists & Start Menu

Right-click Start, select Properties, click Customize and choose the Number of recent programs to be display and the Number of items display in Jump Lists from the Start Menu Size section below. Click OK.



Add Any Folder to Favorites



Before adding the folder to favourite list (Left) : After adding the folder to favourite list (Right)

You can add any library or folder to the **Favorites section** in Windows Explorer. To add a folder, navigate to it in Explorer, right-click **Favorites** in the left navigation pane, and select **Add current location to Favorites**. You can remove the folder form the **Favorites list** by right-click the folder from the Favorite list and click **Remove**.

Get Exact Colors on Your Screen

If you are an artist or you work with colors, use the **Calibrate Color** option in the **Control Panel** Display applet or run **dccw.exe** from the **Start Menu** search box. Then **Display Color Calibration** window appears. Follow the Steps and Choose right options as you wish and click **Finish**.

Tips: You can adjust gamma, brightness, contrast, and color balance, ensuring that colors are displayed correctly on your screen.

Adjust Screen Text with Clear Type

Use Clear Type Tuner for the best look on your LCD monitor or laptop screen. Run **cttune.exe** from

the **Start** Menu search box. Choose your options and **Finish**.



Click the text sample that looks best to you (4 of 4)

The Quick Brown Fox Jumps
Over the Lazy Dog. Lorem
ipsum dolor sit amet,
consectetuer adipiscing elit.
Mauris ornare odio vel risus.
Maecenas elit metus,
pellentesque quis, pretium.

The Quick Brown Fox Jumps
Over the Lazy Dog. Lorem
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Maecenas elit metus,
pellentesque quis, pretium.

The Quick Brown Fox Jumps
Over the Lazy Dog. Lorem
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Maecenas elit metus,
pellentesque quis, pretium.

The Quick Brown Fox Jumps
Over the Lazy Dog. Lorem
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consectetuer adipiscing elit.
Mauris ornare odio vel risus.
Maecenas elit metus,
pellentesque quis, pretium.

Shortcut to Run Program as Administrator

You can **Ctrl + Shift + Click** on a taskbar icon to run the application as an Administrator with full rights (provided your account has permissions). Simply **Shift + Right-click** on any program shortcut to run it as a different user, if for example you need higher privileges when logged in with your child's account.

Run commands List

To open **Run** – Press **Windows logo key + R** or, Go to (Click) **Start > All Programs > Accessories > Run**

To open	Type & press Enter
Accessibility Options	access.cpl
Add Hardware (Device manager)	hdwwiz.cpl
Add / Remove Programs	appwiz.cpl
Administrative Tools	control admintools
Automatic Updates	wuaucpl.cpl
Calculator	calc
Character	Charmap
Checking disk	chkdsk
Manager of the album (clipboard)	clipbrd
Command Prompt	cmd
Service components (DCOM)	dcomcnfg
Computer Management	compmgmt.msc
Date and Time Properties	timedate.cpl
Device Manager	devmgmt.msc
Disk Cleanup	cleanmgr
Disk Defragmenter	dfrg.msc

Disk Management	diskmgmt.msc
Partition manager	diskpart
Display Properties	control desktop
Event Viewer	Eventvwr.msc
Folder Options	control folders
Fonts	control fonts
Fonts folder windows	fonts
Free Cell (card game)	freecell
Hearts (card game)	mshearts
IExpress (file generator. Cab)	IExpress
Internet Properties	inetcpl.cpl
IPConfig (display configuration)	ipconfig / all
IPConfig (displays the contents of the DNS cache)	ipconfig / displaydns
IPConfig (erases the contents of the DNS cache)	ipconfig / flushdns
IPConfig (IP configuration cancels maps)	ipconfig / release
IPConfig (renew IP configuration maps)	ipconfig / renew
Keyboard Properties	control keyboard
Local Security Settings	secpol.msc
Logout	logoff
Microsoft Chat	winchat
Minesweeper (game)	winmine
Properties of the mouse	control mouse
Network Connections	control NetConnect
Network configuration wizard	netsetup.cpl
Notepad	notepad
Screen Keyboard	OSK
Monitor performance	perfmon.msc
Monitor performance (2)	Perfmon
Power Options	powercfg.cpl
Printers and Faxes	control printers
Regional and Language Options	intl.cpl
Registry Editor	regedit
Remote desktop connection	Mstsc
Scheduled Tasks	control schedtasks
Security Center	wscui.cpl
Console management services	services.msc
Turn off windows	shutdown
Sounds and Audio Devices	mmsys.cpl
Spider (card game)	Spider
System Configuration Editor	sysedit
System Configuration Utility	msconfig
System Properties	sysdm.cpl
System Information	Dxdiag
Task Manager	taskmgr
Telnet client	telnet
User Accounts	nusrmgr.cpl

Utility Manager (Magnifier, etc)	Utilman
Microsoft Magnifier	magnify
Protection of the accounts database	syskey
Windows update	wupdmgmgr
Wordpad	write

Simple Steps to Protecting Your Computer

Hackers have thousands of tools at their disposal to take advantage of you including tools such as keystroke loggers. Keystroke loggers record every single keystroke you type on your computer; this includes your private email messages, your bank account password, and your credit card number. This article focuses on Microsoft Windows users since the majority of computer users today use a version of this operating system on their home and/or office computers.

1. Use Strong passwords.
2. Update your computer to latest Operating System (e.g. Windows 7 or 8)
3. Update Microsoft Windows regularly.
4. Turn on Windows firewall.
5. Use antivirus software or internet security to protect your computer from virus. (e.g. AVG anti-virus/internet security, Norton Antivirus, McAfee VirusScan, Kaspersky, etc.)
6. Block Spyware - Spyware and viruses often go hand-in-hand but can take many forms. Some 'hijack' your web browser and redirects you to their website. Others quietly download and install Trojans, key logger programs, etc. to your computer so hackers can take control of your computer later. Install and run an anti-spyware program such as: Spy Sweeper, Ad-aware SE Personal
7. Keep your software up-to-date. (e.g. Microsoft Office, Adobe Reader, Adobe Flash Player Mozilla Firefox, Anti-virus, etc.,)
8. Backup your important data often.

CHAPTER 12

INTERNET HACKING TRICKS

Internet Hacking

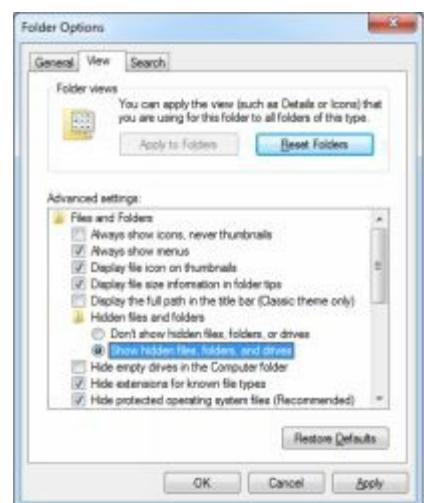
Internet hacking means accessing a secure computer system by disabling or bypassing the security. Some hackers will steal data or destroy data, or use the system to hide their tracks as they hack into a different system and some just do it for fun. Like most cases of extortion, the criminal's identity is especially difficult to trace and is magnified because of the nature of the internet. When the Internet was gaining immense popularity, businesses were scrambling to secure

domain names and using the technology to expand their market. Seeing e-commerce as an untapped goldmine, many were eagerly diving headfirst into a slew of problems, including security breaches. Viruses, shutdowns, crashes and email hacking will be the burden of the user, a company's money lost to theft will be the burden of its customers and a government's money spent on security will be the burden of its citizens.

Block and unblock any website

First you have to show all hidden files, folders, and drives on your computer.

- Go to **My Computer > Tools > View**
- Click on the **Show hidden files, folders, and drives** button.



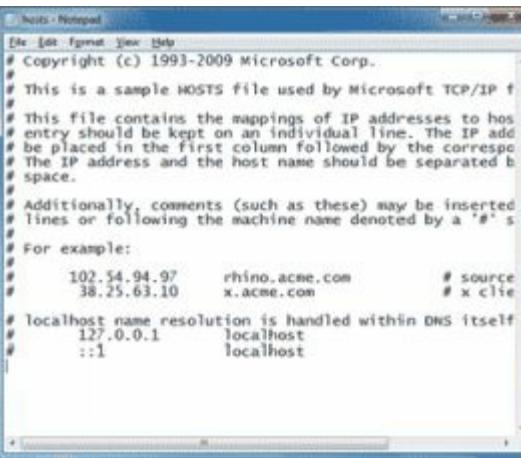
- Then Click **OK**.

Then do the followings:

1. Click Start > All Programs > Accessories > Right Click on Notepad and click on Run as administrator
2. Then in Untitled - Notepad window click File > Open (in Menu bar). Open dialog-box will appear.
3. Navigate to - C:\Windows\System32\drivers\etc
4. Then select All Files next to the File name field. (By selecting All Files option all files are shown as shown in the below figure.)

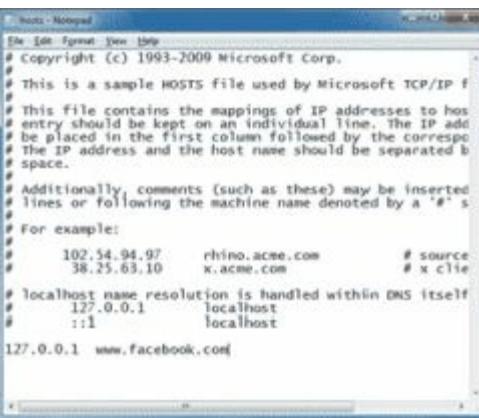


5. Click **host** and click **Open**. Then the notepad is seems to be like in below picture.



```
Hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
# This is a sample HOSTS file used by Microsoft TCP/IP f
# This file contains the mappings of IP addresses to hos
# entry should be kept on an individual line. The IP add
# be placed in the first column followed by the correspo
# The IP address and the host name should be separated b
# space.
# Additionally, comments (such as these) may be inserted
# lines or following the machine name denoted by a '#' s
# For example:
#       102.54.94.97      rhino.acme.com      # source
#       38.25.63.10      x.acme.com          # x clie
# Localhost name resolution is handled within DNS itself
#       127.0.0.1        localhost           localhost
#       ::1               localhost           localhost
```

- Now add a new entry in the bottom, let you want to block www.facebook.com.then add the line **127.0.0.1 www.facebook.com**



```
Hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
# This is a sample HOSTS file used by Microsoft TCP/IP f
# This file contains the mappings of IP addresses to hos
# entry should be kept on an individual line. The IP add
# be placed in the first column followed by the correspo
# The IP address and the host name should be separated b
# space.
# Additionally, comments (such as these) may be inserted
# lines or following the machine name denoted by a '#' s
# For example:
#       102.54.94.97      rhino.acme.com      # source
#       38.25.63.10      x.acme.com          # x clie
# Localhost name resolution is handled within DNS itself
#       127.0.0.1        localhost           localhost
#       ::1               localhost           localhost
127.0.0.1 www.facebook.com
```

- This line means that when you try to open the www.facebook.com,then it is redirected to IP Address 127.0.0.1, which is a back IP of the windows.
- Save the file (by pressing **Ctrl + S**) and restart the computer. Then **www.facebook.com** is block for all browsers.
- To unblock it, remove the entry, which you have made and Save the file. Then restart the computer.

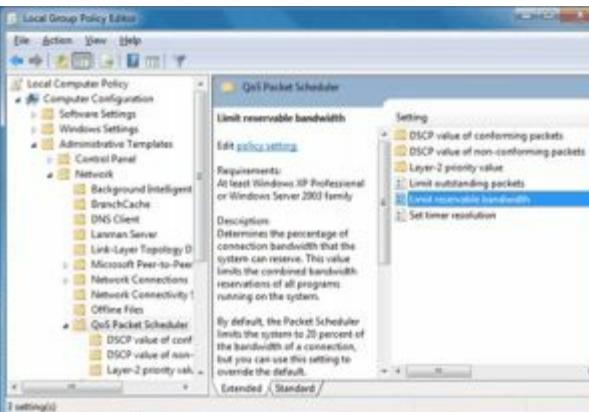
Tips: This method works for all browsers.

Note: You can bypass registration of software by blocking their website and update requests using this trick.

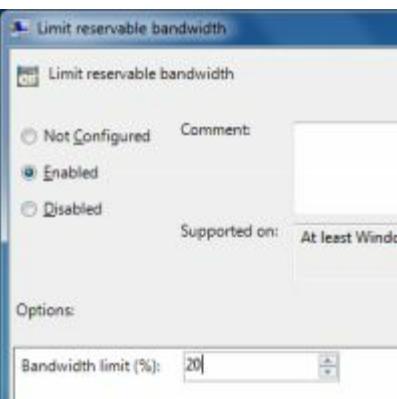
How to Increase Internet Speed

Many of internet users are not happy with their slow internet connections speed. So this is the trick to increase your internet speed by yourself easily. To do this,

- Click on the **Start** button, type **gpedit.msc** on the search bar and then press **Enter** button. Then a **Local Group Policy Editor** window will appear.
- In **Group Policy** window click on **Computer configuration** menu. Then click on **Administrative Templates**.
- Click on **Network**. Under the **Network** menu click on **QoS Packet Scheduler**.



4. Under the **QoS Packet Scheduler** menu double click on **Limit reservable Bandwidth** option.
5. Then in **Limit reservable Bandwidth** window you will find that the settings are disabled. But by default **Limit reservable Bandwidth** is eating your internet speed by **20%**. In this you have to do a simple thing. Click on **Enabled** button in **Limit reservable Bandwidth** menu; reduce the Bandwidth by **0%**.

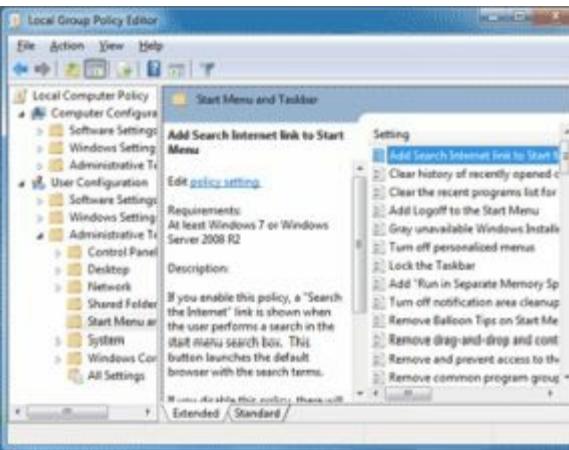


6. Click on **Apply** button and then **OK**.
7. Restart your computer. Congratulation you are done now.

Now connect the internet & see the difference in internet connection or your browsing speed.

Search Internet from the Start Menu

Enable Internet search from the Start Menu using your default browser. Run **gpedit.msc** from the Start Menu search box to start the **Local Group Policy Editor**. In the left pane, go to **User Configuration > Administrative Templates > Start Menu and Taskbar**. Then Select **Add Search Internet link to Start Menu** from the right pane, right-click to **Edit** and **Enable** to add search internet link to Start menu. Click **OK**.



Know any website IP address in Command Prompt

1. Press **Windows logo key + R** to open **Run**
2. Type **cmd** and press **Enter**.
3. Type **ping www.websitename.com** and press **Enter** in **Command Prompt** window. Then the result shows the **IP address** of the website.

Example: type **ping www.google.com**

A screenshot of a Command Prompt window titled 'Command Prompt'. The window shows the command 'ping www.google.com' being run. The output displays the results of the ping test, including four successful replies from the IP address 74.125.236.88, with times ranging from 92ms to 99ms. The command prompt then shows the statistics for the ping, indicating 4 packets sent, 4 received, 0 lost, and an average of 93ms. The prompt ends with 'C:\Users\SRB>'.

View Passwords hidden in asterisks

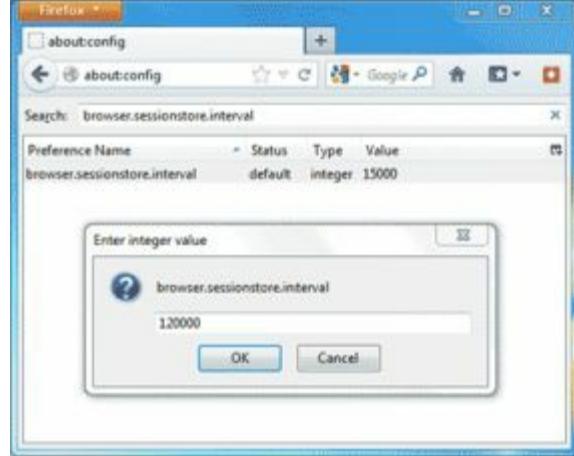
We always want the browsers to remember the username and password of our online accounts. After a period of time, we tend to forget what the password was. It is easy to find those passwords, if we are able to see what is behind the black dots (.....) or asterisks (*****). To know the password behind the dots then follow the steps:

1. Right click on the password textbox and from the options click on **Inspect Element(Q)**.
2. Then, a small window would come up with a few lines of code. You need not worry about the codes. The line in which the password will be highlighted. If the codes are not showing in a html format below then click on  button on the lower left corner of that page.
3. Now double click on the term password and change it to text and press enter. Now you see what's behind the dots.

How to speedup online videos and performance of Firefox

By default Firefox automatically saves your session every 10 seconds so that it can be easily restored even of a crash. But if you think 10 seconds is either too much or is not enough, then you can change it to whatever you think is right for you, with just a little tweak to the **about:config** settings. To do this,

1. Open **Mozilla Firefox** browser and in the address bar type **about:config** and press **Enter**.
2. Then you will get a warning message, click on **I'll be careful, I promise**.
3. Then in the filter text entry bar (on top left), type **browser.sessionstore.interval**



4. Just double click on it and change its value to **120000**. If you want to input your own value, then you should know that the value is actually in milliseconds. So, if you want to change the interval to 1 minute, then you would enter **60000**.
5. Click **OK** and restart the Firefox.

Sign-out of all Gmail sessions

If you have forgotten to sign-out from your Gmail account anywhere, you can now sign-out from all Gmail sessions. To do this,

1. Open your **Gmail** account and click on the **Details** link in the bottom right of your screen.
2. This will open up a pop up window where you can see recent activity, whether your Gmail account is open in any other location, and choose to **Sign out of all other sessions**.
3. Clicking that button will ensure all your previous Gmail sessions are logged out, leaving you logged in to the current computer only.

Sign-in to multiple Google accounts in the same browser

If you use multiple Google accounts say one for Gmail another for ad-sense and yet another for Reader, you would know that you can sign into only one account at a time in a browser. Of course you could use separate browsers for each of the account, but it is hassle to do so. It is a great alternative that Google has an advanced feature that lets you sign into multiple Google Accounts simultaneously in the same browser.

In this case I will show you how to sing in multiple Gmail accounts.

1. Sign in to your **Gmail Account**.
2. Then at the top-left corner Click on your profile photo and click **Add Account**.
3. Then another tab opens in your web-browser. Enter another **Username** and **Password**. Click **Sign in**.

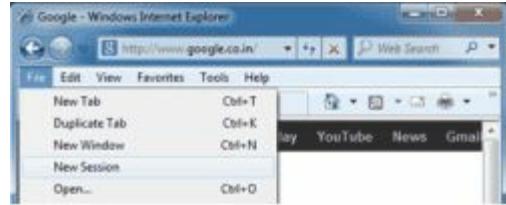
Now, you are able to view your both Gmail Accounts in one web-browser.

Log in to multiple web accounts simultaneously - (Google, Gmail, Facebook, Twitter, etc.)

Many of us have multiple accounts with one web site. Whether it be several Gmail accounts or two separate twitter accounts or any such multiple accounts. But it is always a hassle to have to log out of each account to access another. Follow the steps to log in to multiple web accounts simultaneously.

In Internet Explorer 8 and higher version

Open Internet Explorer, Click on **File** and then **New Session** This opens up a new browser window that will allow you to log into different accounts across the sessions.



Save any web article to PDF for free

Internet is a very huge library of information. It has millions and millions of pages of information about virtually anything. Reading each and every article may not be possible due to many reasons mainly due to time limitation.

The website <http://pdfmyurl.com/> helps you to save the web-article to **PDF** format and you can read it at anytime you want.

PDF MY URL - <http://pdfmyurl.com/>

1. Type <http://pdfmyurl.com/> on your browser's address bar.



2. Enter the URL (that you want to convert into pdf format). In this case I have typed the web address http://en.wikipedia.org/wiki/Windows_8
3. Click  button next to the **Enter url Location** field.
4. In a few seconds, this website allows you to download a **PDF** version of the requested webpage.
5. Then you can download the **PDF** file and read even through the requested **URL** may be blocked.



Similarly, there is another website <http://joliprint.com/> helps you to save and share the **pdf** format of web-article. This site gives you various options for saving the file. You can directly download it, have it send to your **Email** address or even can be shared using **Facebook** and **Twitter**. In this way you can access the blocked website on the internet.

JOLIPRINT - <http://joliprint.com/>

1. Type <http://www.joliprint.com> on your browser's address bar.



2. Enter the URL (that you want to convert into pdf format).
3. Click **joliprint it !** button next to the **Enter URL Location** field.
4. In a few seconds, this website allows you to download a PDF version of the requested webpage. You can save the PDF file to **Google Docs**, **Gmail** and share with **Facebook** and **Twitter**.



Free online Resume builder

A resume (also called CV: Curriculum Vitae) is a document used by persons to present their backgrounds and skills. Resumes are the best reflections of your career. It can be used for a variety of reasons, but most often they are used to secure new employment. Majority of the recruiters agree that they go through each resume only for a few seconds and that the first impression they get is from them. Hence, the resume will have to make the first big punch for you. Having said all these, the below **List of Resume builder websites** makes superb resumes for you.

List of Resume builder websites

www.resumebuilder.org

www.cvmkr.com

www.resumesimo.com

www.instantonlinecv.co.in

www.resumonk.com

www.resumesimo.com

www.gotresumebuilder.com

www.freeresumebuilder.biz

www.onlinecvgenerator.com

www.mycvbuilder.com

Unlock PDF and EXCEL files Online

If a PDF files have some restrictions (like Copy from the PDF file won't work, etc.) and password Then the website <http://www.pdfunlock.com/> helps you to remove passwords and restrictions from secured PDF files.

1. Go to <http://www.pdfunlock.com/>



2. Browse the PDF file that you want to unlock. Then click **Unlock!**.
3. Within few seconds, you will able to download the unlocked PDF file.

File Type	Website
PDF	www.pdfunlock.com www.unlock-pdf.com
Excel	www.unprotect-excel.com

Free online file converter

This is a nice online converter file which can be used for almost all type of files at anytime from anywhere. To do this,

1. Go to www.online-convert.com and select the tool you want to use.



2. Suppose you wish to convert an image to PNG format. Select the conversion and click on **Go**.
3. Now browse the file or enter the web URL of the image. Select the quality settings and then click on Convert.
4. After the conversion, you will find the download link of the converted file. Download the file.

Online Edit Photos

Upload your picture or photo or enter the URL of an image on the Internet. After uploading, you can resize, sharpen and/or rotate your photo. Several filters and effects are available to enhance your photo: Red Eye Removal, Sepia, Enhance, Sharpen and Polaroid Effect.

Some popular websites are :

<http://www.freeonlinephotoeditor.com/>

<http://www.fotor.com/>

<http://pixlr.com/editor/>

<http://web.photocat.com/edit/>

<http://www.befunky.com/>

<http://www.pizap.com/pizap>

<http://www.picmonkey.com/>

<https://www.picmonkey.com/editor>

Scan your files for malwares online for free

This is a site where you can upload your suspected files and get them scanned for free. An email from anyone can also have a virus or a malware which might have got attached to the mail without his or her knowledge. Antivirus software has become an indispensable element of your computer. It is very good for them who hate anti-viruses. Jotti's Malware scan is a free online service where 20 prominent antivirus software scan the files uploaded by you and inform whether they are clean or not. The file you suspect to be infected can be uploaded and the result is almost immediate. To do this,

1. Type the <http://virusscan.jotti.org/en> on your browser's address bar.
2. Then select the file required to be scanned.



Online trace any mobile number anywhere

You can find out all information we have on any phone number in the world. Simply enter the phone number in international format for correct results.

Phonetrace.Org

<http://www.phonetrace.org/>

How does it work?

Using both GPS satellite techniques and triangulation based on phone towers.

Who makes use of this technology?

Cell phones are giving employers new ways to check up on employees in the field and raising fresh workplace privacy concerns as a result. Law enforcement agencies have found this technology to be the biggest breakthrough since DNA testing. Also PhoneTrace has been in huge demand by people check up on an untrustworthy spouse!

Trace ... Mobile Number - Location Tracking with details

<http://www.findandtrace.com/trace-mobile-number-location>

Phone No Tracker | Online GPS Mobile Locator Using Cell Phone Number

<http://gpsphonetracker.org/>

GPS Phone Tracker is the first free website for finding any phone signals only with number. Now you can start tracking your friends, kids or spouse. Phone tracker app can locate your lost or stolen cell phone in less than 20 seconds! Try out gps phone tracker free online to get experience about how to track someones phone without them knowing. Just put a phone number which you want to lookup, then get your locations for Android, iPhone or Windows mobile devices.

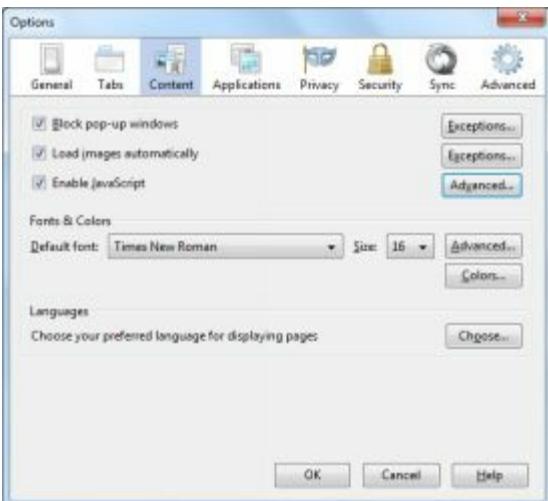
Search pictures of people in 3D layout

The website www.facesaearch.com is a free website which helps you search faces of people. This website has a very simple layout and all you need to do is to enter the person's name in the search box and click on search. The interface gives a **3D layout** of pictures with matching names.

Disable websites from resizing your Firefox browser window

Firefox is a very popular browser. Be it in the speed which it displays a webpage, it downloads a file or the number of plug-in available for further making the browser user-friendly, Mozilla Firefox stands ahead of other browsers. It is really disturbing to see certain websites resizes the browser window. This is how to disable them doing so in Firefox.

1. Click on **Tools** menu and select **Options**.
2. Click on the **Content** tab.



3. Opposite to the check box name **Enable JavaScript**, you can find a button named **Advanced**. Click on it.



4. Uncheck the option **Move or resize existing windows**.
5. Click **OK** twice.

How to run Firefox inside Firefox inside Firefox

Open **Mozilla Firefox** and in the address bar type the following URL and press **Enter**.

chrome://browser/content/browser.xul



You could again enter the above URL in the second Firefox that appears to open a third one. You could repeat this as many times as your screen size permits.

YouTube SECRETS

YouTube, the extremely popular video sharing website averaging more than 3 billion page views per day needs no introduction to its fans who spend a considerable amount of their time watching and sharing videos on it. While most of these users know every nook and corner of this website, there are some features that are hidden deep within, in a manner that only few of the most experienced users seem to know about them. This article contains some such features, tips and tricks.

YouTube MySpeed

Are YouTube videos taking too much time to load on your internet connection? Visit the [YouTube MySpeed](#) page to find your video streaming speed and compare it with the average speed of your ISP, your city, your state, your country and the world.

YouTube Disco

YouTube is all set to replace your music players with [YouTube Disco](#). This music discovery project allows you to find the videos of your choice, create a list of them and then easily watch them without having the need to choose a new video after the one you are watching is finished.

YouTube Editor

Do you edit your videos before uploading them to YouTube? Now, you don't need to because it lets you to do all of that online with [YouTube Editor](#); well not all of that but it at least lets you combine, trim and rotate videos. The best part about YouTube Editor is that it allows you to find copyright free music that you can add to your videos. It also offers some comparably advanced features like stabilizing shaky videos and inserting transitions.

YouTube TV

YouTube lets you watch the videos of your choice but have you ever wanted to just sit back and enjoy watching videos just like you watch television? If you have, then [YouTube TV](#) can be of help. YouTube TV plays high quality full screen videos tailored to your choices (if you are signed in to your [Google](#) account). If you are not signed in, you can choose a category to watch videos from, watch featured videos and even search for the video of your choice.

Set default video playback quality

Are you annoyed at manually changing the quality of every YouTube video you watch? Now you don't need to, because YouTube has [an option](#) that automatically lets you select the quality of videos you see. If you have a slow connection, you can select the option of never playing high quality videos. You can also select the option of showing captions and annotations automatically.

Watch Videos blocked in your country with a URL trick

If the URL of the video that is [blocked in your country](#) is youtube.com/watch?v={video-id}, you can access it by going to youtube.com/v/{video-id}. As an additional advantage, you will be able to view the video at the full size of your browser window.

Link to a specific time in a video

If you want to link to a video at a specific time, you can add #t=XXs to the URL where XX is a variable which represents the number of seconds after which the video will start.

Play videos in slow motion

Press the space bar while a video is being played to play it in slow motion.

YouTube Live

Ever wanted to broadcast your videos live on the internet? [YouTube Live](#) lets you do just that. YouTube Live supports larger production than Hangouts on Air. However, to broadcast videos live, your channel must be in [good standing](#).

Create a feed of almost anything on YouTube

Just go to the [YouTube Data API](#) page and build a custom [feed](#) for yourself. However, there is a problem with the URI generated for specific categories as "{<http://gdata.youtube.com/schemas/2007/categories.cat>}" is also added to it. Remove this and the URI is good to go.

Find out what is popular on YouTube

Want to find the best videos on YouTube? Use [Popular on Youtube](#) channel to find what other users are watching, discussing and favoring. You can select a particular category to determine the best videos in that particular category. You also have the option to play all the videos that are popular right now.

Legally Watch Full Length Movies and TV Shows on YouTube

YouTube has a [dedicated page](#) to allow users to watch full-length ad supported movies for free. Movies are classified based on their genre and are offered in full HD quality. Movies are uploaded by the creators for the purpose of creating another source of revenue for themselves as Google gives them a portion of the advertising revenue. A similar page [exists for TV shows](#). These two pages are country specific and may or may not be available in your country.

YouTube Easter eggs

For Star Wars and Star Trek fans

If you are a [Star Wars fan](#), then there is some good news for you. YouTube has an easter egg just for you guys. Search YouTube for "use the force, Luke" to warp your screen. Star Trek fans need not be disappointed as there is an easter egg for them as well. Searching YouTube for "Beam me up, Scotty" reveals it.

YouTube Snakes Easter egg

You can play the classic Snakes game while watching any video in your browser. Just pause a video, hold the left arrow key for 2 seconds and while still holding it, press the Up arrow key. This only works in the new YouTube player on videos played on YouTube.com.

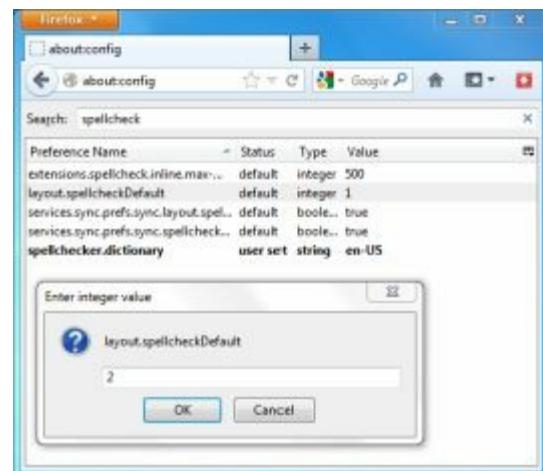
do the Harlem shake

Search YouTube for "do the Harlem shake" and the entire page will shake violently with the song "Harlem Shake" by Baauer being played in the background.

Add Firefox's Spelling-Check feature to forms

Mozilla Firefox comes with a cool built-in spelling checker. You could right-click the word to see spelling suggestions along with the usual context-menu options.

1. Open **Mozilla Firefox**, type **about:config** in the address bar and press **Enter**.
2. Click **I'll be careful, I promise!**.
3. In the **Filter** field, type *spellcheck*. Right-click on *layout.spellcheckDefault*, and click on **Modify**.



4. Change the value from 1 to 2 and restart Firefox. The spelling checker should now work in most online forms.

Check username availability on multiple sites at once

Most people use a specific username or alias across a lot of sites, as it is easier to remember and also, your friends could identify you easily in various sites with your username. But it could be very frustrating, when you try to sign up on a new site only to find that your username is already taken. Checking for availability of your chosen username in several sites of interest could be a daunting task. Fortunately, there is an easier way.

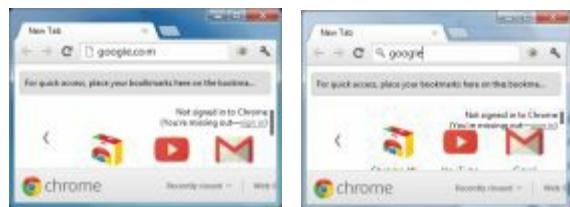


www.usernamecheck.com is a site, in which you can use to check the username availability on multiple sites at once. You can type in your desired name **usernamecheck.com** will scan over **20** social networks and services and tells you within seconds whether the username is available or taken. If it is available, it provides **Thumbs Up** sign to the site, where you can sign up before someone else takes your name.

You don't need the “**http://**” portion of a web page on Address bar/Location bar

When typing an **Internet address** you do not need to type **http://** or even **www.** in the address.

For example, if you want to visit **Google** you could just type **google.com** and press **Enter**.



Type **google.com** and press **Enter** (Left) : Type **google** and press **Ctrl + Enter** (Right)

To make things even quicker, if you're visiting a **.com** address you can type **google** and then press **Ctrl + Enter** to type out the full <http://www.google.com> address.

Take advantage of tabbed browsing

Take full advantage of tabbed browsing in all Internet browsers. While reading any web page if you come across a link you may be interested in open that link in a new tab so it can be viewed later. A new tab can be opened by holding down the **Ctrl** key and **clicking** the link or if you have a mouse with a wheel click the link with the **middle mouse button**.

Quickly move between the fields of a web page

If you're filling out an online form, e-mail, or other text field you can quickly move between each of

the fields by pressing the **Tab** key or **Shift + Tab** to move back a field.

- To move **Forward**, press **Tab** key.
- To move **Backward**, press **Shift + Tab** key.

For example, if you're filling out your name and the next field is your e-mail address you can press the **Tab** key to switch to the e-mail field.

Tips

- *This tip also applies to the buttons, if you press tab and the web developer has designed correctly the button should be selected and will allow you to press the Space bar or Enter to push the button.*
- *If you have a drop-down box that lists every country or every state you can click that box and then press the letter of the state or country you're looking for. For example, is a drop-down box of States in the India you could press u on the keyboard to quickly scroll to I types.*

Google “I’m Feeling Lucky” button Magic Tricks



Go to **Google Home Page** (www.google.com) and type the following codes and click **I’m Feeling Lucky** button right next to the **Google Search** button. You must **Turn off Instant search** (from **Search settings** option).

<i>Type the following codes and click I’m Feeling Lucky button right next to the Google Search button.</i>			
google sphere	google gravity	google mirror	google pacman
weenie google	lol limewire	epic google	annoying google
rainbow google	let it snow	tilt	google loco
google heart page	epic box	who's awesome	who is the cutest
google magic	sexy snape	Google Pirate	Google Hacker
GoHarsh	Google God	Google Gothic	Google Piglatin
"Googlo"	Google Pond	Translate for Animals	Funny Google
Google Blackle	Google Variations	Google Guitar	do a barrel roll
Google “country name”	Google “color name”	How Huge Is Google? (Infographic)	am I awesome

Tips:

- Type **Google “country name”** and click on **I’m Feeling Lucky**. For example type **google**

china and click on I'm Feeling Lucky.

- Type **Google “color name”** and click on **I’m Feeling Lucky**. For example type **google blue** and click on **I’m Feeling Lucky**.

Example of Google mirror



If you click **Google Search** button after type the code, then you have to click on the first web-search option.



Google Results page full overview



1. Header
2. Search bar
3. Search results
4. Tools & filters

5. Right-hand section
6. Bottom of the page

Google Calculator

Google search can be used as a calculator. It can calculate anything from the simplest math to the most complex equation. Enter any math equation into the search box and we'll calculate your answer.

Example: Type **100 * 3.14 - sin(65)** and Click **Google Search** or Press **Enter**.

100 * 3.14 - sin(65)

About 276,063,000 results (0.85 seconds)

(100 * 3.14) - sin(65 radians) =
313.173171321

Rad	deg	π	e	$\sqrt{ }$	%	AC
Inv	sin	ln	7	8	9	=
n!	cos	log	4	5	6	\times
e	tan	$\sqrt{ }$	1	2	3	-
Ans	EXP	y^x	0			\cdot

Search with an exact phrase in Google

Put quotation marks around words "any word" to search for an exact phrase in an exact order. Keep in mind that searching with quotes might exclude relevant results. For instance, a search for "Alexander Bell" will miss pages that refer to Alexander G. Bell.

Example: Type **"to be or not to be"** and Click **Google Search** or Press **Enter**.



Search for specific file types in Google

There are various kinds of files available over the net. Searching for a specific file type isn't really easy. But using this tip you can easily search for a specific file type. Search for specific types of files, such as PDFs, PPTs, or XLS, by adding **filetype:** and the **3-letter** file abbreviation.

Example: Type **filetype:pdf Computer** or **Computer filetype:pdf** and Click **Google Search** or Press **Enter**.

filetype:pdf Computer - Google Search

Soumya Ranjan Search Images Maps Play

Google filetype:pdf Computer

Web Images Maps Shopping

About 106,000,000 results (0.11 seconds)

[PDF Fact Sheet #17E: Exemption from the Fair Labor Standards Act's overtime pay requirement for computer systems and employees in the computer field under Section 17c](#)

[PDF NIST Special Publication 800-4](#)

Google Measurement Converter

Convert any measurement -- like miles to kilometers or ounces to liters -- by typing in the number and unit of measurement.

Example: Type **5km to cm** and Click **Google Search** or Press **Enter**.

5km to cm - Google Search

About 41,500,000 results (0.29 seconds)

Length

5 = 500000

Kilometer Centimeter

Currency conversions in Google

Get current exchange rates by searching [currency 1] in [currency 2].

Example: Type **1\$ in INR** and Click **Google Search** or Press **Enter**.

1\$ in INR

About 319,000 results (0.22 seconds)

1 US dollar = 55.1600 Indian rupees

1 US Dollar
55.1600 Indian Rupee

View more conversions >

Rates provided for information only - Disclaimer

2006 2009 2010 2011 2012

Exact time of any place in Google

To see what time it is anywhere in the world, search **time** and the **city** or **country**. If you want to see the local time, then just type **time** and Press **Enter**. If you want to know the time in a specific city or country, then type **time city/country name** and Press **Enter**.

Example: Type **time london** and Click **Google Search** or Press **Enter**.

A screenshot of a Google search results page. The search bar at the top contains the query "time london". Below the search bar, it says "About 2,790,000,000 results (0.30 seconds)". The main content area shows the current time as "3:54 Saturday (GMT) - Time in London, UK".

Check the weather of anywhere in Google

If you want to see the local weather, then just type **weather** and Press **Enter**. If you want to know the weather of a specific city or country, then type **weather city/country name** and Press **Enter**.

Get Sunset and Sunrise time of anywhere in Google

To Get	Type and Press Enter
Local Sunrise time	sunrise
Local Sunset time	sunset
City/Country Sunrise time	sunrise city/country name
City/Country Sunset time	sunset city/country name

Get definitions of everything in Google

If you want to know the definition of anything, and then type **define any word** & Press **Enter** to get its definition.

Example: Type **define computer** and Click **Google Search** or Press **Enter**.

A screenshot of a Google search results page. The search bar at the top contains the query "define computer". Below the search bar, it says "About 193,000,000 results (0.18 seconds)". The main content area shows the definition of "computer": "com·put·er /kəm'pyoōtər/ (noun) An electronic device for storing and processing data, typically in binary form, according to instructions given to it in a variable program. 2. A person who makes calculations, esp. with a calculating machine." It also lists "calculator" as a synonym and provides links to "Wikipedia", "Dictionary.com", "Answers.com", and "Merriam-Webster".

Trace My IP Address

If you want to know the exact IP address of your computer, then type **my ip** & Press **Enter**.

Example: Type **my ip** and Click **Google Search** or Press **Enter**.

Firefox - my ip - Google Search

my ip - Google

Web Images Maps Applications More

About 418,000,000 results (0.18 seconds)

Your public IP address is 203.98.112.92 - Learn more

What Is My IP Address | Shows Your IP Address
www.whatismyip.com/
Locate Your IP Address, Speed Tests, IP Address Lookup, IP -

Search by advanced image search in Google

1. Go to **Google Image**.
2. Enter the search item in the search bar.
3. Use **Search tools** to find an exact size, color or type of photo or drawing.

Google wallpaper

Web Images News Videos Apps More

Search tools

Size Color Type Time Usage rights More tools

Hd Nature Desktop

4. With the tools in the **bottom panel**, you can filter your search to include only photos with faces, clip art, high-res images or only images that are available for commercial use.

Get movie times in Google

Search on a movie name or just movie to see theater locations and showtimes in your area.

Example: Type **movies washington** and Click **Google Search** or Press **Enter**.

Google movie washington dc

Web Maps Images News Videos More

About 0,56,00,000 results (0.72 seconds)

Movies for Washington, DC

Movies	Runtimes	Ratings	Genres	Trailer
Inside Out	1hr 31min	PG	Animation	Trailer
Magic Mike XXL	1hr 42min	PG	Animation	Trailer
Jurassic World	2hr 4min	PG-13	Action	Trailer
Terminator Genisys	2hr 5min	PG-13	Action	Trailer
Mirrors 3D	1hr 31min	PG	Animation	Trailer

+ Show more films

Get the list of all films of any Actor and Actress

Go to www.google.com

Type Actor/Actress name movie and Press Enter.

Example : Al Pacino movie

The screenshot shows a Google search results page for 'Al Pacino movie'. At the top, there's a navigation bar with 'Web', 'Maps', 'News', 'Videos', 'Maps', 'More', and 'Search tools'. Below the search bar, there's a 'Smart' button and a 'Sign in' button. The main search results include several movie posters for films like 'Scarface', 'The Godfather', 'Scent of a Woman', 'The Godfather Part II', 'One Flew Over the Cuckoo's Nest', and 'The Godfather Part III'. Below the posters, there are two sections of links. The first section is titled 'Al Pacino - IMDb' and lists links to 'Al Pacino', 'Al Pacino: Actor', 'The Godfather', 'Al Pacino: Director', 'Al Pacino: Writer', 'Al Pacino: Producer', 'Al Pacino: Composer', 'Al Pacino: Singer', 'Al Pacino: Model', 'Al Pacino: Voice', and 'Al Pacino: Miscellaneous'. The second section is titled 'Al Pacino - Wikipedia' and lists links to 'Al Pacino', 'Al Pacino: Wikipedia', 'Al Pacino: The free encyclopedia', and 'Al Pacino filmography - Wikipedia, the free encyclopedia'. On the right side of the search results, there's a sidebar for 'Al Pacino' with a photo, his birth date (April 25, 1940), place of birth (Mandell, New York City, New York, United States), height (1.78 m), and upcoming movies ('Ghosts of Girlfriends Past').

Google URL shortener

The **Google URL Shortener** at <https://goo.gl/> is a service that takes long URLs and squeezes them into fewer characters to make a link easier to share, tweet, or email to friends. For example, the short URL <http://goo.gl/v0SOu> is a convenient shorthand representation for the long URL

<http://www.latimes.com/business/la-fi-windows-surface-20121130,0,474887.story>

The screenshot shows the Google URL Shortener interface. At the top, it says 'Google url shortener'. Below that, there's an input field with the URL '5.commbusinessla-fi-windows-surface-20121130,0,474887.story'. To the right of the input field is a 'Shorten URL' button. Below the input field, there's a preview of the shortened URL 'http://goo.gl/v0SOu'. Further down, there's a section for tracking analytics with buttons for 'Clicks for the past: two hours | day | week | month | all time'. There are also buttons for 'Local URL', 'CREATE', 'SHORT URL', and 'DELETE'. At the bottom, there's a note about history: 'History: 1 URL removed public, but are removed from your history.' and a page number '1 - 1 of 1'.

Go to <http://goo.gl/> and paste the **long URL** you wish to shorten into the input box at the top of the page. Click **Shorten** and to the right of the box you'll see a **short goo.gl URL** that can be copied and pasted anywhere you'd like to share it.

If you'd like to track the analytics of your shortened URL, please sign in to your Google Account before shortening your URL. Your shortened URL will automatically be added to your goo.gl history.

Google Earth

Google Earth is a virtual globe, map and geographical information program that was originally called EarthViewer 3D.

Google Earth allows you to travel the world through a virtual globe and view satellite imagery, maps, terrain, 3D buildings, and much more. With Google Earth's rich, geographical content, you are able to experience a more realistic view of the world. You can fly to your favorite place, search for

businesses and even navigate through directions. It's all up to you!

Although the options within Google Earth are endless, here are a few things you can do:

- **Discover the Earth:** Fly to any location in the world, learn about a city and its geographic features, find local businesses, and create tours.
- **Explore the Sky:** Enjoy the wonders of the heavens and learn about our solar system.
- **Dive in the Ocean:** Go beneath the surface and visit the depths of the ocean and explore the planet's deepest underwater canyons. Learn about ocean observations, climate change, and endangered species. You can even discover new places to surf, dive and fish.
- **Walk on the Moon:** Take tours of landing sites narrated by Apollo astronauts and view 3D models of landed spacecraft.
- **Visit Mars:** Travel the Red Planet and explore NASA's latest imagery of our galactic neighbor.

Google Earth is simply your ticket to explore the Universe!

To explore the earth in 3D view:

1. Go to <http://www.google.co.in/earth/>



2. Click Download
3. After completion of download, open Google Earth.



4. Search any location in 3D view.

Most useful Google Operators

The following table lists the search operators that work with each Google search service. There is no space between operator and keyword. Ex. **software site:www.download.com**

Operator	Example
Site:	software site:www.download.com will find all sites containing the word software , located within the download.com domain
Intitle:	intitle:google hacking will find all sites with the word google in the title and hacking in the text
Allintitle:	allintitle:google hacking will find all sites with the words google and hacking in the title
Inurl:	inurl:google hacking will find all sites containing the word hacking in the text and google in the URL
Allinurl:	allinurl:google hacking will find all sites with the words google and hacking in the URL
filetype: (or ext)	filetype:pdf hacking will return PDFs containing the word hacking , while filetype:xls hacking will return Excel spreadsheets with the word hacking
Numrange:	numrange:50000-100000 car will return sites containing a number from 50000 to 100000 and the word car . The same result can be achieved with 50000..100000 car
Link:	link:www.google.com will return documents containing one or more links to www.google.com
Inanchor:	inanchor:hacking will return documents with links whose description contains the word hacking (that's the actual link text, not the URL indicated by the link)
Allintext:	allintext:google hacking will return documents which contain the phrase google hacking in their text only
cache:	cache:www.timesofindia.com will display Google's cached

	version of a web page, instead of the current version of the page.
info: (or id:)	info:www.google.com will find the information about www.google.com
related:	related:www.timesofindia.com will find websites related to the timesofindia website.
~	~hacking will find the synonym
“ ”	“windows hacking” will find the phrase
OR	computer OR laptop will find the results include either search term.
-	ipod -itunes use - immediately before a search term you want to exclude
+	+the use + immediately before automatically excluded search terms that you want included

Google help center

If you have the curiosity about Google, then the following website helps you out.



Help Center	Website
Google Help Center	https://support.google.com
Google+ Help center	https://support.google.com/plus
Google Play Help center	https://support.google.com/googleplay
YouTube Help center	https://support.google.com/youtube
Gmail Help center	https://support.google.com/mail
Web Search Help center	https://support.google.com/websearch
Google Map Help center	https://support.google.com/maps
Google Chrome Help center	https://support.google.com/chrome/
Google Features	www.google.com/insidesearch/features/

1. Login to your **Facebook** account.



2. Click on the Arrow dropdown and then **Settings**.
3. In **General** tab Click on **Download a Copy** at the bottom of page to backup your Facebook data.
4. Click on **Start My Archive** button twice.
5. Click on **Confirm** button.
6. Now, Facebook will generate your personal archive and send to your default Email ID when it's ready.

Facebook shortcut keys

Facebook has shortcuts (access keys) for people who only use their keyboards to navigate.

Find the right combination of keys for your browser in the list below, and replace # with the access key number listed under **Access Keys** below.

- **Internet Explorer for PC:** Alt + #, then Enter
- **Firefox for PC:** Shift + Alt + #
- **Safari for Mac:** Ctrl + Opt + #
- **Firefox for Mac:** Ctrl + Opt + #
- **Chrome for Mac:** Ctrl + Opt + #
- **Chrome for PC:** Alt + #

Access Keys

- 0 - Help
- 1 - Home
- 2 - Timeline
- 3 - Friends
- 4 - Inbox
- 5 – Notifications
- 6 – Settings
- 7 - Activity Log
- 8 - About
- 9 - Terms

Keyboard Shortcuts

News Feed

- j and k - Scroll between News Feed stories
- enter/return - See more of the selected story
- p - Post a new status
- l - Like or unlike the selected story
- c - Comment on the selected story
- s - Share the selected story
- o - Open an attachment from the selected story
- / - Search
- q - Search chat contacts
- ? - Open a list of these keyboard shortcuts while in News Feed

Web Messenger:

- CTRL + g - Search conversations
- CTRL + q - Show/hide keyboard shortcuts
- CTRL + Delete - Archive/unarchive conversation
- CTRL + j - Mark as spam
- CTRL + m - Start a new message
- CTRL + i - Go to Inbox
- CTRL + u - Go to Other

How to deactivate or permanently delete a Facebook account

If you would like to delete your Facebook account, then

1. Login to your **Facebook** account.
2. Click on the Arrow dropdown and then **Settings**.



3. On the **Security** tab click on **Deactivate Your Account** at the bottom of page.
4. Confirm Facebook **Account Deactivation** page will load. Select one of the **reasons** why you want to delete your Facebook account and click on **confirm** button.
5. Your facebook account will be deactivated after again choosing the **Deactivate** button on next step.

If you would like to delete your Facebook account permanently with no option for recovery, then

1. Log in to your Facebook account.
2. Open https://www.facebook.com/help/delete_account in your browser
3. Click on delete my account.

Your facebook account will be deleted after choosing **reasons** why you want to delete your Facebook account and click on **confirm** button.

Post blank status and comment on facebook

This is an amazing trick to post blank status and comments on Facebook means your status update shows nothing and your friends will be amazed to see this.

Updating Blank Status

To update a blank status,

1. Log in to your Facebook account.
2. Click on Update Status box and Press the ALT key, hold it, and type 0,1,7,3 without those commas (ALT+0173).
3. Click on **Post**.

Tips: If you want to post multiple blank lines, then you should type the above code line by line.

Posting Blank Comments

Posting a blank comment is pretty much the same as creating a blank file or folder in windows. If you missed that article, catch it now.

Okay, so to post a blank comment all you have to do is press the ALT key, hold it, and type 0,1,7,3 without those commas (ALT+0173). Remember, do not release the alt key while typing. Now leave

all the keys and press enter.

Insert symbols and characters in Facebook status and comments

This is a cool trick to update Facebook status

1. Log in to your Facebook account.
2. Go to <http://fsymbols.com/>
3. Click and Copy the symbols and characters which you want to insert in facebook status
4. Paste it in your facebook status and comments



Note : Another website for your interest

<http://www.symbols-n-emoticons.com/p/facebook-emoticons-list.html>

How to block people/apps/events/pages on facebook

To do this,

1. Log into your Facebook account.
2. Click on the Arrow dropdown and then Settings.



3. Click on Blocking on the left panel.
4. Then block anything you want.

View Facebook Photos in Full Screen Mode

Now Facebook has published out new photo viewer. This feature allows users to view Facebook photos in full screen mode.

1. First open a photo by clicking on it.
2. Place the mouse pointer on it and click on **Options** at the bottom right of the photo.
3. Click on **Enter Fullscreen** for view facebook photos in full screen mode.

4. That's it and now use **Esc** key for exit full screen mode.

How to find if somebody hacked your facebook account

Now-a-days everybody wants to know everyone's facebook password. So if they will get your password then your facebook account will be used in a bad way. This is a method to know who opens your account silently. To do this,

1. Login to your **Facebook** account.
2. Click on the Arrow dropdown and then **Settings**.



3. Click on **Security** tab, choose **Where You're Logged In** option.

Find out the locations with time and devices to trace out whether you logged in or not at that time.

4. If you want to logout from that session then click on **End Activity**.

How to Block Facebook Applications Forever

1. Log into your Facebook account.
2. Click on the **Home-dropdown** and then **Privacy Settings**.
3. Click on **Edit settings** under **Ads, Apps and Websites** section.
4. Click on **Edit settings**.
5. Close all platform apps one by one.

Who can look me up? On Facebook

1. Log into your Facebook account.
2. Click on the Arrow dropdown and then **Settings**.
3. Click on **Privacy** tab
4. Under the **Who can look me up?** Edit your desired settings.

Facebook Emoji

Facebook includes a long list of emoji and emoticons that users can use in messages, status updates, comments and basically any place there is text on Facebook. You can use the emoji keyboard on your iPhone or Android, but you can also type out [Facebook emoticon](#) short codes in Facebook.

FACEBOOK EMOTICON	SHORT CODE	NAME
	(y)	Like
	O:)	Angel
	3:)	Devil
	8-)	Glasses
	<3	Heart
	:*	Kiss
	.v	Pac Man
	<(")	Penguin
	:[]	Robot
	(^^)	Shark
	:-o	Gasp
	:p	Tongue Out
	^ _ ^	Kiki
	8-	Sunglasses
	:poop:	Poop
	:3	Goofy Face / Cat

The list of Facebook emoticons above includes the short code that you need to type in to Facebook to make the emoji. You can also copy and paste the short code from this list.

The method is very cool as you will no need to individually invite all your friends to like your page as you will be just converting the Facebook profile into the page. So just follow up some of simple steps below to proceed.

1. First of all login into your profile which you want to migrate to a Facebook page.
2. Now open the [link to migrate your profile](#).
3. Now you will see all the category in which you can change your page, select any of your choice or need.
4. Now agree the Facebook terms and conditions and proceed.
5. Note that converting your facebook profile into a page will lost all your facebook data and your friends will convert into your page likes.
6. Facebook will ask you some security question while proceeding answer them and proceed.
7. That is it you are done now your profile get completely converted into a page, share your links and media there.

Verify Facebook Page or Profile

Facebook Page Verification method only four type of verification of pages or profiles in 2015 which are :-

- Journalists
- Popular Brand or Businesses
- Government Officials
- Celebrities

These are the four categories of pages or profile which can be verified by Facebook with the new method of verification facebook page or profile 2015. Suppose if you have any local business which is popular then Facebook may claimed your page if you are official. And then there is no need to submit any type of request to Facebook for page verification. They automatically claim your page as verified depend on some details and minimum requirements mention by Facebook.

If you have pages mentions above there will be chances to get your page or profile is verified and your Facebook page must be official represent your local business or any personality and may be have some popularity on Facebook. When you create Facebook page fill all the real info about you or your business so Facebook will get to know that your real person. You need to follow some instructions :-

1. **Link To Your Profile or Page From Official Website** on your page or profile which you want to verify facebook page 2015.
2. **Provide accurate information in details about your business** in About Section of Page or Profile.
In About section you must add :

- Significant long and short description,
- Keyword who represent your business,
- Email,
- Official Website,
- Products and
- Verified Facebook Page Location with claimed business address
- And Other details in Page Info tab.
- To send them Facebook page verification “Request a verified Badge” request you need to follow the link given below and fill the real information.

REQUEST FOR FACEBOOK PAGE OR PROFILE VERIFICATION

Click to open the below link

REQUEST A VERIFIED BADGE

Facebook Mentions is only available to people with verified Facebook profiles or Pages. To request a verified badge for your Page, please fill out this form. Fill in the required information and send request and then you are done.

Accept/Reject all Facebook Requests at once

The method is very simple and easy as you just have to use a simple Google Chrome extension that will work for you to accept or rejects all the friends' requests at once. Just follow the simple steps discussed below to proceed.

1. First of all in Google Chrome Browser open and install the extension **Facebook Friends Requests Accept/Reject** from [here](#).
2. Now a Facebook Friends Requests Accept/Reject icon at right top corner of chrome.
3. Now open the link <https://www.facebook.com/friends/requests> and you will see all the Facebook request of your account.
4. Now click on the **Facebook Friends Requests Accept/Reject** icon at right top corner of chrome.
5. Now it will ask you for accept all or reject all just select according to your wish and then refresh the page.
6. Now you will see all friends request will be accept or reject accordingly you had selected.

Delete all Facebook Messages at once

1. First of all you need a simple browser extension that is available for both the Google Chrome and Mozilla Firefox.
2. For Google Chrome download and install it from [here](#) and For Mozilla Firefox download and install it from [here](#).
3. Now after you installed these browser extension just proceed with login into your Facebook account whose messages you want to delete.
4. Now go to your Facebook inbox where you will see all the messages that you have done with your friends.
5. Now at the top right corner of your browser you will see Facebook **Delete All Message Extension's** icon, just click on it.
6. Now after clicking on it you will receive a popup confirming your action to delete all Facebook messages just confirm it.
7. After a moment you will see All Chat History will get deleted.

[Hide last seen in Facebook chat](#)

HIDE LAST SEEN IN FACEBOOK CHAT IN GOOGLE CHROME

1. First of all install and open the Google Chrome Browser of your computer.
2. Now in the browser open the link by clicking [here](#).
3. Now you will see **Facebook unseen extension** in the page displayed.
4. Now click on install there and installation process will begin and the extension will get added in your browser.
5. That's it you are done now you can easily see all the message without showing the seen on that with this extension.

HIDE LAST SEEN IN FACEBOOK CHAT IN MOZILLA FIREFOX

1. First of all install and open the Mozilla Firefox Browser of your computer.
2. Now install the plugin **stealth** by clicking [here](#).
3. That's it you are done now you can easily see **all the message without showing the seen** on that with this extension.

[Wayback Machine](#)

It is a digital archive of the World Wide Web and other information on the Internet created by the Internet Archive, a non-profit organization, based in San Francisco, California. It was set up by Brewster Kahle and Bruce Gilliat, and is maintained with content from Alexa Internet. The service enables users to see archived versions of web pages across time, which the Archive calls a "three dimensional index."

Since 1996, they have been archiving cached pages of web sites onto their large cluster of Linux nodes. They revisit sites every few weeks or months and archive a new version if the content has changed. The intent is to capture and archive content that would otherwise be lost whenever a site is changed or closed down. Their grand vision is to archive the entire Internet.

The name Wayback Machine was chosen as a droll reference to a plot device in an animated cartoon series, The Rocky and Bullwinkle Show. In one of that animated cartoon's component segments, Peabody's Improbable History, lead characters Mr. Peabody and Sherman routinely used a time machine called the "WABAC machine" (pronounced wayback) to witness, participate in, and, more often than not, alter famous events in history.

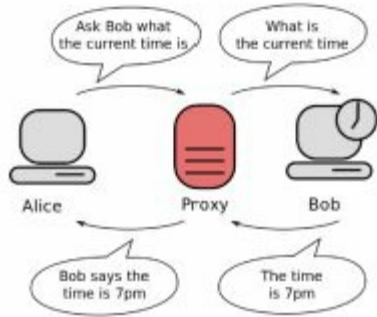
1. Go to <http://archive.org/web/>



2. Then in the search bar enter the Website URL, which you wish to go back in it.
3. Then click on **BROWSE HISTORY**.
4. Select a date on that calendar and go you are now seeing the page of history of that website.

WEB proxy server or HTTP proxy server

In computer networks, a proxy server is a server (a computer system or an application) that acts as an intermediary for requests from clients seeking resources from other servers. A client connects to the proxy server, requesting some service, such as a file, connection, web page, or other resource available from a different server and the proxy server evaluates the request as a way to simplify and control its complexity. Proxies were invented to add structure and encapsulation to distributed systems. Today, most proxies are web proxies, facilitating access to content on the World Wide Web and providing anonymity.



Communication between two computers (shown in grey) connected through a third computer (shown in red) acting as a proxy. Bob does not know whom the information is going to, which is why proxies can be used to protect privacy.

List of WEB proxy servers or HTTP proxy servers

<https://www.hidemyass.com/proxy>

<https://zend2.com/>

<https://kproxy.com/>

<https://hide.me/en/proxy>

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

<https://www.filterbypass.me/>

<https://zendproxy.com/>

www.anonproxy.eu/

www.cyberghostvpn.com/en/proxy

<http://proxy.org/>

Glype

A web-based proxy script is hosted on a website which provides a proxy service to users via a web browser. A proxy service downloads requested web pages, modifies them for compatibility with the proxy, and forwards them on to the user. Web proxies are commonly used for anonymous browsing and bypassing censorship and other restrictions.

Glype : <https://www.glype.com/>

Glype Downloader : <https://www.glype.com/download.php>

Glype is a web-based proxy script written in PHP which focuses on features, functionality, and ease of use. Webmasters use Glype to quickly and easily set up their own proxy sites. Glype helps users to defeat Internet censorship and be anonymous while web browsing. There have been over 949,000 downloads of Glype since 2007. Thousands of web-based proxy websites are powered by Glype.

Glype Features

- Free for personal use and licensing options are available for commercial use.
- Source Viewable and webmasters may modify the source code subject to the terms of the Software License Agreement.
- Plug and Play. Simply upload, configure and go!
- Admin Control Panel for easy management and configuration.
- JavaScript Support provides increased compatibility with websites.
- Skinnable. A theme system allows for customization of your proxy.
- Access Controls blacklist users by IP address and websites by domain name.
- Blocked.com Integration protects the proxy by blocking specified countries, filtering companies, malicious traffic, bots and spiders, and more.
- Unique URLs provide greater privacy by expiring URLs in the browser history at the end of a browsing session.
- Plugins allow for easy installation of site-specific modifications. Useful for adding new functionality to websites.
- Advanced Options let users change their user-agent and referrer, manage cookies, and remove JavaScripts and Flash.

Hide-My-IP.Com

This is a tool which, once installed on your computer, will allow you to bypass censorship, hide your identity and surf the internet anonymously.

<https://www.hide-my-ip.com/>

Surf anonymously, prevent hackers from acquiring your IP address, send anonymous email, and encrypt your Internet connection. Protect your online privacy by changing your IP with Hide My IP.



HIDE MY IP



(888) 343-6722

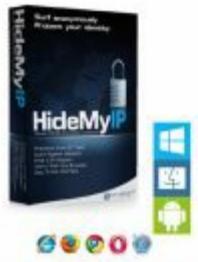
Mon-Fri 9AM-5PM EST

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Windows Mac Linux iPhone iPad iPod Touch Android



JonDo – the IP changer



<https://anonymous-proxy-servers.net/en/jondo.html>

You may use JonDonym for anonymous surfing, anonymous e-mail, chats and other purposes. JonDo, formerly JAP, is the ip changer proxy tool you have to install on your computer. It acts as a proxy and will forward the traffic of your internet applications multible encrypted to the mix cascades and so it will hide your ip address. It is a Java application, open source and you can download it for free. You may use JonDonym for free, but free mix cascades are restricted in some cases.

JonDo will provide an anonymisation proxy for you, but it does NOT change your system setting. You have to configure the proxy setting of each internet application you want to use anonymous with JonDonym by self.

VPN (Virtual Private Network) Services

What's a VPN service? If you've ever had to connect to a corporate network while working remotely, you may already be familiar with the technology. In simplest terms, you are creating a secure, encrypted connection between your computer and your company's VPN server. This tunnel essentially makes you part of the company's network, as if you are physically sitting in the office. All your network traffic passes through this protected tunnel, and no one in the hotel you are staying in can see what you are up to. The VPN service is essentially the same idea, except the VPN provider is not letting you have access to its network, but rather offering secure access to the Internet.

Think about it this way: if your car pulls out of your driveway, someone can follow you and see where you are going, how long you are at your destination, and when you are coming back. With a VPN service, you are essentially driving into a closed parking garage, switching to a different car, and driving out, and no one who was originally following you knows where you went.

There is a caveat to this metaphor, though. Just as the person who was following you could figure out

where you went if he or she happened to be at the supermarket when you got out of the car, there are complicated timing algorithms that can figure out your activity at the exact moment you leave the encrypted tunnel. VPN services, while tremendously helpful, are not fool-proof. As with anything else on the Internet, don't do anything stupid.

There are several reasons why you should use VPN services: to change your IP address to something else, to prevent anyone from eavesdropping on your online activity while you are connected to Wi-Fi networks, and to make it harder for online advertisers to track you. There are activists who rely on VPN services to get around government censors to communicate with the outside world. Of course, that may be against the law in countries with strict censorship, so be careful.

VPN services are very useful and we highly recommend using them to protect your online activity from malicious snoops. Yes, you can change your IP address to pretend to be from someplace else in order to access content that may be restricted on a geographic basis. But be smart: don't ignore the company's terms of service in order to get around the geographic restrictions for your own personal gratification. You can't complain if you get caught.

How to Pick a VPN Service

The VPN services market has exploded over the past three years. Many providers are capitalizing on the general population's growing concerns about surveillance and cyber-crime, which means it's getting hard to tell when a company is actually providing a secure service and when it's throwing out a lot of fancy words while selling snake oil. It's important to keep a few things in mind when evaluating which VPN service is right for you: reputation, performance, type of encryption used, transparency, ease of use, support, and extra features. Don't just focus on price.

Despite widespread agreement that VPN services are important to online privacy, you don't actually see a lot of big-name security companies getting into the game. Symantec was one of the first security companies to dip its toe into the VPN pool, but it has since discontinued its Norton Hotspot Privacy product. F-Secure (Freedome) and Avast! (SecureLine) are among the few security companies still in the space. Most VPN providers tend to be stand-alone companies, such as Spotflux and AnchorFree (Hotspot Shield Elite), which makes it a little harder to figure out who to trust. I tend to trust companies that have been around a little longer, just because if they are terrible to their customers, then it would be easier to uncover the complaints than if the company just popped up a year ago. But your mileage may vary when looking at the company reputation.

Performance is a must when considering VPN services. When you didn't have a lot of choices, you expected to have hiccups and lags while online. Now that there are services that still give you a great experience online while keeping you secure, there is no reason to accept slow speeds or servers which are frequently offline. We spend about a week testing each service at varying times of the day and from different locations to make sure we get a good idea of what the overall service is like. Look for services that provide a free trial, and take advantage of it. Make sure you are happy with what you sign up for, since most of them will not give you any refunds. This is actually why I also recommend starting out with a short term—a week or a month—to really make sure you are happy. Yes, you may get that discount by signing up for a year, but that's a lot of money to lose if you realize the service doesn't meet your performance needs.

I am not a cryptography expert so I can't verify all of the encryption claims providers make. I do know that when I looked at my network traffic using tools such as Wireshark, they were encrypted. I verified that what URLs I visited and what data I was submitting on forms were not transmitted in plaintext. At the very least, there would be no virtual eavesdropping by the person sitting in the coffee shop. I prefer providers that use OpenVPN—it's a standard, and it's a lot better than the common (and older) PPTP. I am not saying do not use PPTP—it's still preferable to not having anything at all.

Transparency is a big one for me. Is it easy to find the terms and conditions and privacy policy for the service? Does the privacy policy spell out what the service does, what it collects, and what its responsibilities are? There are companies that explain they collect some information but aren't clear on how it is being used. Some—like HideIPVPN—tell you upfront that P2P and torrenting is not allowed, and that they will cancel your account if they suspect you of using it while connected to their service. I appreciated TorGuard's clear explanation of how it keeps track of payment card information without maintaining any logging information. Find out where the company is based—some countries don't have data retention laws so it is easier to keep the "We don't keep any logs" promises.

What kind of user are you? Some people are comfortable setting up the service by downloading a configuration file and importing it into the OpenVPN client. Others just want a simple executable to download, install, and be up and running. Or you may prefer something small and invisible operating in the background you don't have to think about.

A decent VPN service should be easy enough to use that you don't have to worry about support. But you want help available for when things go wrong. Online tutorials and extensive documentation should be a must. Chat support and phone support are definitely useful for those times when you just need to get a person online. If the service accepts alternate payments, that's a good thing to look at. I've yet to use Bitcoin to sign up for any of these services, but I've used pre-paid cards to sign up for some. It's a little bit more work, but sometimes, it's not a bad idea to keep some payments separate from your main credit card.

Finally, know what you are looking for. Do you just want a vanilla VPN service that just encrypts your connection and gives you a brand-new IP address? Or are you looking for something more? I personally prefer a service which acts proactively and shuts down certain applications if my VPN connection drops suddenly (Kill Switch). Perhaps you want the service to automatically turn on—or prompt you to turn on—if you launch a browser. Or you want some kind of network metering so that you can track your usage. Perhaps you want to block aggressive advertising trackers. If you are a heavy BitTorrent user, don't select a VPN service which specifically says it won't allow P2P or torrents.

Useful Extensions and Add-ons

For Google Chrome : <https://chrome.google.com/webstore/category/extensions>

AdBlock

The original AdBlock for Chrome. Block all advertisements on all web pages, even Facebook, Youtube, and Hulu.

It works automatically: just click "Add to Chrome," then visit your favorite website and see the ads disappear!

You can also get AdBlock for Safari, Opera, and Firefox from getadblock.com.

Adblock for Youtube

Removes the video ads from Youtube

Facebook AdBlock

Tired of Facebook ads?

No problem ! Just install this AdBlock extension and all your problems are gone.

This Facebook AdBlock will remove the ads from your Facebook page, to leave you with clean Facebook pages.

Photo Zoom for Facebook

Join nearly 5 million people using Photo Zoom for Facebook, the Highest Rated Most Popular Extension for Google Chrome!

FlashControl

FlashControl prevents Flash content from loading unless you allow it.

Google Dictionary (by Google)

View definitions easily as you browse the web.

Google Mail Checker

Displays the number of unread messages in your Google Mail inbox. You can also click the button to open your inbox.

Popup Blocker Pro

Blocks unwanted popups and popunders on sites you visit.

You will see a notification when any popup is blocked. You can add sites to whitelist to ignore this.

White list is synchronised to all chrome browsers that you are signed in.

Ghostery

Protect your privacy. See who's tracking your web browsing with Ghostery.

Silver Bird

Silver Bird is a Twitter extension that allows you to follow your timelines and interact with your Twitter account.

WOT

WOT helps you find trustworthy websites based on millions of users' experiences and is one of Chrome's most popular add-ons

Video Downloader professional

Download videos from web sites or just collect them in your video list without downloading them.

Turn Off the Lights

The entire page will be fading to dark, so you can watch the videos as if you were in the cinema

LastPass: Free Password Manager

LastPass, an award-winning password manager, saves your passwords and gives you secure access from every computer and mobile device

Click&Clean

Deletes typed URLs, Cache, Cookies, your Download and Browsing History...instantly, with just 1-click on Click&Clean button

Speed Dial [FVD]

New Tab Page Replacement with 3D Speed Dial and predefined images, sync and organize your bookmarks, groups, and most visited

Facebook Invite All

Automatically invite all your facebook friends to Events or Pages with just one click

Todoist: To-Do list and Task Manager

Todoist is the leading online to-do list and task manager. We manage millions of to-dos and we are ready to manage yours as well!

Emoji Input by EmojiStuff.com

Allows you to see and input emoji on any website. Can replace Twitter and Gmail style emoji with iPhone style emoji.

Buffer

Buffer is the best way to share great content to Twitter, Facebook and LinkedIn from anywhere on the web, with just one click.

Evernote Web Clipper

Use the Evernote extension to save things you see on the web into your Evernote account.

Tampermonkey

The most popular userscript manager for Blink-based browsers

feedly Mini

The easiest way to add content to your feedly.

Proxy SwitchySharp

Manage and switch between multiple proxies quickly & easily. Based on "Proxy Switchy!" & "SwitchyPlus"

Pushbullet

Bringing together your devices, friends, and the things you care about.

RSS Feed Reader

Get a simple overview of your RSS and Atom feeds in the toolbar

For Mozilla Firefox : <https://addons.mozilla.org/en-US/firefox/extensions/>

Adblock Plus

Adblock Plus blocks all annoying ads, and supports websites by not blocking unobtrusive ads by default (configurable).

Video DownloadHelper

The easy way to download and convert Web videos from hundreds of YouTube-like sites.

NoScript Security Suite

The best security you can get in a web browser!

Allow active content to run only from sites you trust, and protect yourself against XSS and Clickjacking attacks.

Ghostery

Protect your privacy. See who's tracking your web browsing and block them with Ghostery.

Speed Dial [FVD]

FVD Speed Dial - Speed dial button, Online Synchronization, New Tab Start Page, Organize bookmarks, Custom backgrounds, custom dials, organized groups, most visited dials.

Tab Mix Plus

Tab Mix Plus enhances Firefox's tab browsing capabilities. It includes such features as duplicating tabs, controlling tab focus, tab clicking options, undo closed tabs and windows, plus much more. It also includes a full-featured session manager.

YouTube Video and Audio Downloader

Downloads YouTube videos in all available formats (FLV, MP4, WebM, and 3GP) with

video quality of your choice. It also contains a pure JavaScript library to extract the ORIGINAL audio file embedded in video files.

Web Developer

The Web Developer extension adds various web developer tools to the browser.

X-notifier (for Gmail,Hotmail,Yahoo,AOL ...)

Notifier for gmail, yahoo, hotmail, aol and more webmails.

X-notifier(aka WebMail Notifier) checks your webmail accounts and notifies the number of unread emails...

Supports : gmail, yahoo, hotmail, POP3/IMAP, facebook, twitter and more

Web of Trust – WOT

Find out which websites you can trust. WOT adds intuitive traffic light-style icons next to search results and URLs to help you make informed decisions about whether to visit a site or not.

FoxyProxy Standard

FoxyProxy is an advanced proxy management tool that completely replaces Firefox's limited proxying capabilities. For a simpler tool and less advanced configuration options, please use FoxyProxy Basic.

Fastest Search - Browse/Shop Faster!

Search/browse/shop faster than ever! Ctrl-Shift-F for whole-word/regex/all tabs/diacritic search;create custom engines;shopping assistant compares price;Smart SearchBox;Preview results;Auto copy plain text, dnd save image/open link.

DownThemAll!

The first and only download manager/accelerator built inside Firefox!

LastPass Password Manager

LastPass, an award-winning password manager, saves your passwords and gives you secure access from every computer and mobile device.

AutoProxy

Are you concerned about your privacy? Or, are you blocked from some websites by a firewall? And, are you arming yourself with a proxy? In that case, AutoProxy is designed for you! A tool to help you use your proxy automatically & efficiently.

KeeFox

Simple and secure password management. Login automatically, never forget another password, stay in control of your passwords and improve their security. Powered by the world-renowned KeePass Password Safe.

LeechBlock

LeechBlock is a simple productivity tool designed to block those time-wasting sites that can suck the life out of your working day. All you need to do is specify which sites to block and when to block them.

CHAPTER 13

Top Most

Hackers

Kevin Mitnick : a.k.a The Condor, The Darkside Hacker



Kevin David Mitnick (born August 6, 1963) is an American computer security consultant, author and hacker.

He was once the most wanted cybercriminal in the world. He had an obsession with computers that escalated into a two and half year hacking spree where he stole millions of dollars of corporate secrets from IBM, Motorola, telecom companies and even the National Defense warning system.

At age 15, Mitnick used social engineering and dumpster diving to bypass the punch card system used in the Los Angeles bus system. After a friendly bus driver told him where he could buy his own ticket punch, he could ride any bus in the greater LA area using unused transfer slips he found in the trash. Social engineering later became his primary method of obtaining information, including user-names and passwords and modem phone numbers.

Mitnick first gained unauthorized access to a computer network in 1979, at 16, when a friend gave him the phone number for the Ark, the computer system Digital Equipment Corporation (DEC) used for developing their RSTS/E operating system software. He broke into DEC's computer network and copied their software, a crime he was charged with and convicted of in 1988. He was sentenced to 12 months in prison followed by three years of supervised release. Near the end of his supervised release, Mitnick hacked into Pacific Bell voice mail computers. After a warrant was issued for his arrest, Mitnick fled, becoming a fugitive for two and a half years.

According to the U.S. Department of Justice, Mitnick gained unauthorized access to dozens of computer networks while he was a fugitive. He used cloned cellular phones to hide his location and,

among other things, copied valuable proprietary software from some of the country's largest cellular telephone and computer companies. Mitnick also intercepted and stole computer passwords, altered computer networks, and broke into and read private e-mail. Mitnick was apprehended on February 15, 1995, in Raleigh, North Carolina. He was found with cloned cellular phones, more than 100 clone cellular phone codes, and multiple pieces of false identification.

In 1999, he was convicted of various computer and communications-related crimes. At the time of his arrest, he was the most-wanted computer criminal in the United States.



Since 2000, Mitnick has been a paid security consultant, public speaker and author. He does security consulting for Fortune 500 companies, performs penetration testing services for the world's largest companies and teaches Social Engineering classes to dozens of companies and government agencies.

Vladimir Levin : a.k.a Vova

First internet bank robber

He is a Russian-born Jewish individual famed for his involvement in the attempt to fraudulently transfer USD 10.7 million via Citibank's computers.



He was delivered into U.S. custody in September 1997, and tried in the United States District Court for the Southern District of New York. In his plea agreement he admitted to only one count of conspiracy to defraud and to stealing US\$3.7 million. In February 1998 he was convicted and sentenced to three years in jail, and ordered to make restitution of US\$240,015. Citibank claimed that all but US\$400,000 of the stolen US\$10.7 million had been recovered.

In 2005 an alleged member of the former St. Petersburg hacker group, claiming to be one of the original Citibank penetrators, published under the name ArkanoiD a memorandum on popular Provider.net.ru website dedicated to telecom market. According to him, Levin was not actually a scientist (mathematician, biologist or the like) but a kind of ordinary system administrator who managed to get hands on the ready data about how to penetrate in Citibank machines and then exploit them.

ArkanoiD emphasized all the communications were carried over X.25 network and the Internet was not involved. ArkanoiD's group in 1994 found out Citibank systems were unprotected and it spent several weeks examining the structure of the bank's USA-based networks remotely. Members of the group played around with systems' tools (e.g. were installing and running games) and were unnoticed by the bank's staff. Penetrators did not plan to conduct a robbery for their personal safety and stopped their activities at some time. One of them later handed over the crucial access data to Levin (reportedly for the stated \$100).

In 2005 an anonymous hacker group came claiming that they were the ones truly responsible for the theft and that they only sold Vladimir the data needed to steal the money.

Gary McKinnon : a.k.a Solo



He was known by his Internet handle, "Solo." Using that name, he coordinated what would become the largest military computer hack of all time. The allegations are that he, over a 13-month period from February 2001 to March 2002, illegally gained access to 97 computers belonging to the U.S. Armed Forces and NASA.

He claimed that he was only searching for information related to free energy suppression and UFC activity cover-ups. But according to U.S. authorities, he deleted a number of critical files, rendering over 300 computers inoperable and resulting in over \$700,000 in damages.

Being of Scottish descent and operating out of the United Kingdom, he was able to dodge the American government for a time. As of today, he continues to fight against extradition to the United States.

Mathew Bevan (a.k.a Kuji) and Richard Pryce (a.k.a Datastream Cowboy)



This British hacking duo took the U.S. government for a ride when they attacked the Pentagon's

network for several weeks in 1994. They copied battlefield simulations from Griffiss Air Force Base in New York, intercepted messages from U.S. agents in North Korea, and got access into a Korean nuclear facility. Pryce was a 16-year-old then, and Bevan was 21 (he's thought to have been tutoring Pryce).

The hacking attacks were especially troublesome for the U.S. government because they couldn't tell if the duo was using their system to hack into a South or North Korea - if it were North Korea, the attacks could've been seen as an act of war. Luckily, South Korea was the hackers' target, and after an international investigation, they were arrested in the following year.

Michael Calce : a.k.a *MafiaBoy*



*He was a high school student from West Island, Quebec, who launched a series of highly publicized denial-of-service attacks in February 2000 against large commercial websites, including Yahoo!, Fifa.com, Amazon.com, Dell, Inc., E*TRADE, eBay, and CNN. He also launched a series of failed simultaneous attacks against 9 of the 13 root name servers.*

On February 7, 2000, Calce targeted Yahoo! with a project he named Rivolta, meaning "riot" in Italian. Rivolta was a denial-of-service attack in which servers become overloaded with different types of communications to the point where they shut down completely. At the time, Yahoo! was a multibillion dollar web company and the top search engine. Mafiaboy's Rivolta managed to shut down Yahoo! for almost an hour. Calce's goal was, according to him, to establish dominance for himself and TNT, his cybergroup, in the cyberworld. Buy.com was shut down in response. Calce responded to this in turn by bringing down Ebay, CNN, Amazon and Dell.com via DDoS over the next week.

In a 2011 interview, Calce tried to redeem his image by saying that the attacks had been launched unwittingly, after inputting known addresses in a security tool he had downloaded from a repository on the now defunct file-sharing platform Hotline, developed by Hotline Communications. Calce would then have left for school, forgetting the application which continued the attacks during most of the day. Upon coming home Calce found his computer crashed, and restarted it unaware of what had gone on during the day. Calce claimed when he overheard the news and recognized the companies mentioned being those he had inputted earlier in the day that he "started to understand what might have happened".

Adrian Lamo : a.k.a *The Homeless hacker*

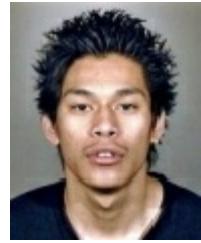


He was a mobile hacker who launched his work from the confines of Internet cafes, libraries or coffee shops. He actually did it just as a challenge and for fun, as he would regularly break into computer systems and then immediately tell the owner of the network about its vulnerability. He even made himself an expert by adding his name to the database of the New York Times.

Lamo first gained media attention for breaking into several high-profile computer networks, including those of The New York Times, Yahoo!, and Microsoft, culminating in his 2003 arrest. In 2010, Lamo reported U.S. soldier PFC Bradley Manning (now known as Chelsea Manning) to federal authorities claiming that Manning had leaked hundreds of thousands of sensitive U.S. government documents to WikiLeaks. Manning was arrested and incarcerated in the U.S. military justice system and later sentenced to 35 years in confinement.

Jeanson James Ancheta : a.k.a Resilient

He became the first person to be charged for controlling large numbers of hijacked computers or botnets on May 9, 2006.



In 2004 he started to work with botnets rxbot, a computer worm that can spread his net of infected computers which gave him control to 500,000 computers including US military computers.

In November 2005 he was captured in an elaborate sting operation when FBI agents lured him to their local office on the pretext of collecting computer equipment. The arrest was part of the Operation Bo1 Roast.

On May 9, 2006 Ancheta pleaded guilty to four felony charges of violating United States Code Section 1030, Fraud and Related Activity in Connection with Computers. Ancheta must serve 60 months in prison, forfeit a 1993 BMW and more than \$58,000 in profit. He must also pay restitution of \$15,000 US to the U.S. federal government for infecting the military computers.

Jonathan James : a.k.a c0mrade

He (December 12, 1983 – May 18, 2008) was an American hacker who was the first juvenile incarcerated for cybercrime in the United States. The South Florida native was 15 years old at the time of the first offense and 16 years old on the date of his sentencing.



What is his ticket to fame? He was convicted and sent to prison for hacking in the United States—all while he was still a minor. At only fifteen years of age, he managed to hack into a number of networks, including those belonging to Bell South, Miami-Dade, the U.S. Department of Defense, and NASA.

Yes, James hacked into NASA's network and downloaded enough source code to learn how the International Space Station worked. The total value of the downloaded assets equaled \$1.7 million. To add insult to injury, NASA had to shut down their network for three whole weeks while they investigated the breach, which cost them \$41,000.

The story of James has a tragic ending, however. In 2007, a number of high profile companies fell victim to a massive wave of malicious network attacks. Even though James denied any involvement, he was suspected and investigated. In 2008, James committed suicide, believing he would be convicted of crimes that he did not commit.

Albert Gonzalez



He paved his way to Internet fame when he collected over 170 million credit card and ATM card numbers over a period of 2 years. Yep. That's equal to a little over half the population of the United States.

He started off as the leader of a hacker group known as ShadowCrew. This group would go on to steal 1.5 million credit card numbers and sell them online for profit. ShadowCrew also fabricated fraudulent passports, health insurance cards, and birth certificates for identity theft crimes totaling \$4.3 million stolen.

The big bucks wouldn't come until later, when Gonzalez hacked into the databases of TJX Companies and Heartland Payment Systems for their stored credit card numbers. In 2010, Gonzalez was sentenced to prison for 20 years (2 sentences of 20 years to be served out simultaneously).

Kevin Poulsen : a.k.a Dark Dante



He gained his fifteen minutes of fame by utilizing his intricate knowledge of telephone systems. At one point, he hacked a radio station's phone lines and fixed himself as the winning caller, earning him a brand new Porsche. According to media, he was called the "Hannibal Lecter of computer crime."

He then earned his way onto the FBI's wanted list when he hacked into federal systems and stole wiretap information. Funny enough, he was later captured in a supermarket and sentenced to 51 months in prison, as well paying \$56,000 in restitution.

Like Kevin Mitnick, Poulsen changed his ways after being released from prison. He began working as a journalist and is now a senior editor for Wired News. At one point, he even helped law enforcement to identify 744 sex offenders on MySpace.

Anonymous



The concept of being a “digital Robin Hood” was far from being conceived, but in the computer age, it is very likely that someone somewhere has bagged this title. A “hacktivist group” called Anonymous are known with the penname of being the “digital Robin Hood” amongst its supporters. Identified in public by wearing a Guy Fawkes Masks, Anons, as they are widely known, have publicized themselves by attacking the government, religious and corporate websites. The Vatican, the FBI, the CIA, PayPal, Sony, Mastercard, Visa, Chinese, Israeli, Tunisian, and Uganda governments have been amongst their targets. Although, Anons have been arguing whether to engage in a serious activism or a mere entertainment, many of the group members have clarified their intent which is to attack internet censorship and control.

Anonymous originated in 2003 on the imageboard 4chan, representing the concept of many online and offline community users simultaneously existing as an anarchic, digitized global brain.

Beginning with 2008's Project Chanology—a series of protests, pranks, and hacks targeting the Church of Scientology—the Anonymous collective became increasingly associated with collaborative hacktivism on a number of issues internationally. Individuals claiming to align themselves with Anonymous undertook protests and other actions (including direct action) in retaliation against anti-digital piracy campaigns by motion picture and recording industry trade associations.

In 2012, Time called Anonymous one of the "100 most influential people" in the world.

Anons have publicly supported WikiLeaks and the Occupy movement. Related groups LulzSec and Operation AntiSec carried out cyberattacks on US government agencies, media, video game companies, military contractors, military personnel, and police officers, resulting in the attention of law enforcement to the groups' activities. It has been described as being anti-Zionist, and has threatened to erase Israel from the Internet and engaged in the "#OpIsrael" cyber-attacks of Israeli websites on Yom HaShoah (Holocaust Remembrance Day) in 2013.

LulzSec



LulzSec or Lulz Security, a high profile, Black Hat hacker group, gained credentials for hacking into Sony, News International, CIA, FBI, Scotland Yard, and several noteworthy accounts. So notorious was the group that when it hacked into News Corporation's account, they put across a false report of Rupert Murdoch having passed away. While the group claims to have retired from their vile duties, the motto of the group, "Laughing at your security since 2011!" stays alive. There are assertions of the group having hacked into the websites of the newspapers like The Times and The Sun to post its retirement news. Many, however, claim that this group had taken it upon itself to create awareness about the absence of efficient security against hackers.

One of the founders of LulzSec was a computer security specialist who used the online moniker Sabu. The man accused of being Sabu has helped law enforcement track down other members of the organization as part of a plea deal. At least four associates of LulzSec were arrested in March 2012 as part of this investigation. British authorities had previously announced the arrests of two teenagers they allege are LulzSec members T-flow and Topiary.

Astra

Astra, a Sanskrit word for weapon was the penname of a hacker who dealt in the weapon stealing and selling. A 58-year-old Greek Mathematician hacked into the systems of France's Dassault Group, stole vulnerable weapons technology data and sold it to different countries for five long years. While the real identity of the ASTRA remains untraced, officials have said that he had been wanted since 2002. Astra sold the data to approximately 250 people from around the globe, which cost Dassault \$360 millions of damage.