Web Development and Database Administration
Level II
Based on March, 2022 Version-I

MODULE TITLE: Configuring and Using Internet

MODULE CODE: EIS WDDBA2 M03 0322

NOMINAL DURATION: 40 Hours

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September, 2022
Addis Abeba, Ethiopia

Acknowledgment

Ministry of Labor and Skills wish to extend thanks and appreciation to the many representatives of TVET instructors and respective industry experts who donated their time and expertise to the development of this Teaching, Training and Learning Materials (TTLM).

Table of Contents

Acronym and abbreviation words

ARPANET	Advanced Research Projects Agency Network
CSS	Cascading Style Sheets
CERN	Conseil Européen pour la Recherche Nucléaire
DNS	Domain Name System
HTML	Hyper Text Markup Language ·
HTTP:	Hypertext Transfer Protocol
IPV4	Internet Protocol version 4
ISP	Internet Service Provider
PUP	Potentially Unwanted Programs
SVG	Scalable Vector Graphics
TTLM	Training Teaching and Learning Materials
TVET	Technical and Vocational Education and Training
URL	Uniform Resource Locator
WDDBA	Web Development and Database Administration
WWW	World Wide Web

Introduction to module

The internet developed from software called the ARPANET which the U.S military had developed. It was only restricting to military personnel and the people who developed it. Only after it was privatized was it allowed to be used commercially.

The Internet is means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers. When two computers are connected over the Internet, they can send and receive all kinds of information such as text, graphics, voice, video, and computer programs.

To use the above function of the internet the user must use different types of browsers like internet explorer Mozilla Firefox, google chrome, opera and also internet address and web site what you went to browse.

This module is designed to meet the industry requirement under the **Web Development and Database Administration** occupational standard, particularly for the unit of competency: **Configuring and Accessing Internet Services**

This module covers the units:

- Manage internet
- Search internet
- Work as a team member

This guide will also assist you to attain the learning outcome stated in the cover page.
Specifically, upon completion of this Learning Guide, you will be able to: -

- Required to access internet
- Internet or web browser
- Managing web browser
- Adjust view mode
- Setting homepage
- Download and upload image.
- Save book marks
- Managing cookies, history, temporary file
- Security of internet
- Principles of netiquette
- Use different search engine
- Saving search results
- Printing downloaded file
- Communicate with tem member using internet

Module Instruction

For effective use these modules trainees are expected to follow the following module instruction:

1. Read the specific objectives of this Learning Guide.
2. Read the information about unit one content in page
3. Read the information written in unit one from **page 3-22**
4. Read the information written in unit two from **page 31-41**
5. Read the information written in unit three from **page 51-57**
6. Accomplish the "Self-check-1, Self-check-2, and Self-check-3 **in page 23 ,44, 58** respectively
7. If you earned a satisfactory evaluation from the "Self-check" proceed to
    - Operation Sheet for unit one is from 24 -29
    - Operation Sheet for unit two is from 45-49
    - Operation Sheet unit three is from 59 - 62
8. Do the "LAP test for unit one, unit two, unit three" **in page 30,50, 63** respectively

Unit One: Manage Internet

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Introduction to the internet
- Opening different types of internet browsers
- Accessing a particular site using its URL to obtain data and browse links
- Manage the setting of the browsers
- Adjusting display/view modes to suit personal requirements
- Loading necessary files depends on the capability of internet
- Modifying toolbars to meet user and browsing needs
- Deleting cookies and browser history as precaution from virus infection.

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Open Internet browser and adjust a home page of personal choice
- Adjust Display/view modes to suit personal requirements
- Modify toolbar to meet user and browsing needs
- Access and retrieve particular site
- Load or not load Images depending on modem speed, computer and browser capabilities
- Open URL to obtain data and browse link
- Delete Cookies and history of internet browser as precaution from virus infection

1.1. Introduction to the Internet

The Internet is means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers. When two computers are connected over the Internet, they can send and receive all kinds of information such as text, graphics, voice, video, and computer programs.

No one owns Internet, although several organizations the world over collaborate in its functioning and development. The high-speed, fiber-optic cables (called backbones) through which the bulk of the Internet data travels are owned by telephone companies in their respective countries.

The internet developed from software called the ARPANET which the U.S military had developed. It was only restricting to military personnel and the people who developed it. Only after it was privatized was it allowed to be used commercially.

The internet has developed to give many benefits to mankind. The access to information is one of the most important. Student can now have access to libraries around the world. Some charge a fee but most provide free services. Before students had to spend hours and hours in the libraries but now at the touch of a button students have a huge database in front of them.

1.1.1. Basic Internet Terms and Terminology

Here is a look at the buzzwords of the world of Internet.

- **ARPANET**: The acronym stands for Advanced Research Projects Agency Network. ARPA of the United States Department of Defense developed ARPANET, which became the world's first packet switching network. Internet is the successor of ARPANET.
- **Internet Service Provider**: A company, which provides users with an access to the Internet, is known as an Internet service provider or Internet access provider. ISP, as it is called, offers email accounts and other services like remote storage of files for its customers. Here is a word about choosing a cheap ISP.
- **IP Address**: It is a way of numerically identifying an entity on a computer network. The original addressing system known as IPv4, used 32 bit addresses. With the growth of the Internet, IPv6 came to be used wherein the addresses are composed of 128 bits.
- **Cyberspace**: This term coined by William Gibson, is used to refer to the computer networks connected to each other and the content they host. It is often used to refer to the Internet.
- **WWW:** It is a collection of interlinked documents that are accessible over the Internet. It consists of millions of web pages that contain text, images, voice and videos. Sir Tim Berners-Lee, a British scientist working at CERN, created the World Wide Web.

- **Website**: A website is a set of web pages consisting of text, audio and video. Web servers host websites.
- **URL**: It specifies the location of a resource on the Internet. It consists of the basic address and path.
- **Web Page**: Web pages are resources of information. They are generally created in the HTML format and provide the web users with navigational abilities through hyperlinks to other web pages on the web.
- **Home Page**: The term home page is used to refer to the page that is the default page of any website. It is the main page of a complex website.
- **Web Browser**: A web browser is a software application that facilitates user interaction with the text, audio, video and other information that is located on the web.
- **Cache**: Web browsers maintain a cache of recently visited web pages. Some of them use an external proxy web cache, which is a server program through which web requests pass. This enables the browsers to cache frequently visited pages. Even search engines make available already indexed web pages through their caches.
- **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.
- **Web Cookie**: Also known as an HTTP cookie, it is piece of text that is exchanged between the web client and the web server. It is sent by the web server to the web client and returned unchanged by the client each time it accesses the server.
- **Session**: It is an exchange of information between a computer and its user. It is established for a certain period of time after which it ends.
- **Hyperlink**: A reference in a document to another section of the document or to another document is termed as a hyperlink. Hyperlinks are used to redirect the user from one section of a page content to another.
- **Internet Security**: It is one of the major concerns today. As the Internet acts as a communication platform that can be accessed by millions of users around the world, it becomes necessary that proper measures be implemented. Issues like Internet Safety that deal with the content that is made accessible over the Internet are equally important. Internet Privacy relates

to safeguarding the privacy of the web users and the sensitive information on the web from hackers and stalkers.

1.2. Internet browsers

A web browser is the software installed on your computer or mobile that allows you to view web pages. There are many different types of browsers. Some of them are free and some cost money. You can find out which is best for you by comparing the features offered by each browser. If you're having trouble viewing a website with one web browser, try using another one.

It is s a software program that allows a user to locate, access, and display web pages over the internet. The best internet browser isn't necessarily the default one that comes with your device. However, there are a number of very good browsers to choose between, and the right one for you will depend on your requirements.

There are so many types of internet browsers are used to upload or download files for different office intercommunication though it.

Examples of web or internet browser

- Mozilla Firefox
- Chrome
- Microsoft Edge
- Safari
- Opera
- UC Browser
- Chedot Browse

1. **Mozilla Firefox: Best overall**

Mozilla's Firefox is one of the fastest internet browsers we tested for navigating between sites and for fully loading pages. It also proved to be the most secure during our in-house tests using live malware. This browser is compatible with Mac and Windows operating systems, and with Android and iOS cell phones and tablets. It syncs your passwords, bookmarked pages and browser settings so you have access to these – as well as your search history – on other computers and mobile devices. Mozilla includes a privacy browser so you can search online without cookies or other trackers. And you can set this browser to delete all the cookies, cache and browser history each time the browser closes. Mozilla is nicely laid out and has a clean interface, so it's easy to find most tools and features. You can have multiple browser tabs open at once in a single window and rearrange their order by dragging and dropping the tabs. If you accidentally close a tab, or even the entire browser, Firefox will recover it for you.

2. **Chrome: Best for Google Drive**

Google Chrome comes standard on most Android mobile devices, so it is a good choice for cell phones and tablets. Plus we've found that it works a bit better than Firefox on Android devices. Chrome is also a good choice for Windows and Mac computers.

If you use Chrome on multiple devices, logging in to your account will give you quick access to documents you saved in Google Docs, your Gmail messages and your bookmarks, regardless of the device you're on. Search history is also saved with your account, so if you're logged in, terms you've looked for will auto-populate when you start typing in the Google search field on any device.

Chrome lets you set icons on your toolbar so you can quickly get to the pages you visit most often. You can also pin bookmarks to the Google Chrome homepage. It has tabbed browsing so you can have multiple viewing windows open at once and easily toggle between them. During out in-house tests, we noticed Chrome didn't identify as many phishing schemes as Firefox, but it did stop malicious files, including ransomware and Trojans, from opening and infecting our computer. Chrome's privacy browser is available on all devices, including cell phones, to keep your online activity private.

3. **Microsoft Edge: Best for battery life**

Compatibility issues for older Windows machines Microsoft Edge comes standard with computers running the Windows 10 operating system, but it also works on both Android and iOS cell phones. It isn't, however, compatible with older Windows versions. It's much leaner and faster than Internet Explorer, which it replaces. In some respects, it's also a better proposition than Chrome or Firefox. That's because Edge tends to use less memory (RAM) so it will feel faster on older computers and tends to use less power, which is important on a laptop. The trade-off is that it doesn't have the wealth of extensions or apps you'll find with those other browsers.

When we tested Edge's security, it not only warned of phishing schemes and other dangerous websites, but it also blocked malware files from infecting out test devices. Microsoft Edge includes Notes, a tool that lets you highlight works or passages on any webpage and save them to read later.

You can add icons to the toolbar that link you to frequently visited websites and use the URL field to search the web. Edge has sync capabilities so you can access your bookmarks and search history across all your devices. Microsoft is one of the few internet browser developers that offers telephone support if you are having difficulties with its program.

4. **Safari: Best for Macs**

Safari is one of the best choices for Mac devices because it is designed specifically for Apple's machines. It connects quickly and loads full sites faster than any macOS-compatible browser we tested.

Safari takes a moment to learn if you're not already familiar with Mac computers, and you can't customize this browser with toolbars, but you still get tabbed browsing like Firefox and Chrome offer. Safari lets you tag favorite sites and has a reading list where you can save articles or parts of websites to read later. While you're reading an article, Safari has a tool that pushes ads and other distractions aside so you can read without unrelated text or images breaking in.

This browser is the default for iPhones and iPads, and it syncs through your iCloud account, so any changes you make on one device will be available on any device connected to your account. When we tested its default security settings, Safari warned us of malicious websites that had

phishing schemes or dangerous links on them. But it didn't stop malicious downloads, so we had to depend on a Mac antivirus program to gather these threats during the download process.
This is one of the few browsers that has live support. It also has great online resources, like tutorials and searchable FAQs, so you can find answers on your own.

5. **Opera: Good all-rounder**

Opera is decently fast, about on par with Firefox and Chrome when it comes to initial startup, site navigation and page loading. It's compatible with both Windows and Mac computers, and works on iOS and Android mobile devices. The URL bar doubles as a search bar, and it has stacking, which means you can drag and drop open tabs in the order you want them.

6. **UC Browser: - Good all-rounder**

UC Browser is a light, smart browser that gives users the fastest mobile web browsing experience. UC Browser uses the latest in web kit technology to offer features like ad-blocking, built-in Google Translate, and voice search for Android phones. The app also has a smart download feature so you can easily download files on spot. One of the most talked about features is UC News.

7. **Chedot Browser**: beast to download video and audio at the same time

Chedot Browser is a deceptive Chromium-based Internet browser that supposedly provides faster file downloads, an Internet search service, browsing protection, and other similar functionality. This application may seem legitimate and useful, however, Chedot Browser is classed as adware and a potentially unwanted program (PUP).

This rogue application infiltrates systems without users' consent, generates intrusive online advertisements, and tracks Internet browsing activity. Users who attempt to search the Internet via this browser are redirected to the search.chedot.com website.

1.3. Accessing a particular site using its URL

Each website is located at a unique global address called a Uniform Resource Locator (URL). When you know the address of a web site it is much easier to locate. Referencing the Uniform Resource Locator URL allows you to jump directly to that page at that URL regardless of where you currently are on the web. All web browsers let you jump directly to a Uniform Resource

Locator (URL) a unique address for Internet resources that are available through a web browser, including files or directories.

URL structured

URL's specify three pieces of information needed to retrieve a document:

- The protocol to be used
- The server address and port to which to connect
- The path to the information

The format for a URL is: Protocol://server-name: port/path. For example, http://home.netscape.com/welcome/html

To access or use the web site must now that the term URL. Based on this resource locater the users view necessary data using browser SW. Before accessing particular web site, the user must be open browser and write down the URL on the search bar.

Example 1. The users try to access google web site using Microsoft edge

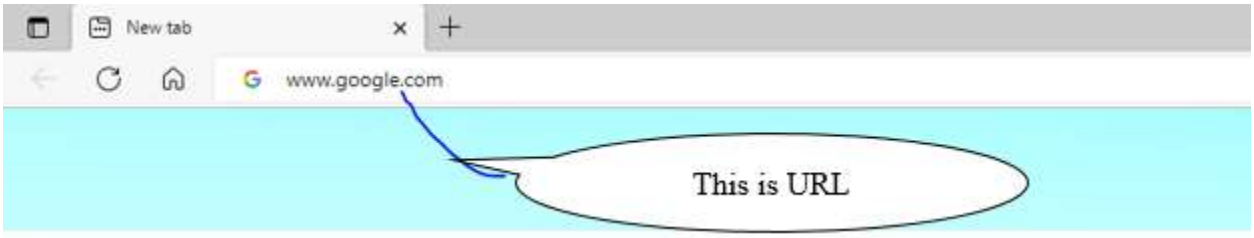
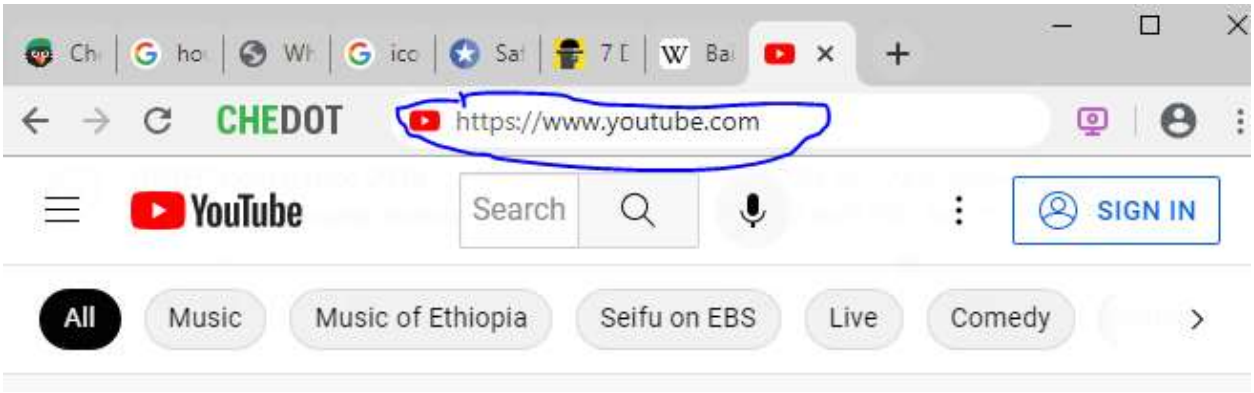


Figure 1. 1 URL typing place

Example 2: users to access YouTube using chedot browser



1.4. Manage internet browsers

To manage any browser used in your computer must be used the browsers setting. This setting consists of the following. To manage the browser, expand or click on each icon of the setting.

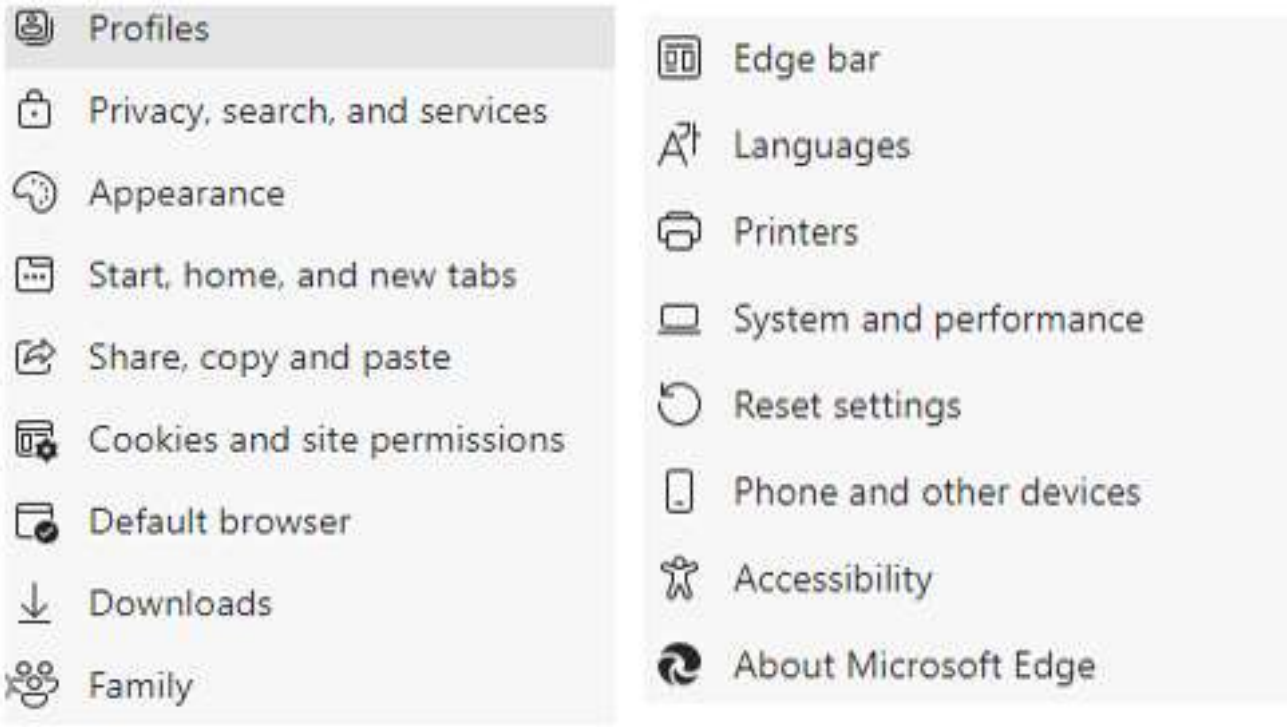


Figure 1. 2 Microsoft Edge browser setting

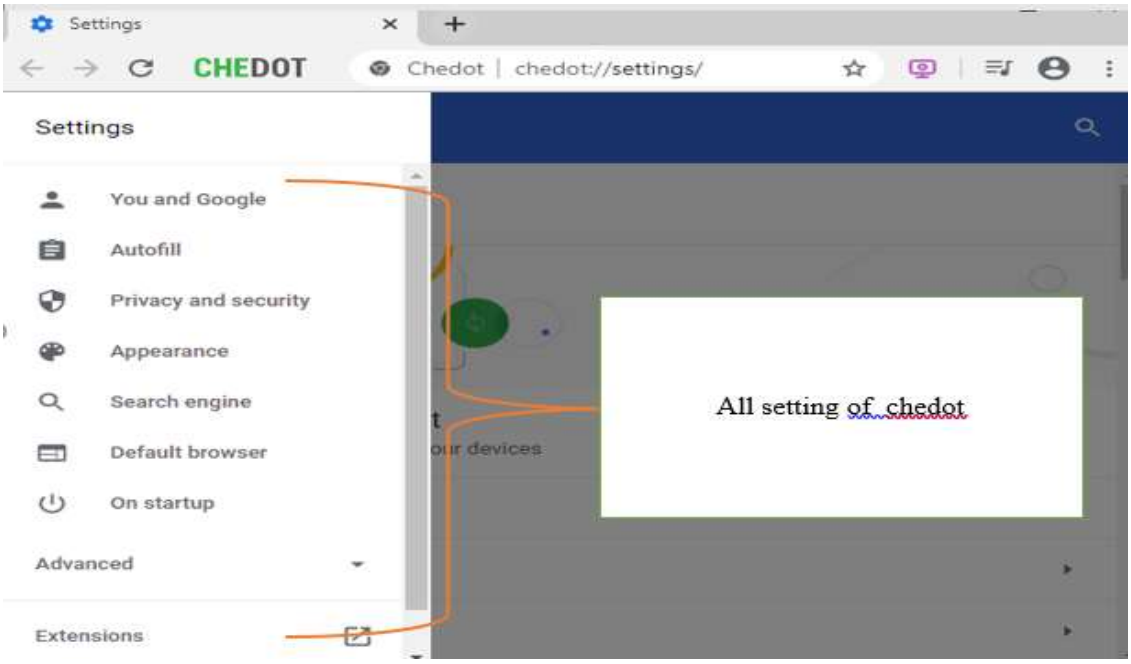


Figure 1. 3 Google chrome browser setting

1.4.1. **Set Home page**

A home page is generally the main page a visitor navigating to a website from a web search engine will see, and it may also serve as a landing page to attract visitors. The home page is used to

facilitate navigation to other pages on the site by providing links to prioritized and recent articles and pages, and possibly a search box. For example, a news website may present headlines and first paragraphs of top stories, with links to full articles, in a dynamic web page that reflects the popularity and recentness of stories. Meanwhile, other websites use the home page to attract users to create an account. Once they are logged in, the home page may be redirected to their profile page. This may in turn be referred to as the "personal home page". A website may have multiple home pages, although most have one. Wikipedia, for example, has a home page at wikipedia.org, as well as language-specific home pages, such as en.wikipedia.org and de.wikipedia.org.

To configure the home page, use the following steps do not forget this is used only Microsoft edge browser only: -

1. Click on three dot at the right top of the browser.
2. Click on setting
3. Click on start, home and new tab.
4. Write down what you went to home page
5. Click on save
6. To open the home page use (ALT +HOME KEY) short cut

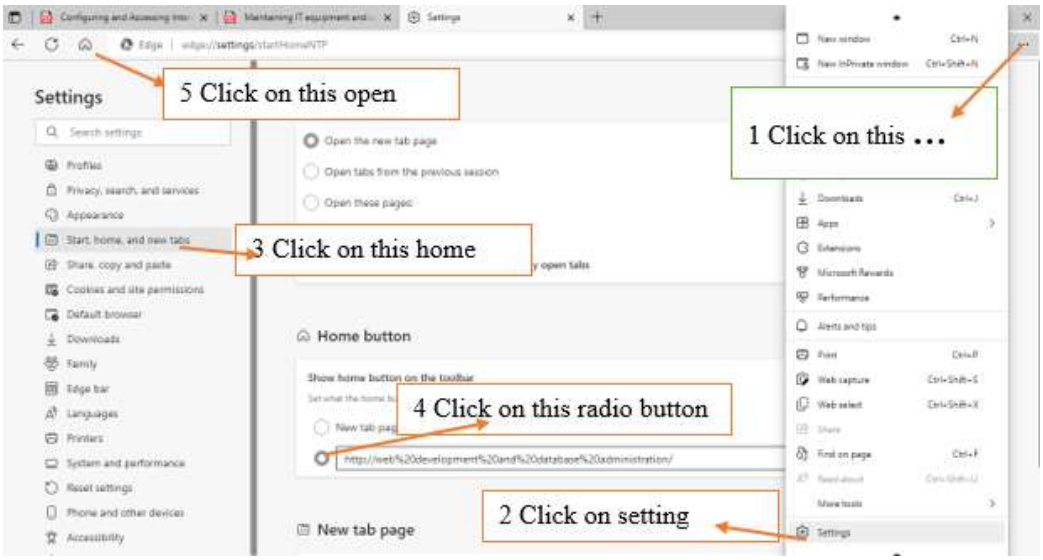


Figure 1. 4 Home page setting

A Microsoft Edge extension is a small program that developers use to add or modify features of Microsoft Edge.

Examples of add-ons for a computer include card s for sound, graphics acceleration, modem capability, and memory. Software add-ons are common for games, word processors, and

accounting programs. The Microsoft Style Guide suggests using add-on for hardware only and add-in for software utilities.

Install and manage extensions

1. Open the Chrome Web Store.
2. Find and select the extension you want.
3. Click Add to Chrome.
4. Some extensions will let you know if they need certain permissions or data. To approve, click Add extension. Important: Make sure you only approve extensions that you trust.

1.4.2. Configuring a socks proxy

A Proxy or Proxy Server is an intermediary server, either software or hardware, the sits between an end user and a website or other service's server. Proxies are used for different reasons including **efficiency, privacy, and security**

A SOCKS5 proxy is an alternative to a VPN. It routes packets between a server and a client using a proxy server. This means that your real IP address is hidden and you access the internet with an address provided to you by a proxy provider.

Configuring Your Browser to Use Proxy

1. Select the Manual proxy configuration radio button.
2. Enter 127.0. 0.1 in the SOCKS Host field and 9090 in the Port field.
3. Check the Proxy DNS when using SOCKS v5 checkbox.
4. Click on the OK button to save the settings.

How Does the Proxy Protect Computer Privacy and Data?

A proxy server performs the function of a firewall and filter. The end-user or a network administrator can choose a proxy designed to protect data and privacy. This examines the data going in and out of your computer or network. It then applies rules to prevent you from having to expose your digital address to the world. Only the proxy's IP address is seen by hackers or other bad actors. Without your personal IP address, people on the internet do not have direct access to your personal data, schedules, apps, or files.

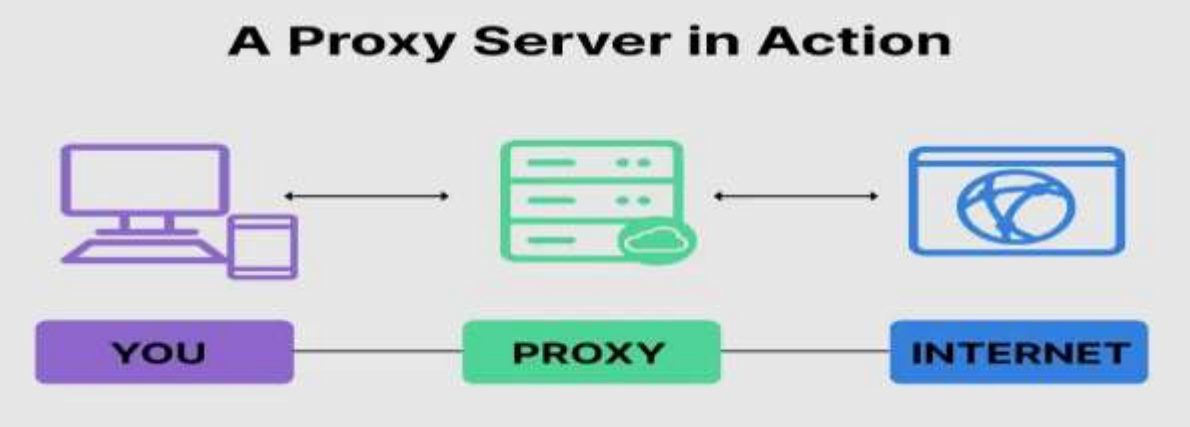


Figure 1. 5 working principles of proxy

1.4.3. Verifying internet options security and privacy level

Optimizing your browser's settings is a critical step in using the Internet securely and privately. Today's popular browsers include built-in security features, but users often fail to optimize their browser's security settings on installation. Failing to correctly set up your browser's security features can put you at a higher risk for malware infections and malicious attacks. This installation of our "Cybersecurity 101" series provides our tips for securing several of today's most popular browsers, including Google Chrome, Mozilla Firefox, and Microsoft Internet Explorer. While it is impossible to guarantee complete protection from cyber threats, following these tips will greatly increase the security of your web browser.

1.4.4. Managing location of temporary files

Temporary Internet Files are a folder on Microsoft Windows which serves as the browser cache for Internet Explorer to cache pages and other multimedia content, such as video and audio files, from websites visited by the user. This allows such websites to load more quickly the next time they are visited.

Each time a user visits a website using Microsoft Internet Explorer, files downloaded with each web page (including HTML and Javascript code) are saved to the Temporary Internet Files folder, creating a web cache of the web page on the local computer's hard disk drive, or other form of digital data storage. The next time the user visits the cached website, only changed content needs to be downloaded from the Internet; the unchanged data is available in the cache.

Despite the name 'temporary', the cache of a website remains stored on the hard disk until the user manually clears the cache, the cache expires or if the cache is full. This is often regarded as

a privacy issue, because anyone with access to the computer can view the cache. The contents of the folder are indexed using an index.dat file, a form of database.

The Temporary Internet Files cache can be useful in certain situations. For example, if no Internet connection is available, previously cached websites are still available offline. Certain online media files (such as embedded Flash movies) are not easily accessed directly through Internet Explorer, but are automatically saved into the cache after viewing them. Depending on the type of website and how often it is updated, the cached data may not reflect the online version of the website. The cache is also useful for police to collect forensic evidence.

The cache can be cleared by using Internet Options within the Internet Explorer interface, but this method is subject to deletion privacy issues. Many alternative tools exist to erase the data instead.

Example: - use **win +R** Then type %temp% then click Enter

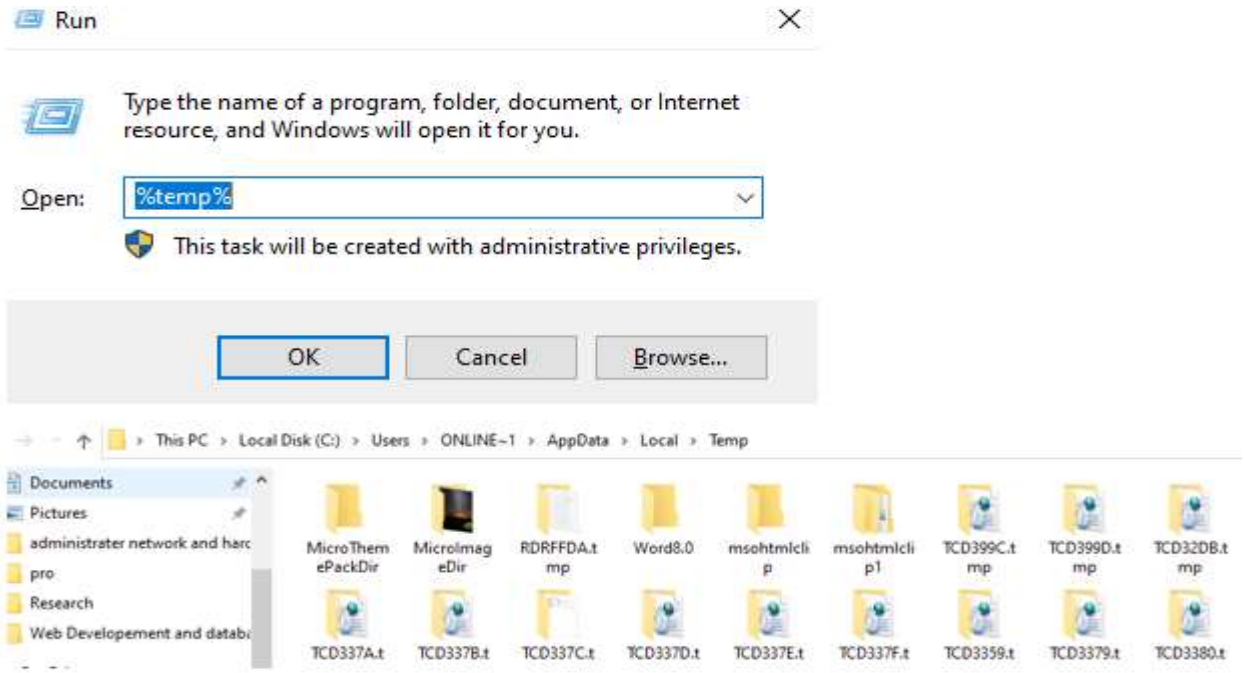


Figure 1. 6 Temporary file location

1.5. Display or view modes internet browser

In recent versions, Windows Internet Explorer has dramatically improved support for established and emerging industry standards, such as HTML5, Cascading Style Sheets (CSS), Level 3 (CSS3), and Scalable Vector Graphics (SVG). By default, Internet Explorer properly displays Web Pages designed to support these standards. Because some of these standards are still evolving, older websites may not fully support them. In addition, later versions of certain standards specify different behaviors than earlier versions of the same standard.

As a result, websites designed to support the earlier versions of these standards may display differently when viewed with web browsers designed to support current versions of the standards, such as Internet Explorer. In order to help such web sites, display correctly, Internet Explorer supports a display mode called ***Compatibility View***, which displays web pages as if they were viewed by an earlier version of the browser.

1.6. Loaded Images depending on modem speed, computer and browser capabilities

In accessing information on the Internet you may have to consider whether to load or not load images. Understanding the capabilities of your modem, computer and browser will help you to make an informed decision.

- **Modem Speed**

The latest modems on the market would normally be installed to run at the fastest speed possible, for example 115200 bits per second. Having a fast modem connected to your computer will download images quickly. If a slower speed modem is connected to your computer, then images will be downloaded at a much slower rate. Being aware of your modem's capabilities will help you decide on whether images should be loaded or not loaded. Time should also be considered when accessing the Internet. Even a fast modem cannot take into consideration a country's business hours, or a 'high activity period, for example, after school hours or early evening. Do not forget to consider these points if you are having difficulty in browsing the web site you require.

The bandwidth of your Internet connection is dependent on the speed of your modem. If the bandwidth is small, it will not be able to download images very quickly. The file format of any image saved on the computer will take up much more memory area than text. Hence, you must make sure that you have adequate storage area for image file and the bandwidth is large enough to transfer the image file.

- **Computer speed and capacity**

The speed and capacity of your computer also affects the speed at which images are loaded. If the computer's speed is slow and the capacity minimal, it may be better to turn off multimedia features such as pictures, sounds and videos in order to speed up the delivery and display of web page information.

To display a web page without graphics, select Tools from the menu bar and choose Internet Options. From the Internet Options dialogue box there are six tabbed sections. Select the Advanced tabbed section.

- **Browser Capabilities**

To display web page details as quickly as possible, consideration should be given to the types of browsers available. Browsers such as Microsoft Internet Explorer and Netscape Navigator are referred to as graphical browsers as they are able to display graphics, colors and multimedia features.

When a web site is visited, the details of that web page are stored in the browser's cache. Web pages stored to be read offline are also stored in the cache. Microsoft Internet Explorer's cache is labeled 'Temporary Internet Files' whereas Netscape Navigator stores its cache in the program folder. This speeds up the display of pages that are visited frequently because the Web page details are accessed from the cache instead of from the web. It is possible to increase the size of the cache, but doing this will reduce the space available for other files on your computer. It is also possible to delete files from the 'Temporary Internet files' folder to free up space within the cache. However, deleting files could result in delay if those web pages are required at a later date, as they can no longer be accessed from the cache and they will have to be downloaded again.

1.7. Modifying toolbars to meet user and browsing needs

A browser toolbar is a toolbar that resides within a browser's window. All major web browsers provide support to browser toolbar development as a way to extend the browser's GUI and functionality. Browser toolbars are considered to be a particular kind of browser extensions that present a toolbar. Browser toolbars are specific to each browser, which means that a toolbar working on a browser does not work on another one. All browser toolbars must be installed in the corresponding browser before they can be used, and require updates when new versions are released.

Many high-profile browser toolbars released over the years have been fraught with problems, either intentionally as malware or injected with computer viruses or due to poor or conflicting programming when considering multiple toolbars being included on the single browser.

Many unscrupulous companies use software bundling to force users downloading one program to also install a browser toolbar, some of which invade the user's privacy by tracking their web history and search history online. Many antivirus companies refer to these programs as grayware or Potentially Unwanted Programs (PUPs).

Developing a toolbar

The programming language and development tools behind a browser toolbar vary from one browser to another.

In Internet Explorer 5 or later toolbars may be created as browser extensions written in C# or C++. More specifically, it is possible to create up to three different kinds of toolbars (custom explorer bars, tool bands and desk bands) and to combine them with browser helper objects in order to provide added functionality.

In Firefox toolbars can be created as add-ons that contribute to the GUI by extending the browser with XUL (support for XUL was removed in Firefox version 57). The logic behind the toolbar is written in JavaScript running under expanded privileges. Mozilla Jetpack can be used to simplify the development of add-ons for Firefox.

In Safari 5 or later toolbars can be created as extensions that add bars and buttons. The logic behind the toolbar is written in JavaScript with access to a special JavaScript API to interact with the Safari application and web content.

In Google Chrome 4 or later toolbars can be created as extensions that add browser actions to the browser window. The logic behind the toolbar is written in JavaScript with access to a special JavaScript API to interact with the Chrome application and web content. The privileges under which a Chrome extension runs are governed by a set of permissions.

In Opera 11 or later toolbars can be created as extensions that add buttons to the browser window. The logic behind the toolbar is written in JavaScript with access to a special JavaScript API to interact with the Opera application and web content.

In Firefox, Chrome, Safari and Opera toolbar styling is done though CSS.

Native vs. injected toolbars

Some major browsers (Internet Explorer and Firefox) enable the creation of native toolbars i.e., toolbars which are directly inserted in the browser window. Examples of native toolbars are Google Toolbar and Stumble upon Toolbar. Native toolbars use browser-specific code to create the same toolbar for each different browser version.

Some toolbar developers use a different approach and make the browser extension inject a JavaScript file in every web page visited by the user. All major browsers support injected toolbars. The code in this file inserts the toolbar as a part of the DOM in every web page. Injected toolbars use essentially the same JavaScript code to draw the toolbar for each different browser version.

1. **Opera**

   Opera doesn’t have a standard toolbar, and the only toolbars that it has are the bookmarks toolbar and extensions toolbar.

To reveal bookmarks toolbar, do the following:

1. Open the **Opera** menu.
2. Go to **Bookmarks** and select **Show bookmarks**.

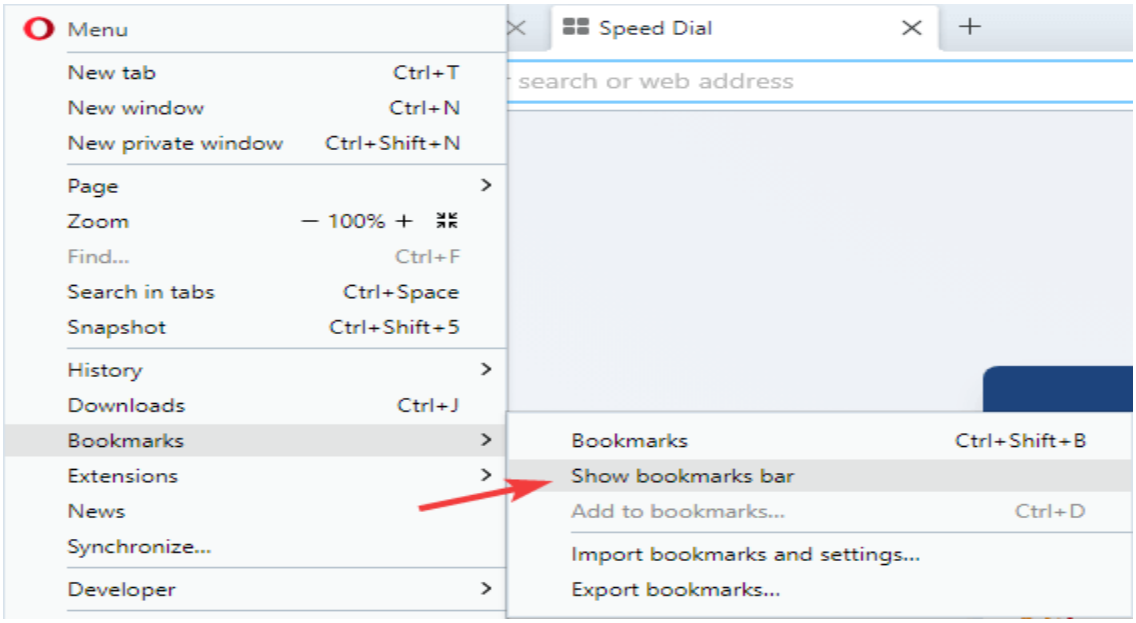


Figure 1. 7 Opera browser bookmark

2. Firefox

1. Press the **Alt** key.
2. Select **View** and select **Toolbars**.
3. From there you can choose which toolbars you want to keep visibly

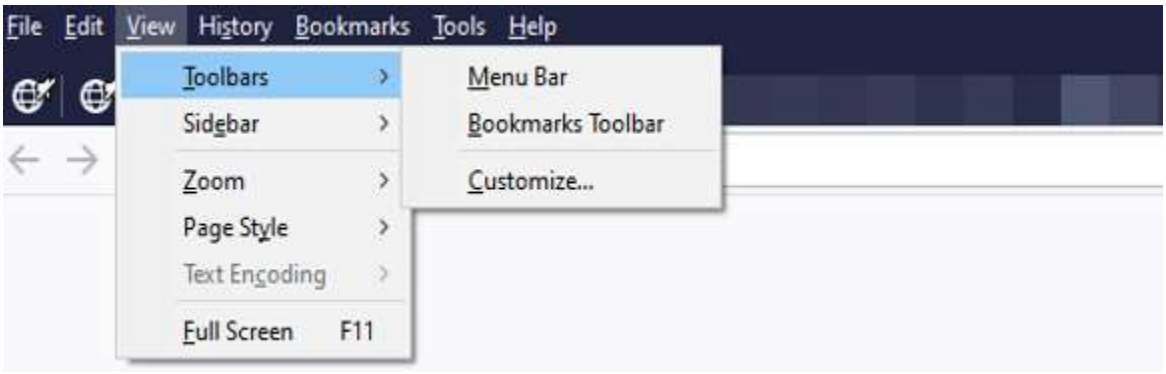
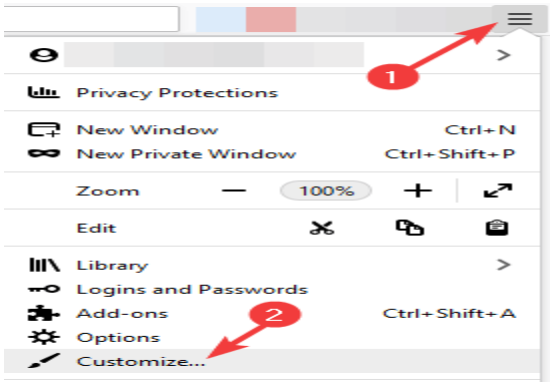


Figure 1. 8 opera browser Toolbars

To customize the toolbar, do the following:

1. Click the **Menu** button in the top right corner.

2. Now select **Customize**.



3. **Drag and drop the icons** that you want to use onto your toolbar.

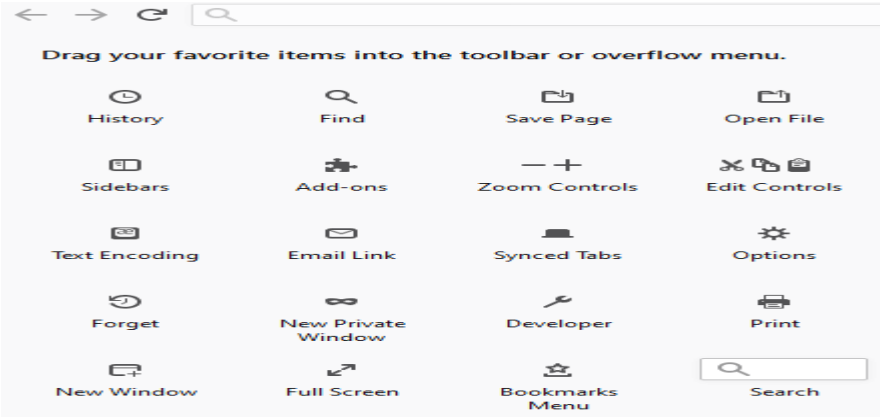


Figure 1. 9 Opera drag and drop Icons

1.8 Deleting cookies and browser history as precaution from virus infection.

A cookie, also known as an HTTP cookie, web cookie, or browser cookie, is used for an origin website to send state information to a user's browser and for the browser to return the state information to the origin site. The state information can be used for authentication, identification of a user session, user's preferences, shopping cart contents, or anything else that can be accomplished through storing text data.

Cookies are not software. They cannot be programmed, cannot carry viruses, and cannot install malware on the host computer. However, they can be used by spyware to track user's browsing activities – a major privacy concern that prompted European and US law makers to take action. Cookies could also be stolen by hackers to gain access to a victim's web account, thus, the need to delete cookies.

To clear browsing history and cookies form the different types of computers browser

A. Chrome:

- Open Chrome.

- In the top right corner of the browser, you will see three dots which indicate a settings menu.
- Click on “More tools” and then select “Clear browsing data”.
- This will open a dialog box to delete your browsing and download history, cookies, cached images and files, saved passwords and more. Select the appropriate time frame and select “Clear data”.
- Exit/quit all browser windows and re-open the browser.

B. Microsoft Edge:

- Launch Microsoft Edge.
- From the three dots on the top right corner of the browser window, select “Settings”.
- Open the hamburger menu (three stacked bars) by Settings and select “Privacy, search, and services”.
- Under Clear Browsing Data, select “Choose what to clear”.
- In the dialog box select the appropriate time frame and what you want to clear. Select “Clear Now”.
- Exit/quit all browser windows and re-open the browser.

C. Firefox:

- Open Firefox on your computer.
- In the upper right-hand corner of the browser, click the “menu bars,” which look like three parallel lines, and click the “Privacy and Security” tab.
- Scroll down to get to “History”.
- Click the “Clear History” button to select the time frame and what items you would like to clear. Select “Ok”.
- Exit/quit all browser windows and re-open the browser.

Self-Check-1

Part I: - choose the best answer from the given alternate

1. Each website is located at a unique global address called
   A. Uniform Resource Locator (URL
   B. HTTP
   C. Hyperlinks
   D. Web site
2. _____ is a connection from one web resource to another
   A. Link
   B. Uniform Resource locator
   C. Internet
   D. E- Mail
3. Three pieces of information needed to retrieve a document used by URL is:
   A. the protocol to be used
   B. the server address and port to which to connect
   C. the path to the information
   D. All
4. Microsoft Internet Explorer and Google chrome are referred to as:
   A. graphical browsers
   B. Mozilla fire fox
   C. Browser soft wares
   D. All
5. _____ is means of connecting a computer to any other computer anywhere in the world via dedicated routers and servers
   A. Browser soft wares
   B. Internet
   C. Computer system
   D. Search engines
6. A company which provides users with an access to the Internet is
   A. Google
   B. Yahoo
   C. Internet service Provider
   D. home page
7. A reference in a document to another section of the document or to another document is termed as
   A. Temporary files
   B. Hyperlink
   C. Internet
   D. World Wide Web
8. _____ is used to refer to the page that is the default page of any website
   A. Web page
   B. Web site
   C. Home Page
   D. HTTP
9. A collection of interlinked documents that are accessible over the Internet is:
   A. Internet Security
   B. Mozilla fire fox
   C. World Wide Web
   D. Arpanet
10. The acronym of URL stands for
   A. Unified resource loader
   B. Unified resource locater
   C. Uniform resource loader
   D. Uniform resource locator

Operation sheet-1.1 Procedures to setting up Home Page

- **Operation title:** change browser Home Page
- **Purpose:** To change browser Home Page
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**

1. Computer
2. Internet
3. Network infrastructure

- **Steps in doing the task**

Step 1 On your browser, go to tools, then options

Step 2 On the Internet Options, click on the General tab

Step 3 Type the address that you want to make your home page

Step 4 then click Apply

Step 5 then click OK

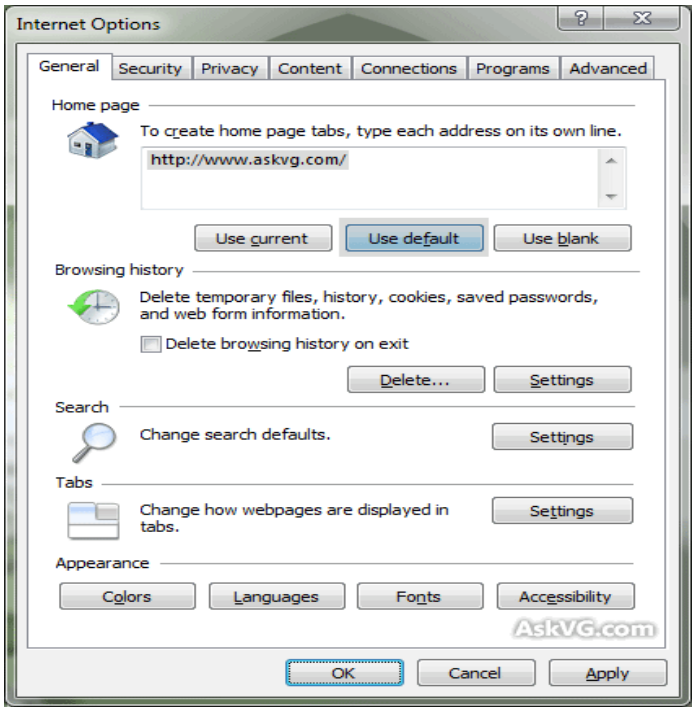


Figure 1. 10 Internet explorer browser options

- **Quality Criteria:** the given setting up home page

Operation Sheet 1.2 Procedures to Adjusting Display/View Mode

- **Operation title:** Adjusting Display/View Mode
- **Purpose:** to adjusting display/view mode and enable and disable chrome full-screen mode
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**
  - Computer
  - Internet
  - Network infrastructure

- **Steps in doing the task**

Step 1 From the menu bar select **View** > **Enter Full Screen**.

Step 2 Use the keyboard shortcut **Ctrl + Command + F**.

Step 3 On a Windows computer, access the full-screen toggle through Chrome's main menu.

Step 4 In the top-right corner of Chrome, select the **menu** (three-dot) icon.

Step 5 To exit full-screen mode, repeat this process.

Figure 1. 11 Enabling and disabling chrome full screen

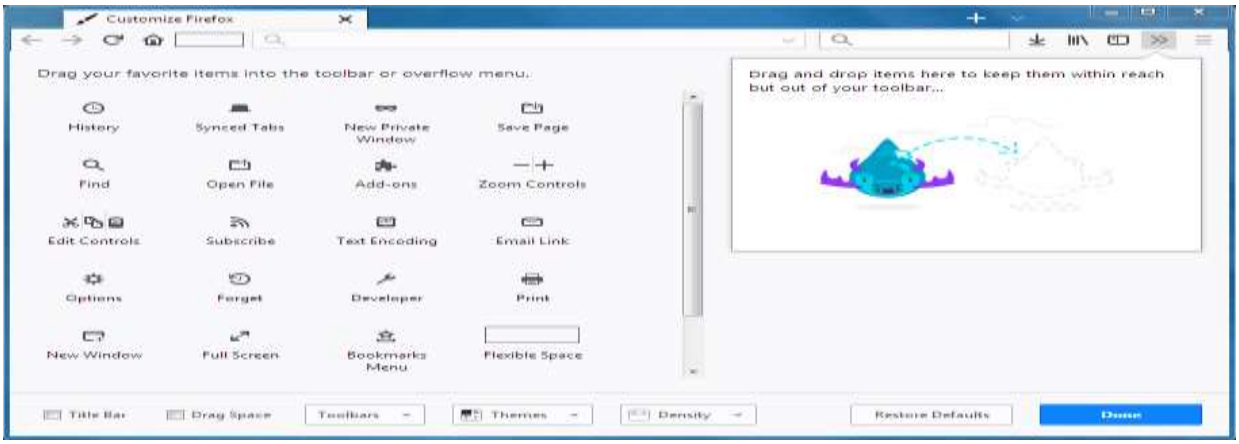
Operation Sheet 1.3. Procedures to Modifying Toolbars

- **Operation title:** Modifying browser toolbars
- **Purpose:** to steps required to modifying browser toolbars and customize the overflow menu or the toolbar
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**

1. Computer
2. Internet
3. Network infrastructure

- **Steps in doing the task**

Step 1 Click the menu button ☰ and choose 🖌 Customize….



Step 2 When you are Finish, click the Done button.

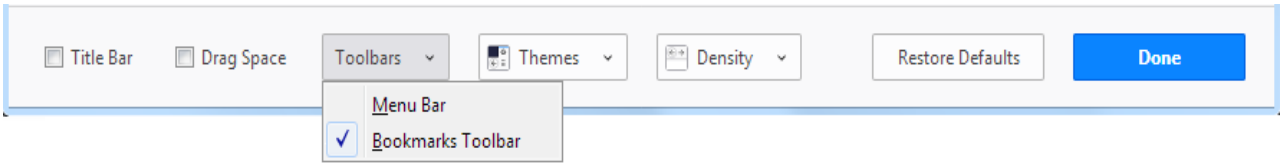
Step 3 Turn on the Title bar, Menu bar or Bookmarks toolbar

Step 1 Click the menu button ☰ and choose 🖌 Customize….

- **To turn on the Title bar**: Put a check mark next to **Title Bar** in the lower left.

Step 2 **To turn on the Menu bar or Bookmarks toolbar:** Click the Toolbars dropdown menu at the bottom of the screen and choose the toolbars you want to display.

Click the Done button.



Operation Sheet 1.4 Procedures to Accessing and Retrieving Data

- **Operation title:** Procedures to Accessing and Retrieving Data
- **Purpose:** to steps required to procedures to accessing and retrieving data
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.

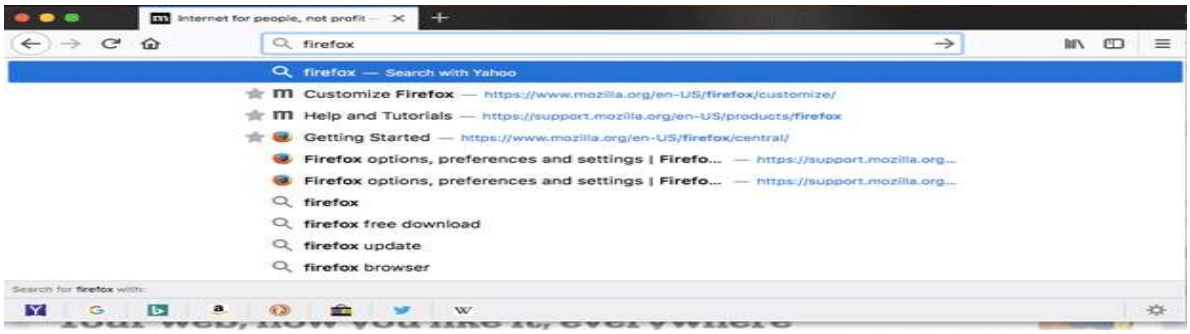


Figure 1. 12 Searching search engine using address bar

- **Tools and requirement:**

1. Computer
2. Internet
3. Network infrastructure

- **Steps in doing the task**

Step 1 The address bar auto complete feature lets you search everything on it: bookmarks, history or search engines.

Step 2 enter a specific web address, all in one field.

Step 3 Simply type into the field above your toolbar and choose from your history, bookmarks, and multiple search engines

Step 4 press the Enter key to search using your default search engine.

Step 5 You can also type into the search bar on your toolbar or on the New Tab page. Firefox can show you popular searches for your default search engine as you're typing. See Search suggestions in Firefox. OR you can use search engine short cuts.

Operation Sheet 1.5: upload a new file

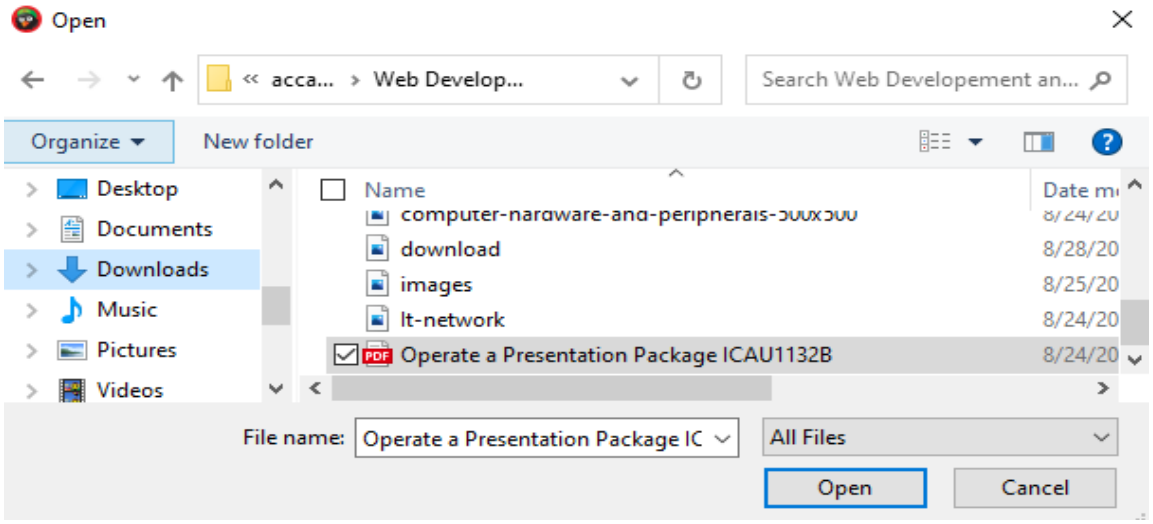
- **Operation title:** Procedures upload a new file
- **Purpose:** to steps required to procedures to accessing and retrieving data
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**
  - Computer
  - Internet
  - Network infrastructure
- **Steps in doing the task**

Step 1 In the link editor, click  in the *URL* box.

Step 2 Click the uppload **File** tab.

Step 3 Click **Upload File** to select a file from your computer, or drag a file into the **Upload File** area.

Step 4 After it uploads, select the file from the list.



Step 5 Click **open**.

- **Quality Criteria**: the upload new file correctly

Operation Sheet 1.6: - Procedures to opening URL

- **Operation title:** Procedures to opening URL
- **Purpose:** Accessing to opening URL
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**
  - Computer
  - Internet
  - Network infrastructure

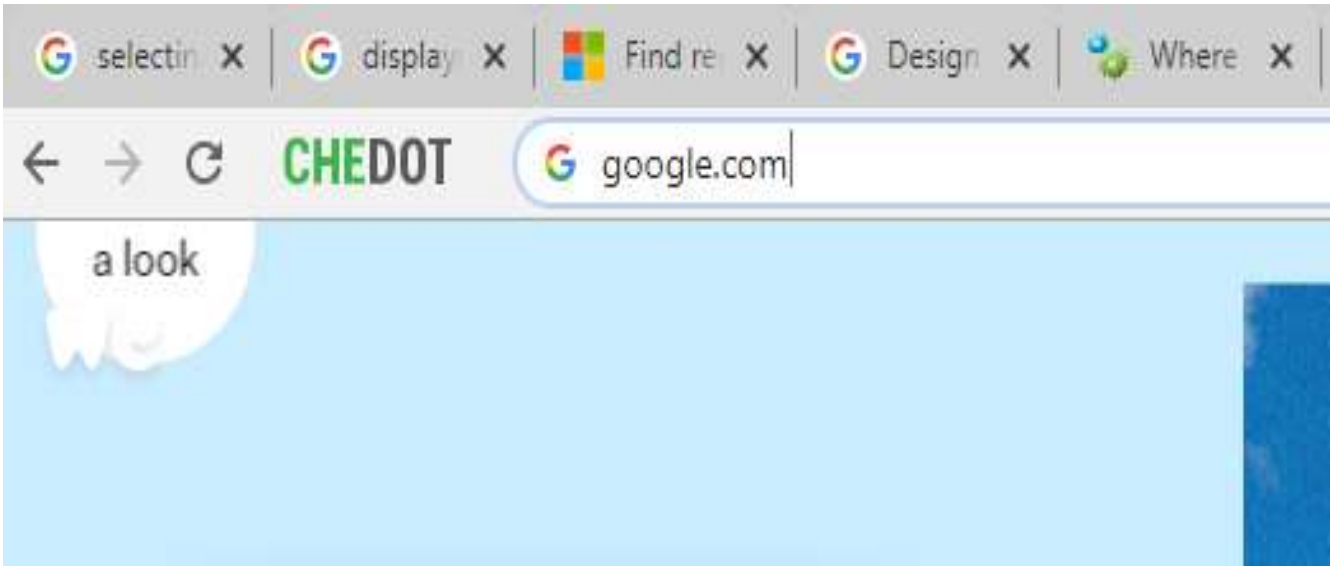
- **Steps in doing the task**

  Step 1 Open one of your favorite browsers

  Step 2 Write the address you want to access on the Address Bar

  Step 3 Press Enter from key board or

  Step 4 Click Go



Lap Test-1

Task 1 Change The home page of your browser

Task 2 Adjust your browser display/view Mode

Task 3 Modify your browser toolbar

Task 4 Using the required address access some data over the internet

Task 5 Load image over the internet

Task 6 Open URL and search different sites

Task 7 Delete cookies and history

Unit Two: Search internet

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Privacy and security threats on the internet
- **Observing** OHS and netiquette principles
- Opening different types of search engines
- Defining search requirements using a range of search parameters
- Evaluating and assessing the authority, reliability and authenticity of information
- Downloading the required files
- Saving search results and presenting as a report according to the information required
- Creating bookmarks for required web page and saved in associated bookmark folder
- Modifying page set up options and printing required information from web pages
- Exiting browser windows

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Open search engines and search requirements using defined range of search parameters
- Save search results according to the required information
- Create bookmarks the required web page and save in associated bookmark folder
- Modify page set up options and web page or the required information printed
- shutdown and exit browser
- observe OHS and netiquette principles through the process

2.1. Introduction to search

An **internet search**, otherwise known as a search query, is an entry into a search engine that yields both paid and organic results. The paid results are the ads that appear at the top and the bottom of the page, and they are marked accordingly. The organic results are the unmarked results that appear in between the ads.

At the core of an internet search is a keyword. In turn, keywords are at the hearts of search engine marketing (SEM) and search engine optimization (SEO).

A search engine is software, usually accessed on the Internet, that searches a database of information according to the user's query. The engine provides a list of results that best match what the user is trying to find.

A search engine is a website that collects and organizes information on the internet and makes it available for searching. Search engines use algorithms to display the most relevant search results based on trends, your location, and sometimes even your web activity. Many search engines have their own mobile apps that make searching easier on your phone or tablet. Check out some of the most popular search engines:

Google is the most popular search engine in the world. It's so popular that the word "Googling" is often used in place of "searching the web." Google also has special image and video search features that make it easy to find all sorts of media.

Yahoo used to be the largest search engine in the world. These days, it's powered by Bing and delivers similar results.

2.2. Privacy and security threats on the internet

Privacy is one of the most important concerns in adopting smart grid solutions, which inevitably will collect detailed information about consumers' preferences. The following gives a small sample of research reported in this area.

The types of location privacy threats that arise from disclosed location information are:

A. **Tracking Threat:** In this type of threat the attacker can receive continuous updates of user location in real time, which can be used to identify the user’s location routes, predict future locations, and/or frequently traveled routes with sufficient accuracy using a user’s mobility patterns.

B. **Identification Threat:** In this type of threat the attacker can receive sporadic updates of user location, which can be used to identify the user's frequently visited locations (such as home or work place)

C. **Profiling Threat:** In this type of threat the attacker may not have the required information to identify the user but can use the locations to profile the user. For example, an attacker can identify which hospitals or religious places a user visits, or which places the user goes for shopping, and how often.

Through the above location privacy threats an attacker gathers information of user locations through which the attacker can obtain clues about the user's private information such as user lifestyle, time and purpose of movements through different locations, and so on, even if the user does not disclose their identity

2.2.1. Top Computer Security Threats

The Internet is a beautiful thing. You can shop online, conduct business, and watch cute cat videos. But like the Wild West, the Internet has outlaws.

Hackers steal millions of dollars' worth of data every day. In fact, half of all small businesses report suffering a cyber-attack. Even the big guys like Sony aren't immune to a cyber thief's sticky fingers. Knowing is half the battle, especially in the digital space. These five common computer security threats could ruin you if left undetected.

1. **Botnets**

These guys are the ninjas of digital crime. If your computer's infected with one, you won't know it. Botnets are a collection of software robots that infect other computers, called zombies. The creator of the botnets can then control the zombies.

Using the zombies, the controller can send infected emails and spread malware. Worse, they can recruit your computer into an army, carrying out the next threat on our list.

2. **DDOS Attacks**

DDOS stands for distributed denial-of-service. It's one of the nastier online threats.

Hackers use zombie computers to sabotage a server. They contact it again and again, flooding it with piles of useless data. The traffic increases so much, it can force the server to shut down. The network then can't serve legitimate users. For most online businesses, traffic is revenue. A server slows down, or worse, a shutdown, spells catastrophe.

3. **Mobile Malware**

More and more people browse the Internet with their phones. Businesses have adapted. They make phone friendly websites and mobile apps to buy. The trouble is, hackers have gone mobile too. Using infected apps, hackers steal information with mobile malware. Often, they go after businesses because most don't have the proper security.

4. **Phishing**

Also known as spoofing, phishing is a common cyber scam: easy to do with effortless results. Hackers bait the hook with fake text messages, websites, and emails appearing legitimate. They ask you to submit information or update an account.

Don't let them fool you though. It's only a trick to steal from you and wreck your system.

5. **Ransomware**

One of the worst Internet threats is ransomware. It's a type of malware designed to restrict access to your computer. It can come from phishing emails or pop-up ads.

Ransomware has two flavors: lock screen and encryption. Lock screen ransomware prevents you from accessing your computer. Encryption ransomware locks up your files on your hard drive, shared network, USB, or the cloud.

With each, you'll receive a notification demanding payment to restore access. Hackers may even disguise themselves as law enforcement. They might say the money is to avoid prosecution for illegal activity.

Whatever the case, never pay the ransom. It's a trick to steal money, and restored access is never guaranteed.

2.3. Observing OHS and netiquette principles

Profiling Threat: In this type of threat the attacker may not have the required information to identify the user but can use the locations to profile the user. For example, an attacker can identify which hospitals or religious places a user visits, or which places the user goes for shopping, and how often.

Netiquette refers to your Internet custom, or the way you behave online and on social media. Because the majority of online communication is completely non-verbal, you cannot see or use facial expressions or tone of voice to back what you are typing.

1. **Never Send Spam**

You hate junk emails. So do your classmates. You hate spams posts circulated on social media. So do your classmates. Before forwarding or posting something, verify the source as credible

2. **Use Good Grammar**

   Yes, it may just be a forum post, but if it's filled with typos and poor grammar, it may reflect poorly on you as a student and future professional. Use proper language whenever possible, and avoid casual abbreviations (lol, ttyl, brb) that could be misunderstood or misinterpreted by some.

3. **Consider your email address**

   From the address and subject line, your emails should reflect a high level of professionalism. The email address you use should be free of nicknames, slang, or strange spellings

4. **Avoid the Temptation to Over Share**

   Avoid posting personal information like off-topic information about your day or questions about your course performance that would be better suited to a direct email to your instructor.

5. **Don't Type in ALL CAPS**

   In online communication, ALL CAPS is considered yelling. This is not a way to emphasize what you are saying.

6. **Return Messages Promptly**

   If someone sends you an email or an online message, send them a response quickly. If you cannot send a thorough reply, at least acknowledge that you received the message.

7. **Respect the Privacy and Rights of Others**

   If you have someone's permission to share their words, then do so, but remember that people's words are their own property. Do not forward personal emails or share statuses without the original person's permission.

8. **Identify Yourself**

   Identify yourself in online communications, like email. Let the recipient know who you are. Don't forget to sign the email at the end. Treat the email with the same professionalism you would use with a written communication.

Consequences for poor netiquette

The ability to reach out to real people with one quick click of a button can be wonderful. You're given access to new worlds of information. But this ease of communication — and ability to

speak behind the cloak of your devices without face-to-face contact — brings up several issues that can present real challenges.

Cyberbullying and toxic social media behavior are two of the many forms of poor online behavior that not only can ostracize you, but also can have legal ramifications.

Another issue that children may face if they aren't **taught to safely use social media** is their digital footprint following them as they grow up. Once your words or photos are online, you may not be able to take them back or delete them.

That's why it's smart to **teach internet safety** before you allow your children to communicate online. One toxic post or picture could make it tougher for them to get into a school or land a particular job.

2.3.1. Introduction to Search engines

A search engine is a tool we use to find websites and information on the Internet. Search engines will search other computers connected to the Internet and classify the files they find on these computers.

2.3.2. Common search engines

The most commonly used search engines include:

- Google
- Yahoo
- MSN
- Lycos
- AltaVista
- Netscape
- Ask

A. Differences between search engines

There are a huge variety of search engines. Most search engines explore most of the computers connected to the Internet. However, some 'search engines' are really a search of a particular site, or perhaps a group of sites.

examples include:

- **Explore** — specialises in information related to international law
- **Travelocity** — specialises in information related to travel
- **Hotwire** —specialises in information related to computer and communications technology.

B. Searching information on the internet the Internet

i. Creating a search expression

In order to use a search engine, you must first locate the search engine on the Internet. Usually, you would do this either by typing in the URL of the search engine you wish to use. A search bar will appear and you type your expression into this bar. How you express your search will be explained later.

Figure 2. 1 The URL and search bar in Google

This is the search bar in Google. Access this screen by typing in the URL http://www.google.com. Alternatively, you might click on the **Search** button on the toolbar of your browser. This will take you to a search engine screen to allow you to enter your search expression. Note: if you use the **Search** button, your browser may randomly generate which search engine to use for your search.

C. Composing a search expression

When you are looking for search terms try to:

- Type in the question in a full English sentence.
- Use just the main keywords.
- Add more keywords to narrow down (reduce) the number of hits.
- Define (by clicking a button) if you wish to search the entire web, or if you just wish to search Australian sites.
- Use synonyms for the keywords.
- Use acronyms.
- Use words to broaden your search like OR.
- Use words to narrow your search like AND, +, -, NOT.

- Use double quotation marks to ensure the phrase you are using is located in exactly that sequence.

Also try different search engines. You will most likely get different results from the same search terms.

D. Narrowing or broadening a search

The trick to getting good results from your search expression is to be able to broaden or narrow your search as required. For some topics, you will get millions of results (or hits), while for others you might get none. As pointed out above you can:

- Use words to broaden your search like OR.
- Use words to narrow your search like AND, +, -, NOT.

We're certainly reducing the amount of information to be filtered. Though, this is still way too many results to work through.

Let's investigate a different search engine using the same expressions. Firstly, IT Certificate 2 across the Web.

Figure 2. 2 search engine

2.3.3 Requirements of search parameters

A search operator (sometimes referred to as a search parameter) is a character or string of characters used in a search engine query to narrow the focus of the search. In mathematics and computer science, operators are characters or sequences of characters that represent an action or cause an action to be performed.

2.3.4. Authority, reliability and authenticity of information

- **Authority of information**

Information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used. Authority is constructed in that various communities may recognize different types of authority. Authority is important in determining the credibility of a website because it establishes who is in charge of the site, who wrote the information covered there, and more.

Evaluating a source by authority means that you are asking:

- Does the author have expertise on the topic about which he/she is writing?
- Who is the author?
- Is he or she a subject expert on the topic?
- What are the author's credentials?

- **Reliability of information**

Data reliability means that **data is complete and accurate**, and it is a crucial foundation for building data trust across the organization. Ensuring data reliability is one of the main objectives of data integrity initiatives, which are also used to maintain data security, data quality, and regulatory compliance. Data reliability assessment, also referred to as trust assessment, is an important process that can reveal problem areas about your data that you didn't even know existed. The assessment will typically measure three different aspects of data reliability.

- **validity**: - is the data correctly formatted and stored in the right way?
- **Completeness**: - does the dataset include values for all the fields required by your system?
- **Uniqueness**: - is the data free from duplicates and dummy entries?

Data reliability assessment can also take other factors into account and touch on aspects of data quality, such as looking at how many times a dataset has been relied on, where it originated, and how the data has been transformed. Getting to this deeper level of understanding is especially important for data related to sensitive information where complete accuracy is essential. To support a financial audit, for instance, it is vital to be able to prove data reliability

- **Authenticity of information**

Authenticity are used to establish the process of ascertaining authenticity of information on the Internet, and in the final section we propose some ways and means through which authenticity of, content and. purpose of, information in the cyberspace could be instituted.

In the dictionary “authentic” is described as "genuine; real; veritable; not false or copied; sharing the sense of actuality and lack of falsehood or misrepresentation" and "having the origin supported by unquestionable evidence; authenticated; verified; or entitled to acceptance or belief because of agreement with known facts or experience; reliable; trustworthy".

Information generally has bias; therefore, authenticity is not limited to verifying authorship and diplomatic of a document. In fact, it includes attributes such as completeness, accuracy, trustworthiness, correctness, validity, integrity, faithfulness, originality, meaningfulness, and suitability for an intended purpose. The criteria are:

- **Currency**: Timeliness of the information.
- **Relevance**: Importance of the information for your needs.
- **Authority**: Source of the information.
- **Accuracy**: Truthfulness and correctness of the information.
- **Purpose**: Reason the information exists.

2.3.5. Download the required files

To copy or move programs or information into a computer's memory, especially from the internet or a larger computer.

A Download refers to data that is brought 'down' from a network, the World Wide Web (Or Cloud) to reside on a local drive / computer.

List of best download manager for windows

- Free Download Manager.
- Internet Download Manager.
- Ninja Download Manager.
- JDownloader.
- Internet Download Accelerator.
- EagleGet.
- BitComet.
- uGet

Using one of the above download manager you can download any file or document, image, audio, video, application and other.

2.4. Save search results and presenting as a report

2.4.1. Introduction to online Data Storage

Online data storage refers to the practice of storing electronic data with a third-party service accessed via the internet. It’s an alternative to traditional local storage (such as disk or tape

storages) and portable storages (such as optical medias or flash drives). It can also be called" hosted storage" or "cloud storage".

2.4.2. Benefits of online storage

One of the biggest benefits of online storage is the ability to access data from anywhere. As the number of devices, the average person uses continues to grow, syncing or transferring data among devices has become more important.

Online data storages also offer distinct advantages for backup and disaster recovery situations because it's located off site

2.5. Creating bookmarks for required web page and saved in folder

2.5.1. Export, Save and Import Chrome Bookmarks

Whether you just bought a new computer or you just want to start using a different browser, Google Chrome makes it easy to save all your bookmarks. Then you can import them to a new computer or browser, so it will feel just like your old one. Here's how you can export, save, and import Chrome bookmarks, so you can transfer then to another computer or have a backup.

To export and save your bookmarks, open Chrome and go to *Menu* > *Bookmarks* > *Bookmark manager*. Then click the three-dot icon and select *Export Bookmarks*. Finally, choose where to save your Chrome bookmarks.

1. Open Chrome and click the icon with three vertical dots in the top-right corner.
2. Then hover over *Bookmarks***.** This will open a pop-up menu.
3. Next, click *Bookmark manager***.** Clicking this will open a new tab.
4. Then click the icon with three vertical dots**.** You will find this next to the Bookmarks search bar, under the Chrome address bar.
5. Next, click *Export Bookmarks***.** Clicking this will open the File Explorer on a Windows 10 computer or the Finder on a Mac computer.
6. Finally, choose a name and destination and click *Save*. If you want to transfer your Chrome bookmarks to a new computer, you can save the HTML file to a flash drive or an external hard drive. Or, you can save your Chrome bookmarks to your desktop and email it to yourself as an attachment.

- **Import Chrome Bookmarks**

  To import your Chrome bookmarks, open Chrome and go to *Menu* > Bookmarks >

Bookmark *manager* and click the three-dot icon. Finally, click Import and select the HTML file you exported.

1. Open Google Chrome.
2. Click the icon with three vertical dots in the top-right corner.
3. Then go to *Bookmarks* > *Bookmark manager*
4. Next, click on the icon with three vertical dots next to the search bar. You will find this next to the Bookmarks search bar, under the Chrome address bar.
5. Then click *Import Bookmarks***.** Clicking this will open the computer's Open file dialog box and prompt you to load a file. Choose the HTML file you saved to import your Chrome bookmarks.
6. Finally, select the saved bookmarks HTML file and click *Open***.** All your bookmarks will then be imported.

2.6. Page set up options and printing required information from web pages

- **Page set up options**

Use "Page Setup" in Internet Explorer if you wish to make any changes to the way your page looks after it prints. If you're using Google Chrome, the option to make adjustments to the page will automatically appear after you hit "Print."

- **Printing required information from web pages**

Printing a web page is reasonably straightforward, but it differs slightly depending on the Internet browser used. To proceed, select your preferred browser from the list below and follow the instructions.

In Internet Explorer, the "Print Preview" option will allow you to see what your page will look like before your print it out. Google Chrome will automatically show you a preview of the page to be printed after you select "Print."

How to print one or more page(s) at a time

1. Open the **Google Chrome** browser and access the page you want to print.
2. Click **Customize and control Google Chrome** in the upper-right corner of the browser window.

3. Select **Print** from the drop-down menu that appears.

4. In the window that appears, click the box next to **destination**, and select your preferred printer from the list.

5. Make any additional setting or option changes, then click the **Print** or **Save** button in the bottom-right corner.

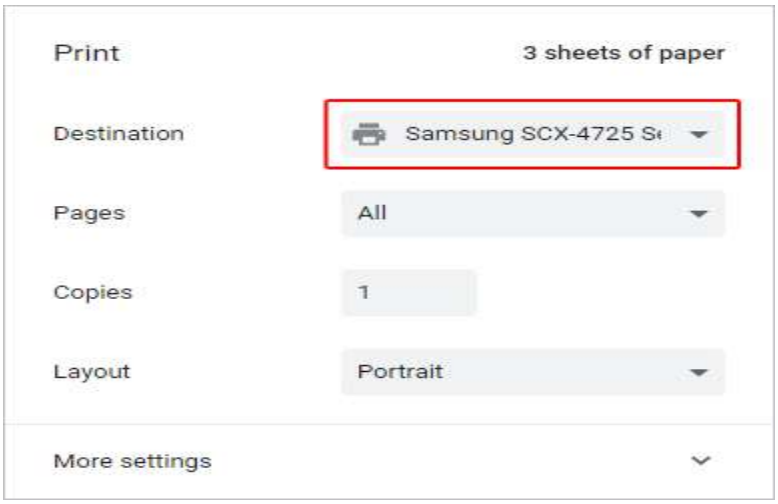


Figure 2. 3 print setting in browser

2.7. Exiting browser windows

Before you are going to shut down your browser first you should save all the necessary information.

And also you must wait if down loading and uploading data/image is on progress, if you shut down before the data is completed your data may be corrupted or destructed.

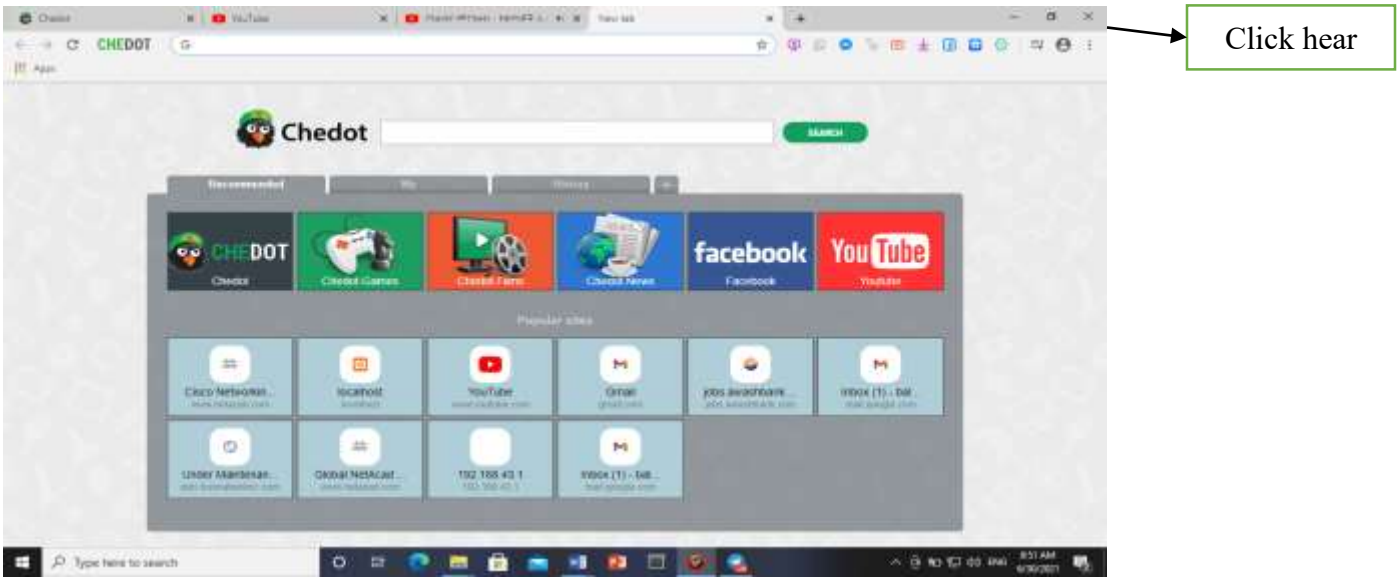


Figure 2. 4 Opened browser windows

Self-check-2

Part I: - **Write True if the statement is Correct and False If the statement is Incorrect**

1. Online data storage refers to the practice of storing electronic data with a third-party services accessed via the internet
2. Saving the document means storing the document on to the secondary storage devices.
3. One of the biggest benefits of online storage is the ability to access data from anywhere.
4. Traditional local storage includes disk or tape storages.
5. Portable storages include optical medias or flash drives.
6. Book mark is a saved shortcut that directs your browser to a specific webpage
7. Book mark stores the title, URL, and icon of the corresponding page.
8. To create a bookmark, simply visit the page you want to bookmark and select Add Bookmark or Bookmark this Page from the Bookmarks menu.
9. A bookmark stores the location of a webpage and store the contents of the webpage itself.
10. Saving bookmarks allows you to easily access your favorite locations on the Web.

Part II: Choose the best answer from the given alternative

1. _____ is a tool we use to find websites and information on the Internet.

   A. Internet Explorer
   B. Cookies
   C. search engines
   D. Book marks

2. Among the following which one is not categorized under search engine

   A. Mozilla Firefox
   B. Google search
   C. Yahoo
   D. MSN

3. When you are looking for search terms:

   A. Type in the question in a full English sentence.
   B. Use just the main keywords.
   C. Add more keywords to narrow down (reduce) the number of hits.
   D. All

4. _____ refers to a method of saving a web page

   A. search engine
   B. Book Mark
   C. Browser
   D. Internet

Operation Sheet 2.1: - procedures to opening search engine

- **Operation title:** open search engine
- **Purpose:** Accessing to opening search engine
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**
    1. Computer
    2. Internet
    3. Network infrastructure

- **Steps in doing the task**

    Step 1 Open one of your preferable browsers

    Step 2 Write the search engine you want to use

    Step 3 Click search

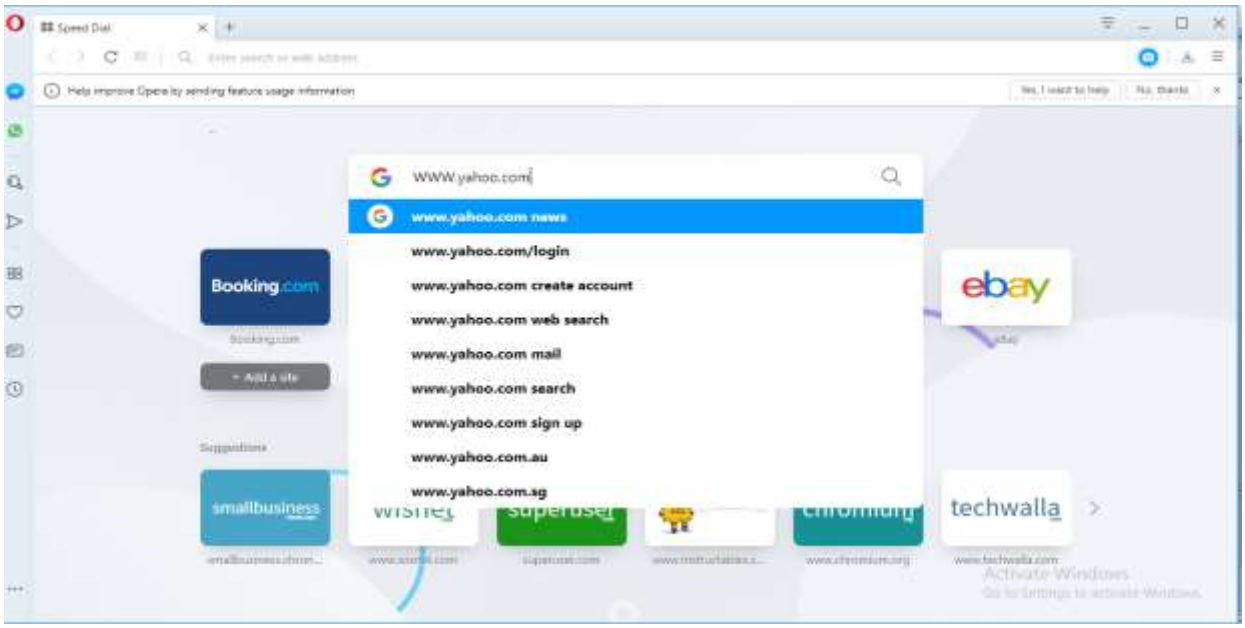


Figure 2. 5 opening search engine

Operation Sheet 2.2: - procedures save search result

- **Operation title:** save search result
- **Purpose:** accessing to opening search engine
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**

1. Computer
2. Internet
3. Network infrastructure

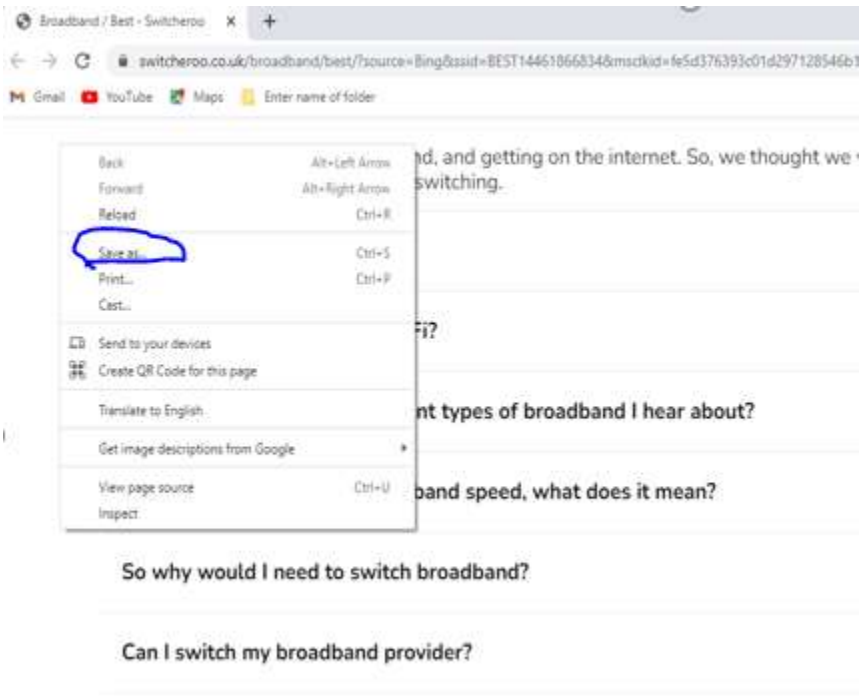
- **Steps in doing the task**

Step 1 You can save the entire page as an HTML (web page) file.

Step 2 You can copy and paste the contents of a web page into a word document.

Step 3 Write click on the page

Step 4 Click on **Save As**.



Step 5 Choose the location you wish to save your web page to, ie the drive as well as the folder you wish to use.

Step 6 Click on **Save**.

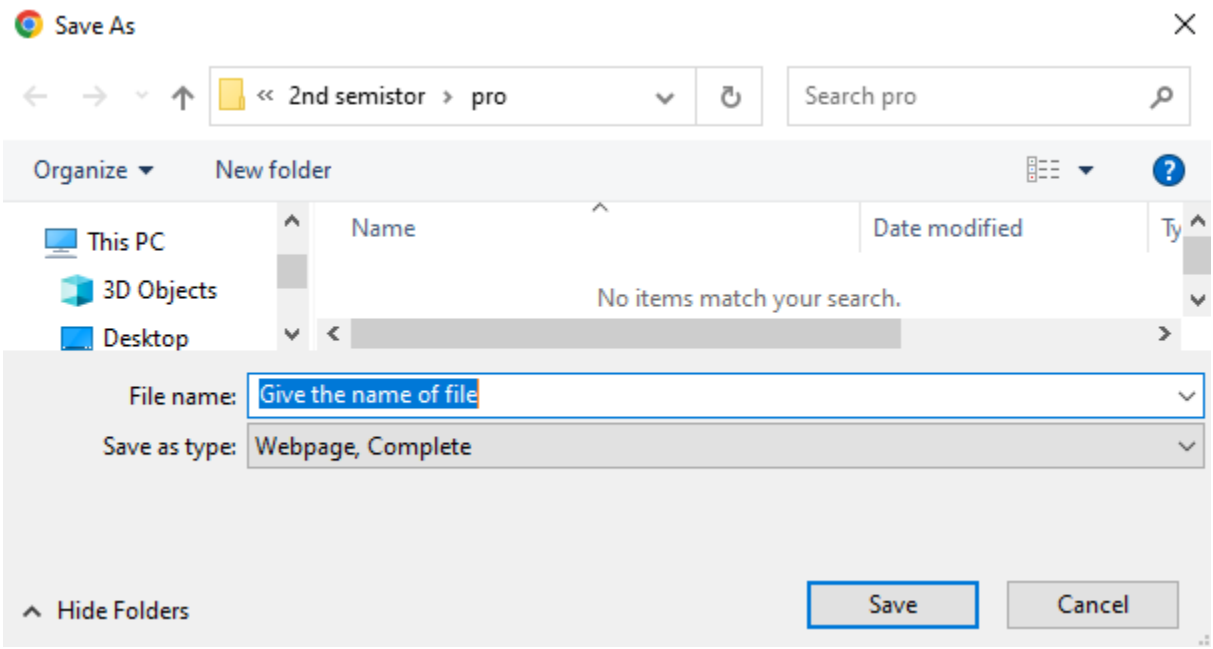
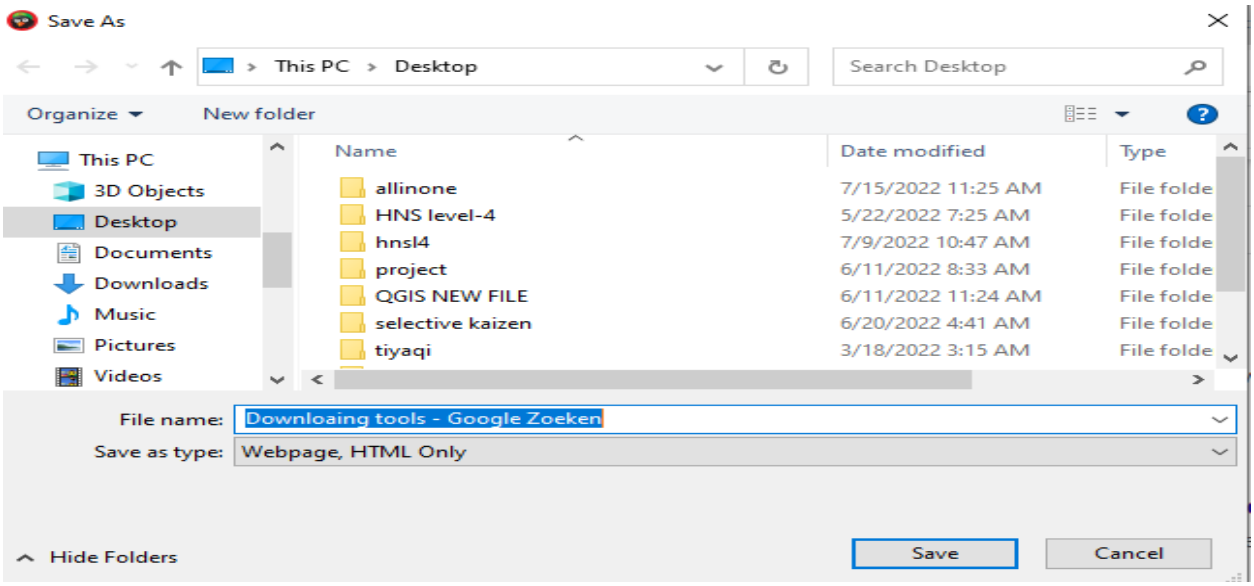


Figure 2. 6 File Menu, showing Save As command



On the **Save Web Page** screen, when you click on **Save**, the file IT Framework Course – Information Technology will be saved into the desktop folder in this example.

Notice that a folder holding all the graphics relating to this web page is also saved. This allows all information to be viewed offline, i.e., when you are no longer connected to the Internet.

Operation Sheet 2.3 Creating and saving bookmarks

- **Operation title: Creating and saving bookmarks**
- **Purpose: Creating and saving bookmarks**
- **Instruction:** Using the figure below and given equipment. You have given 30Minut for the task and you are expected to complete tasks.
- **Tools and requirement:**

A. Computer B. Internet C. Network infrastructure

- **Steps in doing the task**

Step 1 Go to the website you wish to save as a favourite.

Step 2 Choose **bookmark** menu or click on the **bookmark** button on the toolbar.

Step 3 Choose **Add to bookmark**.

Step 4 At the next screen, click on **Create In** if you cannot see the **New Folder** option.

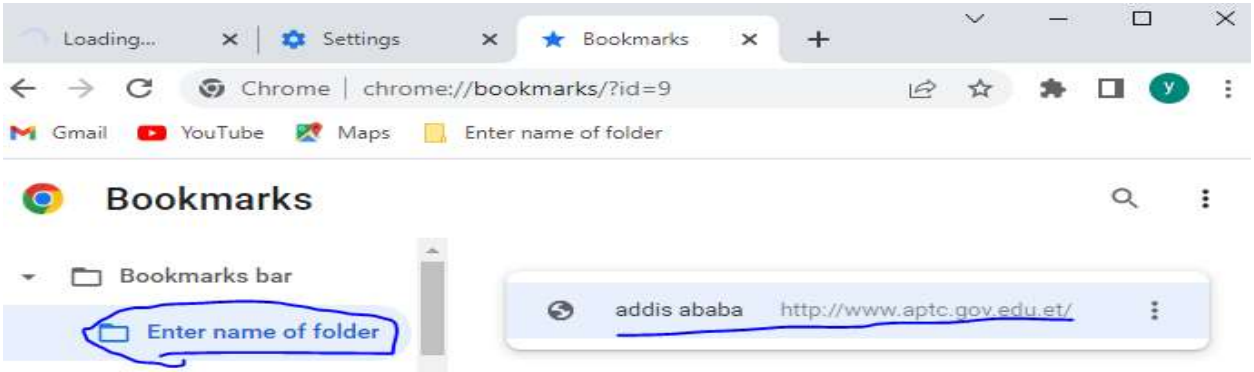


Figure 2. 7 New folder option

Step 5 Now click on **New Folder** if you wish to create a new folder.

Step 6 Name your folder and click on **OK**.

Step 7 Ensure the folder you want to save into is open.

Step 8 Change the name of the page against **Name** if you feel it is not a very helpful name.

Step 9 Click on **OK**.

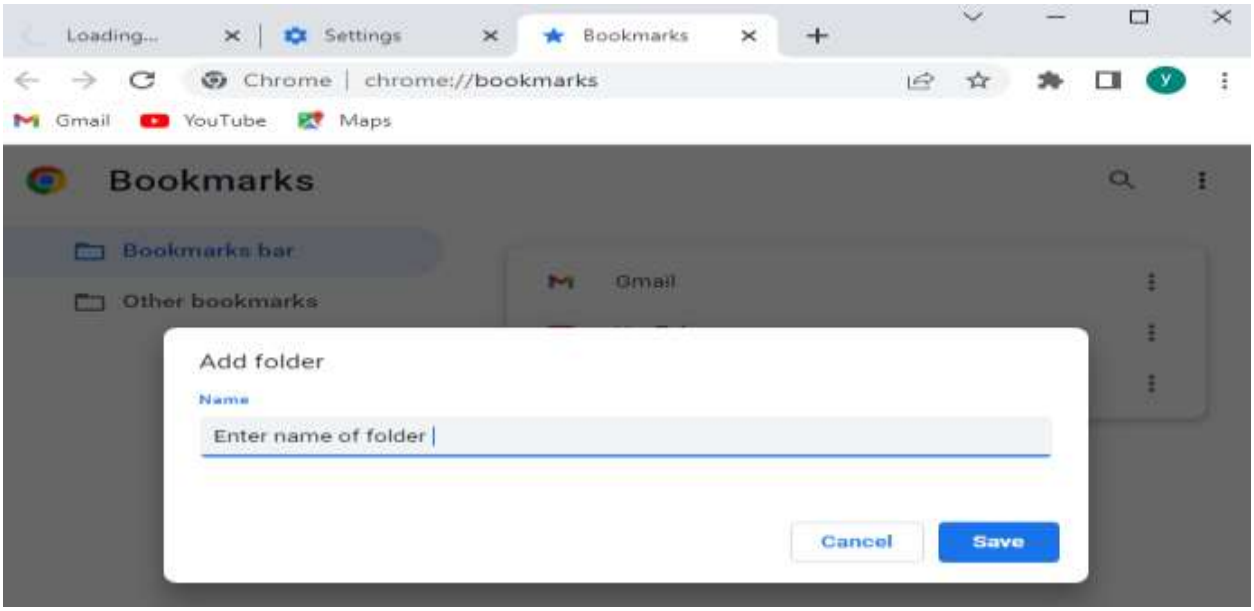


Figure 2. 8 Choose Add to Favorites from the Favorites menu

LAP Test-2

Task 1: Open Google Search Engines

Task 2: Save and Present Search engine data

Task 3: Create and Save the created Bookmark

Unit three: Work as a team member

This unit is developed to provide you the necessary information regarding the following content coverage and topics:

- Effective and appropriate forms of communications with team members.
- Making effective and appropriate contributing to complement team activities and
- Objectives, based on individual skills, competencies and workplace context
- Observing protocols in reporting using standard operating procedures
- Development of team work plans based on understanding of team's role, objectives and individual competencies.

This unit will also assist you to attain the learning outcomes stated in the cover page. Specifically, upon completion of this learning guide, you will be able to:

- Effective and appropriate forms of communications used and interactions undertaken with team members who contribute to known team activities and objectives
- Effective and appropriate contributions made to complement team activities and objectives, based on individual skills and competencies and workplace context
- Observe protocols in reporting using standard operating procedures
- Contribution is made to the development of team work plans based on understanding of team's role and objectives and individual competencies of the members.

3.1 Introduction to communication

Internet communication is referred to as the sharing of information ideas or simply words over the World Wide Web or the Internet. The Internet consists of a worldwide string of connected networks that exchanges data through packet switching using the standardized Internet Protocol Suite (TCP/IP). Unlike before, people can stay at home and be connected to his or her family, friends and even colleagues from anywhere around the world.

The internet provides many effective communication tools, including e-mail, mailing lists, discussion groups, chat services, web conferencing, blogs, and RSS feeds. In recent years, social networking sites such as Facebook and Twitter have also joined the mix. These various tools allow you to communicate one-to-one or one-to-many, depending on your communication needs. They also enable communication locally between people who know one another or world-wide with people who share common interests.

3.2 Effective and appropriate communications with team members.

3.2.1. Internet commination

Internet communication refers to communicating with people over the internet. It could be in any form: messages, voice, or video calls. One of the major advantages of internet communication over traditional communication is cost savings. In addition, there are a lot of free tools that make internet communication easier, such as WhatsApp, Skype, Google Meet, and Messenger. Even businesses can communicate with overseas customers over the phone at pocket-friendly prices using the internet.

3.2.1 Measurements of effective commination

The Internet communication has various characteristics to measurements the effectivity including:

- No physical barriers
- Decentralized
- Ubiquitous
- Ambient
- Global
- 24 hours per available 7 days,
- Real time interaction
- Increased data accuracy
- Increased interaction process
- Multiple user participation
- Open and transparent exchange
- Sharing of information
- Increased speed of transmission of information

3.3 Communication tools

The process by which people create, exchange, and perceive information using networked communication classifications. It also includes non-networked computers that facilitate encoding, transmitting, and decoding information.

Basic Communication Tools are: -

- Email.
- Telephones. Landline Telephones. Cell Phones. Smartphones. Internet Calling: Google Voice and Others.
- SMS/Text Messaging.
- Cell and Data Plans.
- Video and Web Conferencing.
- Social Networking Sites.
- G-Suite and Microsoft 365/Office.

Example 1: - EMAIL

Email is one of the first and most popular forms of electronic communication. It allows the user to send and receive files and messages over the internet, and can be used on a wide variety of devices. Here are some of the advantages and disadvantages of email.

Advantages of email

- Email is a free tool.
- Email is quick. Once you have finished composing a message, sending it is as simple as clicking a button. Once it is sent and delivered, it can be read almost immediately.
- Email is simple. It is easy to use, email allows for the easy and quick access of information and contacts.
- Email allows for easy referencing. Messages that have been sent and received can stored, and searched through safely and easily.
- Email is accessible from anywhere – as long as you have an internet connection.
- Email is paperless, and therefore, beneficial for the planet.
- Email allows for mass sending of messages, you can send one particular message to several recipients all at once.
- Email allows for instant access of information and files.

Disadvantages of email

- Email could potentially cause information overload.
- Email lacks a personal touch.
- Email can be disruptive.
- Email cannot be ignored for a long time.
- Emails can cause misunderstandings.
- Email messages can contain viruses.
- Email should be kept short and brief.
- Email requires timely responses.

Create a Gmail account

To sign up for Gmail, create a Google Account. You can use the username and password to sign in to Gmail and other Google products like YouTube, Google Play, and Google Drive.

Gmail is one of the most used email services around the world. If you want to create a Gmail account in just a few simple steps you can create it. But before that, you need to sign up for a Google account. To create a Gmail account, you need to provide some basic information like your name, birth date, gender, and location. Even you have to choose a name for your new Gmail address.

Follow the below steps and create your own Gmail account with the quick sign-up process. You can use your username and password to sign in to Gmail and other Google products like YouTube, Google Play, and Google Drive. Follow the steps, create your Gmail account and start sending emails.

Step 1: Visit Google account creation page, **accounts.google.com**

Step 2: Click on **Create account.**

Step 3: The sign-up form will appear. Enter your **first** and **last name**.

Step 4: Choose a U**sername** for your account. (Here you can also use an existing email address)

Step 5: After choosing a username, **enter a password**. Type the password again to confirm. (As per Google's instruction always use 8 or more characters with a mix of letters, numbers & symbols)

Step 6: At last tap on **Next.** (Right corner of the screen).

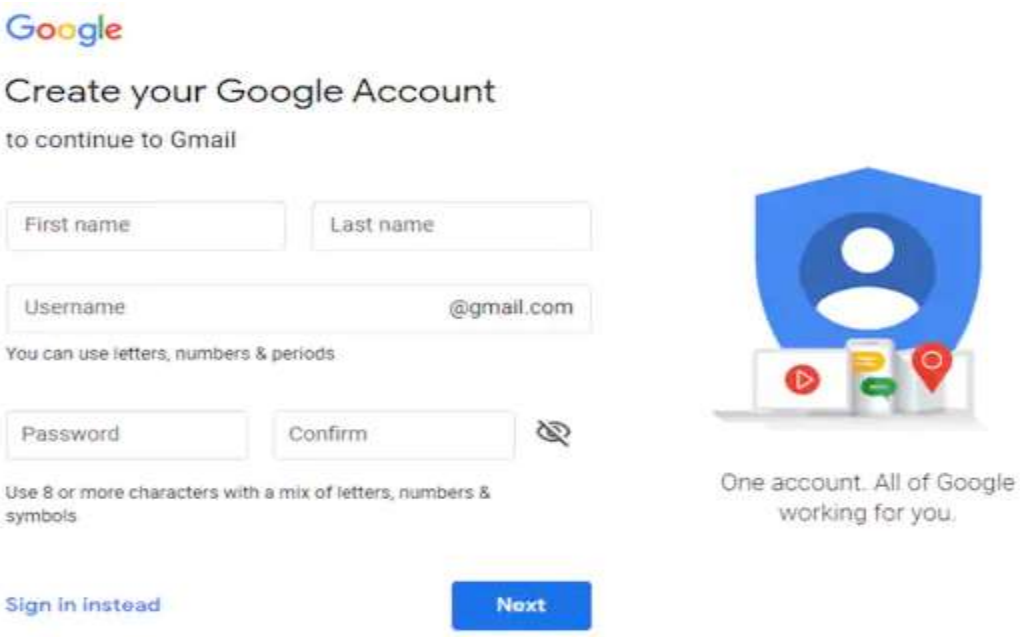


Figure 3. 1 Create google account

Step 7: On the next page enter **your phone number** to verify your account. (It is a two-step verification process for security)

Step 8: On the given mobile number you will receive a text message from **Google** with a verification code. **Enter** the **verification code** and tap on **Verify**.

Step 9: On the next page enter your **DOB** in the specified fields.

Step 10: Choose a **Gender**.

Step 11: Tap on **Next**.

Step 12: Read, Google's Terms of Service and Privacy Policy will appear on the screen and click on **I agree**.

Congratulations! your account has been created. From now onwards every time you sign in you just have to enter your email id and password. And every time you sign-in don't forget to sign-out because it prevents others from viewing your emails.

Do you know how to sign-out?

Navigate to the circle (in the top-right corner of the page). Here tap on it, from the below option, select **Sign-out**.

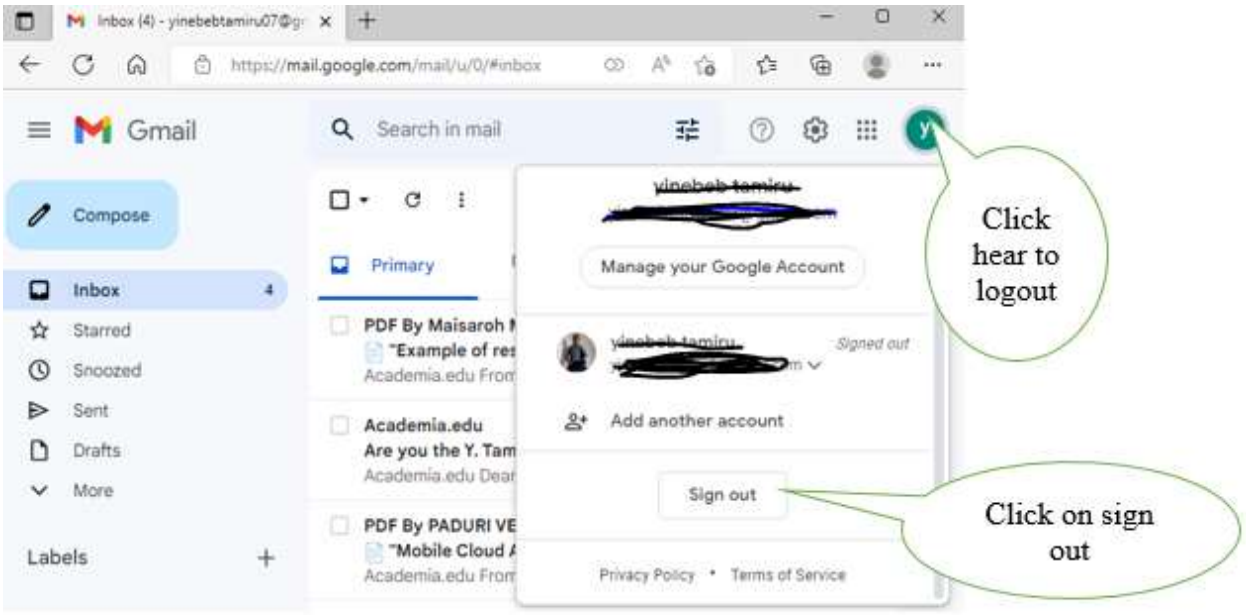


Figure 3. 2 Log out from Gmail

3.4 Internet protocols for communication

The most important protocols for data transmission across the Internet are TCP (Transmission Control Protocol) and IP (Internet Protocol). Using these jointly (TCP/IP), we can link devices that access the network; some other communication protocols associated with the Internet are POP, SMTP and HTTP.

Email protocol is a standard method for exchanging information between email clients like Thunderbird, Apple Mail, or Mailbird and email provider's servers like Gmail, Outlook, Yahoo, and vice versa.

Email protocols differ by function: some receive emails and send and transport emails.

SMTP

As the name suggests, Simple Message Transfer Protocol is responsible for email transfers between email clients (Windows Mail, Thunderbird, etc.) and email providers' servers (Gmail, Outlook, Yahoo). Simple Message Transfer Protocol (SMTP) is responsible only for sending emails.

Companies use their SMTP server for email marketing and for sending automated transactional emails like updates on comments and shares, password change, or purchase confirmation. With the help of a service like SendPulse, you can send promotional and transactional emails via SMTP server with advanced functions template builder, mailing lists management, email workflows, A/B testing, etc.

POP3

Email clients use Post Office Protocol 3 for retrieving messages from email servers. Email clients that use POP3 store messages on the user's computer, deleting them from the email server. People using email clients with POP3 also have the option of keeping their emails on the server after download.

This email protocol was designed to enable users to read, draft, and delete emails when there is no smooth access to the internet. With POP3, emails are delivered as soon as the user connects to the internet. Allow both receiving and sending

IMAP

Internet Message Access Protocol is similar to POP3, but unlike it, IMAP allows multiple users to send emails at a time. This is a helpful feature for business owners, who assign communication with customers to different team members — especially when they need to have access to one email address at one time. Allow both receiving and sending

Unlike POP3, IMAP stores emails on the server by default, unless the user deletes them.

SendPulse SMTP Server

SendPulse is a marketing platform that allows you to send emails from a reputable SMTP server to promote products and services and bring value to people.

You can send your emails via SMTP server without utilizing the whole spectrum of the service's functionality.

Self-check-3

Part I: - Write True if the statement is Correct and False If the statement is Incorrect

1. One of the major advantages of internet communication over traditional communication is cost savings.
2. You can use the username and password to sign in to Gmail and other Google products to communicate to other persons
3. Telephones, Landline Telephones, Cell Phones, Smartphones. Internet Calling, Google Voice is not a communication tools.
4. These various tools allow you to communicate one-to-one or one-to-many, depending on your communication needs.
5. Email allows for the easy and quick access of information and contacts.

Part II: - Select the best answer from the given alternative

1. Which one of the following is the not form of internet communication?
   A. Gmail
   B. Messages
   C. Voice
   D. video calls
2. Which one is the **not** disadvantages of email
   A. Email messages can contain viruses.
   B. Email can be disruptive.
   C. Email lacks a personal touch
   D. Email could potentially cause information overload.
   E. Email allows for instant access of information and files.
3. Which one is effective communication tools
   A. E-mail
   B. Cell phones
   C. Smartphones
   D. All
4. The most important protocols for data transmission across the Internet is
   A. TCP/IP
   B. POP
   C. SMTP
   D. HTTP
5. Which one is the **not** advantages of email
   A. Email is a free tool
   B. Email is quickie
   C. Email is simple
   D. Email allows for easy referencing.
   E. Email can be disruptive
   F. All

Operation Sheet 3.1: - Creating Gmail accounts for communication

- **Operation title: -** Creating Gmail accounts
- **Purpose:** communicate with other person
- **Instruction:** Using the figure below and given equipment. You have given 30 minute for the task and you are expected to complete tasks.
- **Tools and requirement:**

- Computer
- Internet
- Network infrastructure

- **Steps in doing the task**
  - **Step 1:** Visit Google account creation page, **accounts.google.com**
  - **Step 2:** Click on **Create account and select myself or you went**

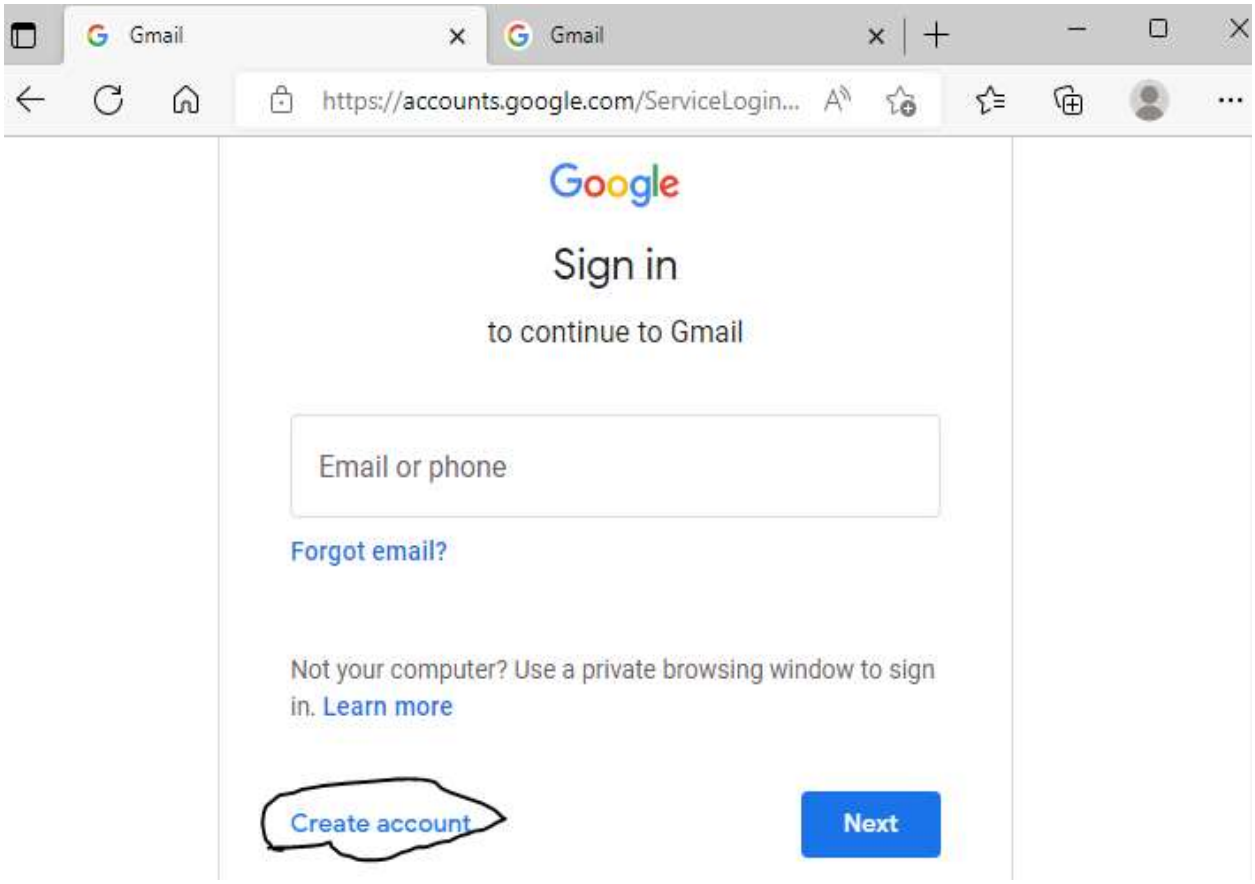


Figure 3.

Step 3: The sign-up form will appear. Enter your **first** and **last name**.

Step 4: Choose a U**sername** for your account.

Step 5: After choosing a username, **enter a password**. Type the password again to confirm.)

Step 6: At last tap on **Next.**

Step 7: On the next page enter **your phone number** to verify your account. (It is a two-step verification process for security)

Step 8: On the given mobile number you will receive a text message from **Google** with a verification code. **Enter** the **verification code** and tap on **Verify**.

Step 9: On the next page enter your **DOB** in the specified fields.

Step 10: Choose a **Gender**.

Step 11: Tap on **Next**.

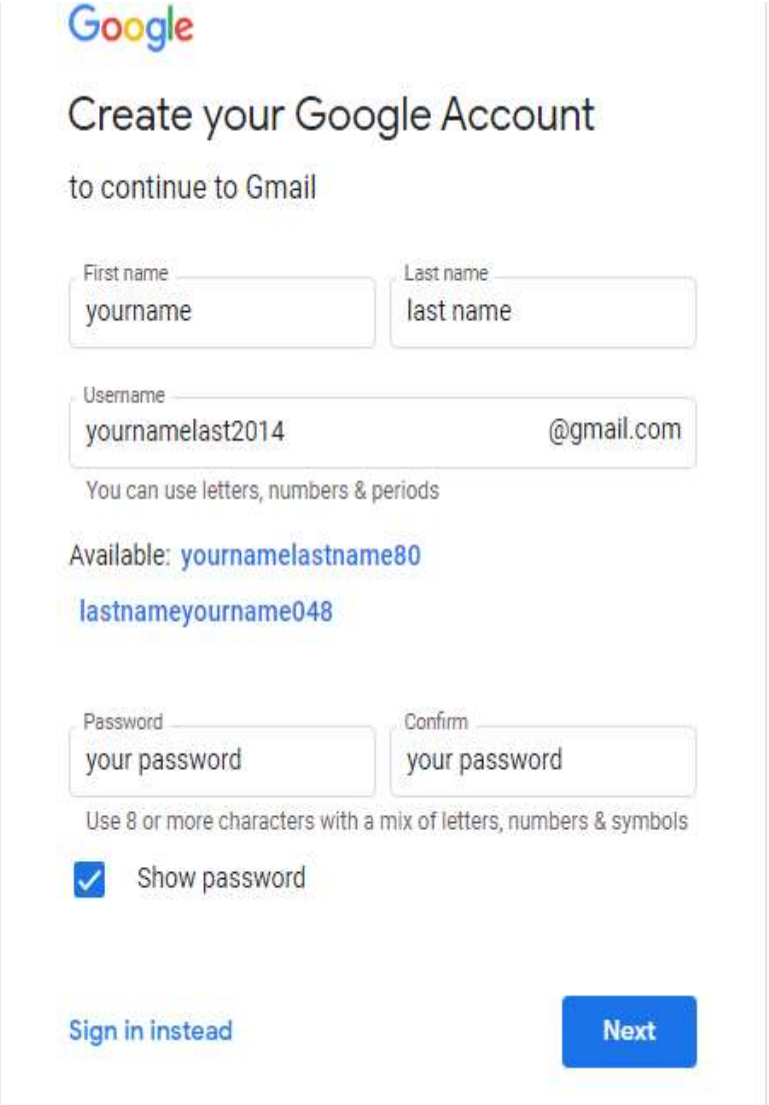
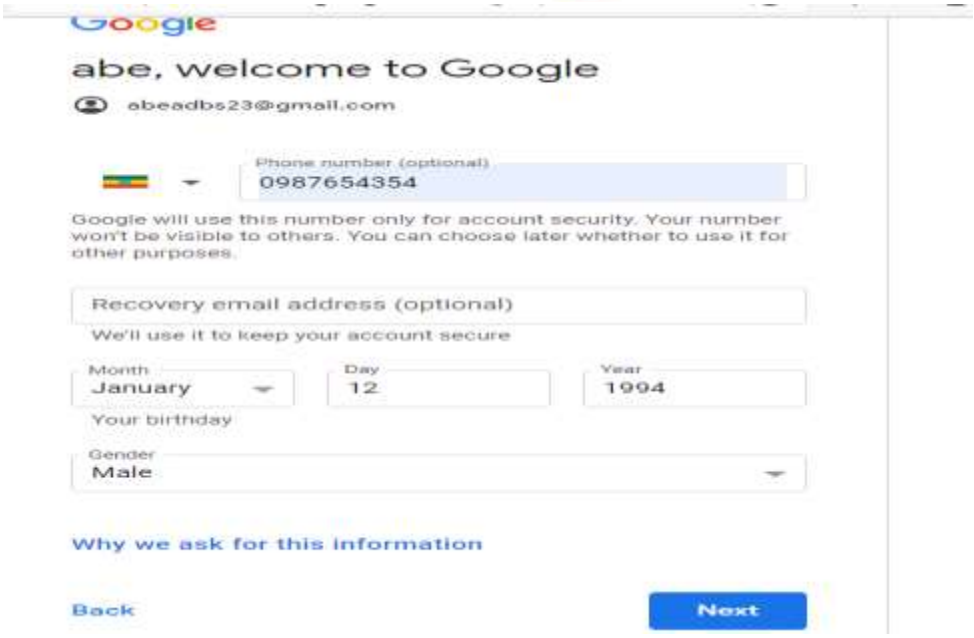
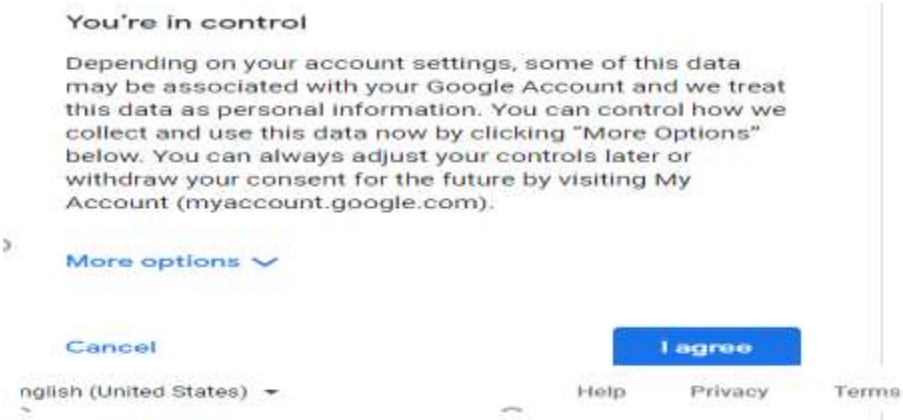


Figure 3. 3 sign up for google account



Step 12: Read, Google's Terms of Service and Privacy Policy will appear on the screen and click on **I agree**.



Step 13: Congratulations! your account has been created. From now onwards every time you sign in you just have to enter your email id and password.

Note: - Then create one document given by your teacher and send this documents to your teacher.

Lap Test-3

Task 1: Open Google account website

Task 2: Signup or create yours google account

Task 3: login into yours created Gmail account

Task 4: - Send one documents to your teacher

Reference

Book

1) *Zadeh J Cryptography on the Internet Proceedings of the 37th annual Southeast regional conference (CD-ROM), (45-es)*
2) *Brookes W and Indulska J Teaching internet literacy to a large and diverse audience Proceedings of the 2nd Australasian conference on Computer science education, (7-15)*
3) *Introduction to the Internet (3rd Edition), by Scott D. James (Author)*
4) *Introduction to the Internet August 2000, Scott D. James*
5) *Introduction Lexicography in the Internet era ByPedro A. Fuertes-Olivera*
6) *Computer Networks Tanenbaum, Andrew. S. 4th ed Pearson*
7) *Computer Networks & Internets, Comer, Douglas 2nd ed Pearson*
8) *Computer Networks & Internets: With Internet Applications Comer, D. E/ Narayanan, M. S. 4th ed Pearson*
9) *How to Use the Internet Subsequent Edition Rogers Cadenced, subsequent edition 2002.*
10) *Computer & Internet Security: A Hands-on Approach Wenliang Du , 2019, 2nd Edition*

Web Link

1) https://quicklearncomputer.com/
2) https://www.ionos.com/digitalguide/websites/web-development/how-are-websites-accessed/
3) Computer Concepts - Services on Internet (tutorialspoint.com)

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