**1**.**Understanding Wi-Fi USB Dongles**

* A **Wi-Fi USB dongle** is a small device you plug into your computer’s USB port to connect to a wireless network.
* It’s especially useful if:
  + Your device doesn't have built-in Wi-Fi.
  + You want to upgrade to a faster Wi-Fi standard (e.g., Wi-Fi 6).
* **How it works:**
  + The dongle has a built-in wireless adapter.
  + It communicates with your router to give your PC access to the internet.
* Some dongles come with **antennas** to improve signal strength.
* Wi-Fi dongles are **plug-and-play** — easy to set up on most modern operating systems.

**2**.**Secure Collaboration Across the Internet**

* Secure collaboration means working together online **while protecting sensitive data**.
* **Common tools** used:
  + Cloud storage (e.g., Google Drive, OneDrive)
  + Communication apps (e.g., Microsoft Teams, Slack)
  + Project management platforms (e.g., Trello, Asana)
* **Security practices** for safe collaboration:
  + Use strong passwords and two-factor authentication (2FA)
  + Encrypt sensitive documents
  + Use secure Wi-Fi networks (avoid public ones)
  + Assign access permissions carefully (read-only, editor, etc.)
* **VPNs (Virtual Private Networks)** are often used for secure remote work.
* Organizations may use **firewalls** and **endpoint protection software** to further protect data.

**3.Types and Functions of Networking and Wireless Connections**

**Types of Networks**

* **LAN (Local Area Network):**  
  Connects computers within a small location like a home, school, or office.
* **WAN (Wide Area Network):**  
  Covers large geographical areas and connects multiple LANs — the internet is the best example.
* **WLAN (Wireless Local Area Network):**  
  A LAN that uses wireless signals (Wi-Fi) instead of physical cables.
* **PAN (Personal Area Network):**  
  Very short-range connections, typically using Bluetooth — e.g., connecting your phone to wireless earbuds.
* **MAN (Metropolitan Area Network):**  
  A network that spans a city or large campus. Often used by governments or universities.

**Types of Wireless Connections**

* **Wi-Fi:**  
  The most common wireless technology for home and business internet connections.
* **Bluetooth:**  
  Used for connecting nearby devices like speakers, keyboards, and phones.
* **Mobile Networks (3G, 4G, 5G):**  
  Cellular connections that allow mobile devices to access the internet from anywhere.
* **Infrared:**  
  An older wireless technology used in remote controls and older mobile devices.

**Functions of Networking**

* **File Sharing:**  
  Send and access files between computers or users.
* **Printer and Device Sharing:**  
  Share hardware like printers and scanners over the network.
* **Internet Access:**  
  Allow multiple devices to connect to the internet through one connection.
* **Centralised Data Management:**  
  Store and manage data on a central server for better control and backups.
* **Communication Tools:**  
  Enable email, video calls, messaging apps, and collaboration platforms.
* **Remote Access:**  
  Use of VPNs or cloud services to access work files from anywhere securely.

**4.Common Functionality of Server Networks**

Servers are powerful computers that help manage and share resources across a network. They store files, run applications, and support services like email, internet access, and printing. Businesses once relied on physical servers, but many now use cloud computing for the same tasks. Cloud services are easier to manage, more flexible, and often cheaper. However, it’s important to choose a trusted provider and ensure compliance with data protection laws.

**What Servers Do**

* Store and share files
* Run centralised applications (e.g., databases)
* Share internet access across devices
* Manage email services
* Allow remote access via VPN
* Manage print jobs (centralised printing)
* Host internal websites (intranets)
* Run shared software and tools

**Advanced Server Uses**

* Businesses with heavy workloads may use **multiple servers** to split the load
* **Virtualisation** helps one physical server perform the job of several

**Heavy Applications May Need Dedicated Servers**

* Large shared databases
* Software development environments
* Complex internal email systems

**Using the Cloud Instead of a Server**

* Cloud services (e.g., SaaS) replace many traditional server tasks
* Benefits:
  + Easier to set up and manage
  + Monthly cost (no big upfront cost)
  + Accessible anywhere via web browser
  + 24/7 support from provider
  + Flexible – add/remove users easily
  + Automatic updates and backups
  + Supports remote working

**Important Considerations When Using Cloud Servers**

* Choose a **trustworthy cloud provider**
* Ensure you have a **fast and reliable internet connection**
* Know where your data is stored — for **GDPR compliance**
* Understand the **level of support** the provider offers

**Structure of the HTML Page**

The webpage will use **semantic HTML5 structure** with organized sections:

**Page Structure:**

* <header>  
  Includes the page title and brief description of the article.
* <section>
  + **Section 1:** Understanding Wi-Fi USB Dongles
  + **Section 2:** Secure Collaboration Across the Internet
  + **Section 3:** Types and Functions of Networking and Wireless Connections
  + **Section 4:** Common Functionality of Server Networks
* <audio>  
  Positioned under the header or footer, allowing users to play the MP3 version of the article.

**Network Sharing Setup & Testing Plan**

**Step-by-step:**

1. **Open the project folder in VS Code**
2. **Use Live Server** to run networks-and-servers.html
3. **Get my IP address** using ipconfig in Command Prompt (look for IPv4 address)
4. **Access page across the network:**  
   Share this link: http://192.168.0.101:5500/networks-and-servers.html
5. **Get feedback** from teammates or test from another device.