

DAY 01

1. Single-Board Computer (SBC)

- A **Single-Board Computer** is a compact computer built on a single circuit board.
- It includes a processor, memory, and input/output interfaces.
- **Examples:** Raspberry Pi, Arduino (microcontroller).
- **Uses:** IoT projects, learning programming, robotics.

2. What is Kali Linux?

- **Kali Linux** is a Debian-based Linux distribution designed for penetration testing and ethical hacking.
- Maintained by **Offensive Security**.
- Includes tools like `nmap`, `metasploit`, `burpsuite`, etc.
- Pre-installed in many hacking-focused virtual machines.

3. Forking in GitHub

- **Forking** creates a personal copy of someone else's repository to your GitHub account.
- Allows you to modify the project without affecting the original.
- **Use case:** Contributing to open-source projects.
- **Steps:**
 1. Go to the GitHub repository.
 2. Click the **Fork** button (top-right corner).

4. Cloning a Repository in GitHub

- Cloning copies the repository to your local system.

Command:

```
git clone https://github.com/username/repository.git
```

Result: You get a working directory with full history of the project.

5. Install VS Code in Kali Linux

- **Steps:**

```
sudo apt update
sudo apt install software-properties-common apt-transport-https wget
wget -q https://packages.microsoft.com/keys/microsoft.asc -O- | sudo
apt-key add -
sudo add-apt-repository "deb [arch=amd64]
https://packages.microsoft.com/repos/vscode stable main"
sudo apt update
sudo apt install code
```

- After installation, launch with:

```
code
```

6. How to Set SSH and GPG Keys in GitHub

- **SSH Key Setup:**

1. Generate key:

```
ssh-keygen -t ed25519 -C "your_email@example.com"
```

2. Add SSH key to GitHub:

- Copy key:

```
cat ~/.ssh/id_ed25519.pub
```

- Paste into GitHub → Settings → SSH and GPG keys.

- **GPG Key Setup:**

1. Generate GPG key:

```
gpg --full-generate-key
```

2. List key:

```
gpg --list-secret-keys --keyid-format LONG
```

3. Export key:

```
gpg --armor --export YOUR_KEY_ID
```

4. Add key to GitHub under GPG keys.