**✅ Git Local Server Setup in Local Network**

**🎯 Goal:**

You (Developer A) will host a **Git server**, and others (Developer B, C, etc.) will **clone/push/pull** via LAN (no GitHub, no internet required).

**🖥️ Step 1: Install Git on All Machines**

**✅ On Linux (Ubuntu/Debian):**

bash

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sudo apt update

sudo apt install git -y

**✅ On Windows:**

1. Download Git for Windows: <https://git-scm.com/download/win>
2. Install with default settings.
3. Use **Git Bash** to run Git commands.

**✅ Verify:**

bash

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git --version

**🛠️ Step 2: Create Bare Git Repository (Host Machine)**

**👨‍💻 On Developer A (Host Machine):**

1. **Choose location for repo**:  
   Example:

bash

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mkdir -p ~/git-server/my-project.git

cd ~/git-server/my-project.git

git init --bare

* + --bare means it's a **server-only repo** (no working directory).
  + This is where others will push/pull code.

**🌐 Step 3: Enable Network Sharing**

**✅ Option A: Over SSH (Recommended)**

**✅ Start SSH Server:**

**On Linux:**

bash

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sudo apt install openssh-server -y

sudo systemctl enable ssh

sudo systemctl start ssh

**On Windows:**

1. Enable **OpenSSH Server**:
   * Go to **Settings → Apps → Optional Features**.
   * Click **Add a feature** → install **OpenSSH Server**.
2. Start service:

powershell

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Start-Service sshd

**👨‍💻 Step 4: Clone from Another Machine**

**🔍 Find Host IP (on Host):**

bash

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ip a # Linux

ipconfig # Windows

Let’s assume IP is: 192.168.1.100

**✅ On Developer B (Client):**

bash

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git clone user@192.168.1.100:/home/user/git-server/my-project.git

Replace user with actual username of Host machine.

Now Dev B has a local copy of the code.

**🧪 Step 5: Collaborate Using Git**

**On Client:**

bash

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# Make changes

git add .

git commit -m "Some changes"

git push origin main

**On Host or Another Client:**

bash

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git pull origin main

**✅ Optional: Setup SSH Keys (No Password Prompt)**

**1. Generate SSH key on client:**

bash

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ssh-keygen -t rsa -b 4096

**2. Copy public key to host:**

bash

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ssh-copy-id user@192.168.1.100

Now, you can push/pull without typing password.

**🧱 Directory Structure Summary**

**On Host:**

bash

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~/git-server/my-project.git ← bare repo

**On Clients:**

swift

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~/workspace/my-project/ ← working copy (cloned repo)

**🔐 Access Control**

* Use **file system permissions** to control who can push/pull.
* Create a shared **Linux user** or group and manage repo access securely.

**🚀 Optional: Use Gitea (Lightweight Web Git Server)**

If you want a **GitHub-like web interface** in your LAN:

**Install Gitea on Host:**

bash

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sudo apt install sqlite3 git

wget -O gitea https://dl.gitea.io/gitea/1.21.11/gitea-1.21.11-linux-amd64

chmod +x gitea

./gitea web

* Open browser on LAN: http://192.168.1.100:3000
* Follow setup instructions.