PuTTY

Prerequisites

1. Windows 11 (any modern build).
2. Administrator access on the PC (required for installer / system installation; not required for portable EXE).
3. Internet connection to download the installer.
4. Enough disk space (PuTTY is tiny — under 10 MB).
5. Optional: familiarity with SSH (host, username, port) if you plan to connect immediately.

Tip: PuTTY is available as an **installer** (recommended) and a **portable .exe** (no install required). Use the installer for system-wide installs; use portable if you can't install software.

Where to get PuTTY

Download from the **official PuTTY site** (look for the official project page from Simon Tatham / PuTTY). When downloading, prefer the **Windows installer (.msi)** for x64 if your Windows is 64-bit (most modern machines).

Step-by-step installation (GUI installer)

1. **Download the installer**
   - Choose `putty-<version>-installer.msi` for 64-bit Windows (or the 32-bit installer if you really need it).
2. **(Optional) Verify checksum**

After the file downloads, open PowerShell and run:`Get-FileHash -Algorithm SHA256 "C:\path\to\putty-installer.msi"`

   - Compare the hash with the value on the official download page (if available).
1. **Run the installer**
   - Double-click the `.msi` file. If prompted by UAC, click **Yes** to allow.
2. **Follow the Setup Wizard**
   - Click **Next**, accept License (if prompted), choose **Typical** or **Custom** (Typical is fine).
   - Choose install folder (default is fine).
   - Click **Install**.
3. **Finish**
   - Click **Finish**. PuTTY and related apps (PuTTYgen, PSCP, PSFTP, Pageant) will be installed and shortcuts created (Start menu / Program Files).

Step-by-step (portable mode — no install)

1. Download `putty.exe` (single EXE) from the official site.
2. Place it in a folder you control (e.g., `C:\Tools\PuTTY\`).
3. Run `putty.exe` directly — no admin required.

Install via package manager (optional — faster repeatable install)

winget (Windows 11 includes it):`winget install --id=SimonTatham.PuTTY`

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Chocolatey (if you use it):`choco install putty`

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These commands require admin/PowerShell elevated terminal.

Post-install: basic usage

1. Open **PuTTY** (Start → PuTTY).
2. In **Host Name (or IP)** enter the server address (e.g., `example.com`) and **Port** (default `22`).
3. Choose **Connection type: SSH**.
4. (Optional) On the left, under **Connection → Data**, enter **Auto-login username** for convenience.
5. Click **Open** to initiate the SSH session.
6. The first time you connect, PuTTY will prompt to accept the server's host key — click **Yes** to cache it.

Generating SSH keys with PuTTYgen (recommended for key-based auth)

1. Launch **PuTTYgen** (installed with PuTTY).
2. Choose key type (RSA is common) and key size (2048 or 4096).
3. Click **Generate** and move the mouse in the window as requested.
4. (Optional) Enter a **Key passphrase** (recommended for security).
5. Click **Save private key** — store this file securely (`.ppk` format).
6. Copy the **Public key** text from the PuTTYgen window and add it to the server's `~/.ssh/authorized_keys` for the user.

To use the key in PuTTY:

- In PuTTY, go to **Connection → SSH → Auth** and browse to your `.ppk` file in **Private key file for authentication**.

Using Pageant (SSH agent for PuTTY)

1. Start **Pageant** (comes with PuTTY).
2. Right-click its icon in the system tray → **Add Key** → select your `.ppk`.
3. Pageant will cache your key and PuTTY will use it automatically for connections.

Verifying installation / command-line tools

The installer provides command-line tools:

- `pscp.exe` — SCP file copy to/from remote server.
- `psftp.exe` — SFTP client.
- `plink.exe` — command-line connection (like ssh in scripts).

Example (PowerShell/CMD) to copy a file:

```
pscp C:\local\file.txt user@example.com:/home/user/
```

Uninstall PuTTY

1. Settings → Apps → Installed apps → find **PuTTY** → **Uninstall**.
2. If portable, just delete the folder containing `putty.exe`.

Common Troubleshooting

- **"Connection timed out"** → Verify host/IP, network, firewall, and port. Try `ping` or `telnet host 22` (or `Test-NetConnection -ComputerName host -Port 22` in PowerShell).
- **"Network error: Connection refused"** → SSH service on server may be down or on a different port.
- **Host key mismatch** → Server's host key changed; check if server was reinstalled or SSH keys rotated. Remove old key from PuTTY's cache (Registry) if you trust the change.
- **Private key not accepted** → Ensure public key was correctly installed on the server and you're using a `.ppk`private key for PuTTY (PuTTYgen converts OpenSSH keys to `.ppk`).
- **Permission denied (publickey)** → Check public key on server, file permissions on `~/.ssh` and `authorized_keys` (`chmod 700 ~/.ssh; chmod 600 ~/.ssh/authorized_keys`).

Security tips

- Prefer **key-based authentication** with passphrases over password auth.
- Keep private keys secure and back them up to a safe location (never share private keys).
- Verify download checksums from official sources if available.
- Keep PuTTY updated (re-download the latest installer occasionally).

If you want, I can:

- Provide the exact **winget/choco command** for your system (tell me if you want admin/automated install).
- Walk you through **generating a key** and **copying the public key to your server** step by step.
- Give a short **checklist** you can print when installing on multiple machines.

Which of those would you like next?