

Magic Wormhole — Secure Cross-Network File Transfer (Overview & Guide)



Secure, simple, encrypted file transfer across different networks — no port forwarding, no public IPs.



Purpose

This document is a compact, practical overview of Magic Wormhole for transferring files between computers on different networks. It preserves all original images and examples and adds clear, professional headings, testing tips, and deliverables.

What is Magic Wormhole?

Magic Wormhole is a small CLI utility that creates a short-lived, end-to-end encrypted channel between two machines. Sender produces a one-time code (e.g., 9-night-bird). Receiver uses that code to securely pull the file.

Why use it?

- Works across NATs and firewalls (no port forwarding)

- One-time codes (simple UX)
 - End-to-end encryption (privacy)
 - Lightweight and scriptable
-

⚙️ Installation (both machines)

```
sudo apt update  
sudo apt install -y magic-wormhole
```

📤 Sender — How to send a file

1. Change to the file directory:

```
cd ~
```

2. Send:

```
wormhole send file.sh
```

3. Note the wormhole code shown (example: 9-night-bird) and keep the terminal open until transfer finishes.
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📥 Receiver — How to receive a file

1. In your target directory run:

```
wormhole receive 9-night-bird
```

2. Wait for transfer; file downloads to current directory.
3. If script, make executable:

```
chmod +x file.sh  
./file.sh
```

📝 Test on a Single Machine (two terminals)

You can fully test the workflow locally using two terminals (simulates sender + receiver):

Terminal A (sender)

```
mkdir ~/worm-send && cd ~/worm-send
echo "Hello" > test.txt
wormhole send test.txt
# note the code
```

Terminal B (receiver)

```
mkdir ~/worm-recv && cd ~/worm-recv
wormhole receive <code-from-terminal-A>
ls
cat test.txt
```

This validates the full encrypted transfer path without needing a second physical device.

🔒 Security & Best Practices

- Use small, one-time sensitive files only as needed.
- Verify code over a trusted channel to avoid social engineering.
- Prefer latest release of magic-wormhole.
- For automated workflows, use wormhole's Python API with care and secure credentials.

📸 Example Screenshots (kept from original)

Receiver's View

```
ujjwaltyagi@ujjwaltyagi:~/wormhole-send$ cd ..
ujjwaltyagi@ujjwaltyagi:~$ mkdir ~/wormhole-receive
ujjwaltyagi@ujjwaltyagi:~$ cd ~/wormhole-receive
ujjwaltyagi@ujjwaltyagi:~/wormhole-receive$ wormhole receive 14-decadence-kiwi
Receiving file (26 Bytes) into: test.txt
ok? (Y/n): y
Receiving (->tcp:192.168.31.100:41561)...
100%|██████████| 26.0/26.0 [00:00<00:00, 98.0B/s]
Received file written to test.txt
ujjwaltyagi@ujjwaltyagi:~/wormhole-receive$ ls
test.txt
ujjwaltyagi@ujjwaltyagi:~/wormhole-receive$ cat test.txt
cat: test.txt: No such file or directory
ujjwaltyagi@ujjwaltyagi:~/wormhole-receive$ cat test.txt
Testing wormhole transfer
ujjwaltyagi@ujjwaltyagi:~/wormhole-receive$
```

Sender's View

```
ujjwaltyagi@ujjwaltyagi:~$ mkdir ~/wormhole-send
ujjwaltyagi@ujjwaltyagi:~$ cd ~/wormhole-send
ujjwaltyagi@ujjwaltyagi:~/wormhole-send$ echo "Testing wormhole transfer" > test.txt
ujjwaltyagi@ujjwaltyagi:~/wormhole-send$ wormhole send test.txt
Sending 26 Bytes file named 'test.txt'
Wormhole code is: 14-decadence-kiwi
On the other computer, please run:

wormhole receive 14-decadence-kiwi

Sending (<-192.168.31.100:35536)..
100%|██████████| 26.0/26.0 [00:00<00:00, 26.1kB/s]
File sent.. waiting for confirmation
Confirmation received. Transfer complete.
ujjwaltyagi@ujjwaltyagi:~/wormhole-send$ ls
test.txt
ujjwaltyagi@ujjwaltyagi:~/wormhole-send$
```

Quick Reference

Action	Command
Install	<code>sudo apt install magic-wormhole</code>
Send	<code>wormhole send file.sh</code>
Receive	<code>wormhole receive CODE</code>
Make executable	<code>chmod +x file.sh</code>

Deliverables / Lab Evidence

- Screenshot of sender terminal with wormhole code (kept).
- Screenshot of receiver terminal showing successful receipt (kept).
- Optional: `ls` output showing received file, and `chmod` / run result.

Notes & Links

- Docs: <https://magic-wormhole.readthedocs.io/>
- Use `wormhole --help` for advanced flags and options.

Made for easy, secure file transfer — happy sharing! 🎉