

# Fedora Remix Lab - Quick Start Guide

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This guide assumes you're using a Fedora Remix Lab ISO where the lab scripts are pre-installed.

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## Initial Setup (One-Time Only)

Run these commands **once** when first setting up your lab environment:

### Step 1: Create the Lab VMs

```
sudo lab-create-lab-vms
```

This creates:

- **FedoraLab1** (192.168.100.10, fedoralab1.example.com)
- **FedoraLab2** (192.168.100.11, fedoralab2.example.com)
- A dedicated virtual network called **labnet**
- Pre-configured user `ansibleuser` with passwordless sudo

### Step 2: Configure Host Resolution

```
sudo lab-manage-hosts add
```

This adds the VM hostnames to your `/etc/hosts` file so you can reach them by name.

**Note:** After initial setup, you only need to start the VMs when you want to use them.

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## Starting Your Lab

After initial setup, use this command to start your lab:

```
sudo lab-start-lab-vms
```

This registers and starts both VMs. Wait about 30 seconds for them to fully boot.

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## Verify Your Lab

Check the status of your lab environment:

```
sudo lab-lab-status
```

You should see both VMs running with their IP addresses.

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## Connecting to the VMs

### Via SSH

```
ssh ansibleuser@fedoralab1.example.com  
ssh ansibleuser@fedoralab2.example.com
```

**Password:** Automation!

### Via Graphical Console

```
sudo virt-viewer FedoraLab1  
sudo virt-viewer FedoraLab2
```

## VM Credentials

Setting	Value
Username	ansibleuser
Password	Automation!
Sudo	Passwordless (no sudo password required)

## Available Commands

### Daily Use

Command	Description
<code>sudo lab-start-lab-vms</code>	Start the lab VMs
<code>sudo lab-lab-status</code>	Show lab status
<code>sudo virsh shutdown FedoraLab1</code>	Shutdown a VM
<code>sudo virsh shutdown FedoraLab2</code>	Shutdown a VM

### Initial Setup (One-Time)

Command	Description
<code>sudo lab-create-lab-vms</code>	Create VMs and network (run once)
<code>sudo lab-manage-hosts add</code>	Add VM entries to /etc/hosts (run once)

### Maintenance

Command	Description
<code>sudo lab-reset-lab</code>	Destroy and recreate VMs
<code>sudo lab-manage-hosts remove</code>	Remove VM entries from /etc/hosts
<code>sudo lab-manage-hosts status</code>	Check hosts file status

## Resetting the Lab

To completely reset your lab environment:

```
sudo lab-reset-lab
```

Options:

- `--vms-only` - Reset only VMs, keep network
- `--full` - Reset everything (VMs + network + images)
- `--destroy-only` - Destroy without recreating

## Using with Ansible

An inventory file is available at `/opt/FedoraRemixLab/inventory` :

```
# Test connectivity
ansible -i /opt/FedoraRemixLab/inventory nodes -m ping

# Run a command on all nodes
ansible -i /opt/FedoraRemixLab/inventory nodes -m command -a "hostname"
```

## Troubleshooting

### VMs won't start

Check if libvirtd is running:

```
sudo systemctl status libvirtd
sudo systemctl start libvirtd
```

Check if labnet network exists:

```
sudo virsh net-list --all
```

If labnet is missing, recreate the VMs:

```
sudo lab-reset-lab
```

## Cannot connect via SSH

Check if VMs are running:

```
sudo virsh list
```

Verify network connectivity:

```
ping -c 2 192.168.100.10
ping -c 2 192.168.100.11
```

Check hosts file:

```
sudo lab-manage-hosts status
```

## Permission denied errors

All lab commands require `sudo`:

```
sudo lab-create-lab-vms      # Correct
lab-create-lab-vms          # Wrong - will fail
```

## **virt-viewer shows blank screen**

Wait 30-60 seconds after starting VMs for the boot process to complete. If still blank:

```
# Check if VM is actually running  
sudo virsh list  
  
# Try restarting the VM  
sudo virsh reboot FedoraLab1
```

## **SSH connection refused**

The VM may still be booting. Wait 30 seconds and try again:

```
# Check if SSH port is open  
nc -zv 192.168.100.10 22
```

## **Reset everything and start fresh**

If all else fails:

```
sudo lab-reset-lab --full  
sudo lab-create-lab-vms  
sudo lab-start-lab-vms  
sudo lab-manage-hosts add
```

## File Locations

Path	Description
/opt/FedoraRemixLab/	Lab scripts and files
/var/lib/libvirt/images/	VM disk images
/var/lib/libvirt/images/fedora-lab/	VM overlay images
/opt/FedoraRemixLab/inventory	Ansible inventory file



## Tips

- Setup is one-time** - Run `lab-create-lab-vms` and `lab-manage-hosts add` only once
- Daily use** - Just run `sudo lab-start-lab-vms` to start your lab each session
- Always use sudo** - All lab commands require root privileges
- Wait for boot** - Give VMs 30-60 seconds to fully boot before connecting
- Check status first** - Use `sudo lab-lab-status` to diagnose issues
- Reset is your friend** - When in doubt, `sudo lab-reset-lab` fixes most problems

## Getting Help

- Full documentation: `/opt/FedoraRemixLab/README.md`
- Lab status: `sudo lab-lab-status`
- Check VM console: `sudo virt-viewer FedoraLab1`