

# SNMP Setup and Configuration on Windows Server

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## Step 1: Install SNMP Service

### Using PowerShell:

```
# Run as Administrator
Enable-WindowsOptionalFeature-Online-FeatureName"SNMP" -All
```

### Using Server Manager:

1. Open **Server Manager** → Add Roles and Features
2. Go to **Features** → check **SNMP Service** → Install

| Installing SNMP alone may also install WMI Provider for SNMP (optional).

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## Step 2: Configure SNMP Service

### a) Start the SNMP Service

```
Start-Service SNMP
Set-Service SNMP-StartupType Automatic
```

- Verify status:

```
Get-Service SNMP |Select-Object Status, StartType
```

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## b) Configure Community Strings

1. Open **Registry Editor** ( `regedit` )
2. Navigate to:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\ValidCommunities
```

1. Add community string(s):

Name	Type	Value
monitorRO	DWORD	4
public	DWORD	4

Value 4 = READ ONLY, 8 = READ/WRITE

Community string is **case-sensitive**

## c) Configure Permitted Managers (Optional)

- If you want to restrict access to certain hosts:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\PermittedManagers
```

- Right-click → New → String Value
- Name: `1` → Value: `<Linux monitoring server IP>`

If this key does not exist, SNMP accepts requests from any host. Good for testing.

## Step 3: Configure Windows Firewall

### a) Allow ICMP (ping) from monitoring server

```
New-NetFirewallRule-DisplayName"Allow-Ping"-Protocol ICMPv4-I  
cmpType8-Direction Inbound-Action Allow
```

### b) Allow SNMP (UDP 161)

```
# Remove duplicate rules if exist  
Get-NetFirewallRule-DisplayName"SNMP-In" |Remove-NetFirewallR  
ule-Confirm:$false  
  
# Add fresh SNMP rule  
New-NetFirewallRule-DisplayName"SNMP-In"-Direction Inbound-Pr  
otocol UDP-LocalPort161-Action Allow
```

## Step 4: Restart SNMP Service

```
Restart-Service SNMP
```

- Confirm service is running:

```
Get-Service SNMP
```

## Step 5: Test SNMP

### a) Test locally on Windows

- Install **Net-SNMP for Windows** (<https://www.net-snmp.org/download.html>)
- Run:

```
snmpwalk -v2c -c monitorR0 127.0.0.1
```

- If this works → SNMP service is configured correctly

## b) Test remotely from Linux

- Ensure Linux has `snmpwalk` installed:

```
# Debian/Ubuntu
sudo apt install snmp -y

# CentOS/RHEL/Rocky
sudo dnf install net-snmp-utils -y
```

- Test:

```
snmpwalk -v2c -c monitorR0 192.168.100.114
```

- Should now respond 

## Step 6: Troubleshooting

Symptom	Likely Cause	Fix
Timeout from Linux	Community string mismatch	Add correct community under <code>ValidCommunities</code>
Timeout	Linux host not allowed	Add Linux IP in <code>PermittedManagers</code> or remove restriction
Timeout	Firewall blocking UDP 161	Create SNMP-In firewall rule
No response	SNMP service not running	Start SNMP service and set Automatic startup

Symptom	Likely Cause	Fix
Ping fails	Windows firewall blocking ICMP	Allow ICMP (ping) inbound
Local SNMP fails	SNMP service misconfigured	Check registry entries for communities and restart service

## ✓ Key Lessons Learned

1. **Community string must match exactly** (case-sensitive)
2. **Windows Firewall must allow UDP 161 inbound**
3. **Ping test is crucial** — if ping fails, SNMP will fail
4. **PermittedManagers** key restricts hosts; omit for testing
5. **Service must be running** and startup = Automatic

If you want, I can also create a **PowerShell “one-shot” script** that does **all these steps automatically** for future setups, so you don’t need to configure anything manually again.

Do you want me to do that?

sure

Perfect! Here’s a **ready-to-run PowerShell script** that will do **everything** for you: install SNMP (if needed), configure the community string, optionally allow a monitoring server, open the firewall for SNMP and ping, and start the SNMP service.

## PowerShell One-Shot SNMP Setup Script

```
# -----
# Windows SNMP Setup Script
# -----
# Run as Administrator
# -----
```

```

# ----- Variables -----
$community = "monitorR0" # SNMP community string
$communityValue = 4 # 4 = READ ONLY, 8 = READ/WRITE
$monitorIP = "192.168.100.137" # Linux monitoring server IP (optional)
$firewallSNMPRule = "SNMP-In"
$firewallPingRule = "Allow-Ping"

# -----
# 1 Install SNMP Service
# -----
Write-Host "Installing SNMP service..."
Enable-WindowsOptionalFeature-Online-FeatureName "SNMP" -All-NoRestart

# -----
# 2 Configure SNMP community
# -----
$validCommunitiesKey = "HKLM:\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\ValidCommunities"
If (-Not (Test-Path $validCommunitiesKey)) {
    New-Item-Path $validCommunitiesKey -Force
}
New-ItemProperty-Path $validCommunitiesKey -Name $community -PropertyType DWORD -Value $communityValue -Force
Write-Host "Added SNMP community: $community"

# -----
# 3 Configure Permitted Managers (Optional)
# -----
$permittedManagersKey = "HKLM:\SYSTEM\CurrentControlSet\Services\SNMP\Parameters\PermittedManagers"
If (-Not (Test-Path $permittedManagersKey)) {
    New-Item-Path $permittedManagersKey -Force
}
New-ItemProperty-Path $permittedManagersKey -Name "1" -PropertyType

```

```

pe String-Value$monitorIP-Force
Write-Host"Added Permitted Manager: $monitorIP"

# -----
# 4 Configure Firewall Rules
# -----
# Remove duplicates
Get-NetFirewallRule-DisplayName$firewallSNMPRule |Remove-NetF
irewallRule-Confirm:$false
Get-NetFirewallRule-DisplayName$firewallPingRule |Remove-NetF
irewallRule-Confirm:$false

# Allow SNMP UDP 161
New-NetFirewallRule-DisplayName$firewallSNMPRule-Direction In
bound-Protocol UDP-LocalPort161-Action Allow
# Allow ICMP Ping
New-NetFirewallRule-DisplayName$firewallPingRule-Protocol ICM
Pv4-IcmpType8-Direction Inbound-Action Allow

Write-Host"Firewall rules configured"

# -----
# 5 Start SNMP Service
# -----
Start-Service SNMP
Set-Service SNMP-StartupType Automatic
Write-Host"SNMP service started and set to Automatic"

# -----
# 6 Status Check
# -----
Write-Host"`n✅ SNMP Setup Completed!"
Get-Service SNMP |Select-Object Status, StartType
Write-Host"SNMP community and firewall rules configured for

```

```
$monitorIP"
```

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## How to Use

1. Open **PowerShell as Administrator**
2. Copy & paste this script (or save as `Setup-SNMP.ps1` )
3. Modify variables at the top if needed:
  - `$community` → your desired SNMP community string
  - `$monitorIP` → your Linux monitoring server IP
4. Run the script

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## What This Script Does

1. Installs **SNMP service** if not already installed
2. Adds your **community string** under `ValidCommunities`
3. Adds your **Linux monitoring server IP** under `PermittedManagers` (optional)
4. Opens **UDP 161** in firewall for SNMP
5. Opens **ICMP ping** in firewall for connectivity tests
6. Starts SNMP service and sets it to **Automatic**

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After running this script:

```
snmpwalk -v2c -c monitorR0 192.168.100.114
```

- Should **work immediately** from your Linux monitoring server.