

# Windows Event Forwarding to Linux server using Nxlog

## Introduction

Windows Event Forwarding (WEF) allows the collection of event logs from multiple Windows machines and their forwarding to a centralized server. Using Nxlog, you can send these logs to a Linux server for storage and analysis. This documentation provides a step-by-step guide to set up Windows Event Forwarding using Nxlog to send logs to a Linux server.

## Prerequisites

- **Windows Server or Workstation:** The machine that will send logs.
- **Linux Server:** The machine that will receive logs.
- **Nxlog:** Download the latest version of Nxlog for Windows from [Nxlog's official website](#).
- **Network Connectivity:** Ensure both machines can communicate over the network.
- **Rsyslog:** Download the latest version of Rsyslog for Linux server or workstation.

## Installing Nxlog on Windows

1. **Download Nxlog:**
  - Obtain the Nxlog Community Edition installer from the official website.
2. **Install Nxlog:**
  - Run the installer and follow the prompts to complete the installation.
3. **Start Nxlog Service:**
  - Start the Nxlog service using the Services management console or command line:  
**net start nxlog**

# Configuring Nxlog on Windows

## 1. Open Configuration File:

- Edit the Nxlog configuration file located at `C:\Program Files\nxlog\conf\nxlog.conf`.

## 2. Configure File:

- Add the following lines to capture Windows Event Logs and send the logs :

```
# Input Module
<Input eventlog>
  Module im_msvistalog
  ReadFromLast True
  <QueryXML>
<QueryList>
<Query Id='1'>
<Select Path='Application'*>/Select>
<Select Path='Security'*>/Select>
<Select Path='System'*>/Select>
</Query>
</QueryList>
  </QueryXML>
</Input>

# Output Module
<Output out>
  Module om_udp
  Host 192.168.20.24
  Port 514
  # Exec $raw_event = "<" + $syslog_severity + ">" + $time + " " + $hostname +
  " " + $procname + ": " + $raw_event;
  Exec parse_syslog_iETF();
</Output>

# Route
<Route r>
  Path eventlog => out
</Route>

# Include any other necessary modules/extensions
<Extension _syslog>
  Module xm_syslog
</Extension>
```

# Installing Rsyslog on Linux

- **Install Rsyslog:**
  - For Ubuntu, run:  
**sudo apt update sudo apt install rsyslog**
- **Enable Rsyslog:**
  - Ensure Rsyslog is enabled and started:  
**sudo systemctl enable rsyslog sudo systemctl start rsyslog**

## Configuring Rsyslog on Linux

1. **Open Configuration File:**
  - Edit `/etc/rsyslog.conf` or create a new config file in `/etc/rsyslog.d/`.
2. **Configure Rsyslog to Listen for UDP:**`module(load="imudp") # Load UDP listener`  
`input(type="imudp" port="514")`
3. **Define Output File:**
  - Specify where to store the incoming logs:  
**\*.\* /var/log/windows\_events.log**
4. **Save and Exit:**
  - Save the configuration file and restart Rsyslog:  
**sudo systemctl restart rsyslog**

## Firewall Configuration

### Windows Firewall

1. **Open Windows Defender Firewall:**
  - Go to **Control Panel > System and Security > Windows Defender Firewall**.
2. **Allow Port 514:**
  - In the left pane, click **Advanced settings**.
  - Select **Inbound Rules** and click on **New Rule**.
  - Choose **Port**, then click **Next**.
  - Select **UDP** and enter **514** in the Specific local ports field.
  - Allow the connection and complete the rule setup.

### Firewalld Configuration on Linux

1. **Open Port 514 for UDP:**  
**sudo firewall-cmd --permanent --add-port=514/udp**
2. **Reload Firewalld:**  
**sudo firewall-cmd --reload**
3. **Verify Open Ports:**  
**sudo firewall-cmd --list-all**

## Verifying Event Forwarding

1. **Check Nxlog Status on Windows:**

**nxlog -v**

2. **Monitor Logs on Linux:**

- Use the following command to view the log file:

**tail -f /var/log/windows\_events.log**

3. **Review Rsyslog Logs:**

- If issues arise, check Rsyslog logs located at **/var/log/syslog** or **/var/log/messages**.

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