

LINUX UDP SERVER

User Manual

Version 1.1

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National Stock Exchange of India Ltd

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Revision History		
Version	Page No	Description
1.1		Removal of new market data broadcast reference

VERSION 1.1



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ABOUT THIS GUIDE

PURPOSE OF THIS GUIDE

This document will provide information about Linux UDP Server, its installation and configuration.

WHO SHOULD READ THIS GUIDE

This guide is useful for anyone who is going to install, configure and use the Linux UDP Server application.

ABBREVIATIONS AND ACRONYMS

Acronym & Abbreviations	Full Form
UDP	User Datagram Protocol
CM	Capital Market
FO	Futures and Options
CD	Currency Derivatives
COM	Commodity Market
SLBM	Security Lending and Borrowing Market
IP	Internet Protocol
NIC	Network Interface Card
LAN	Local Area Network

HOW TO GET IN TOUCH

The following sections provide information on how to obtain support for the documentation and the software.

DOCUMENTATION SUPPORT

NSE welcomes your comments and suggestions on the quality and usefulness of this document. For any questions, comments, or suggestions on the documentation, you can contact us at:

National Stock Exchange of India Limited,
Exchange Plaza,
Block G,
Bandra-Kurla Complex, Bandra (East),
Mumbai - 400 051
Helpdesk No. 18002660053

CUSTOMER SUPPORT

If you have any problems, questions, comments, or suggestions regarding, Linux UDP Server, contact us at the address mentioned above. While contacting customer support, have the following information ready:

Your name, E-mail address, phone number, and fax number

- The type of hardware, including the server configuration and network hardware if available
- The version of Linux UDP Server application.
- The name and version of the operating system
- The exact message that appeared when the problem occurred or any other error messages that appeared on your screen.
- A description of how you tried to solve the problem

INTRODUCTION

Linux UDP Server is exchange provided application which enables users to receive broadcast data from exchange and sends **this broadcast data to user's internal network**. It can handle broadcast data for all the markets (i.e. CM, FO, CD, SLBM and COM).

Linux UDP Server provides below mentioned enhanced features

1. Easy to install or uninstall.
2. Configurations setting through different Menu options
3. Receive and Send statistics
4. Simultaneous Start/Stop of all the configurations
5. Can handle old as well as new market data broadcast feed
6. No limit on configuration addition
7. Appropriate error handling for incorrect input in configuration
8. Low latency for broadcast packet processing
9. Supported to both 32bit as well as 64bit operating system.

To run Linux UDP Server application, following library **"libstdc++.so.6"** should be present on the machine.

GETTING STARTED

INSTALLATION

Before installation of Linux UDP server, please ensure that any previous version of UDP server is not running.

To install the application, follow below mentioned steps

1. One must have to download Linux UDP Server application zip file for 32bit/64bit operating system from extranet server.
2. Keep the downloaded zip file in /home directory of Linux server.
3. Unzip the file. Directory LINUXUDPSERVER_v* is created.
4. Go to LINUXUDPSERVER_v* directory.
5. Run UDP Server installer (command: `./UDP_Install`).
6. Provide installation path.
7. After successful installation, go to above mentioned installation path.

LAUNCH LINUX UDP SERVER

To launch Linux UDP Server application, first user has to go to application installed path and then run “./StartUDPServer” command. Main Menu screen will be displayed on screen.

```
*****
UDP SERVER MAIN MENU
*****
1. Add New Configuration
2. Delete Configuration
3. Modify Configuration
4. Display All Configurations
5. Display Statistics
6. Start All UDP Server
7. Stop All UDP Server
8. Start Single UDP Server
9. Stop Single UDP Server
10. Exit
*****
Enter a value to continue [1-10]
```


CONFIGURATION SETUP

User has to do configuration settings before start of the application. User has to enter below details for new configuration. All below mentioned broadcast parameter details are mandatory.

Broadcast Parameter	Description
Market Segment	Market Segment CM/FO/CD/SLBM/OFS
Receiver IP address	Exchange provided broadcast multicast IP address
Receiver Port	Exchange provided broadcast multicast port
Sender IP address	Local multicast IP address
Sender Port	Local multicast port
Local IP address towards HOST	IP address of the NIC card configured toward Exchange connectivity
Local IP address towards NEAT	IP address of the NIC card configured toward local LAN

ADD NEW CONFIGURATION

To add new configuration, user has to enter option 1 (Add New Configuration) from Main Menu. User then needs to enter proper broadcast parameters. After successful addition, new configuration will be automatically saved in config file.

Below is add configuration form (Parameters values mentioned are indicative purpose only).

```
Enter Market Segment (CM/FO/CD/SLBM/CO)
CM
Enter Receiver IP <XXX.XXX.XXX.XXX>
239.50.50.12
Enter Receiver Port (Max 5 digits)
10812
Enter Sender IP <XXX.XXX.XXX.XXX>
239.1.2.5
Enter Sender Port (Max 5 digits)
6789
Enter Local IP Address towards Host <XXX.XXX.XXX.XXX>
172.20.16.63
Enter Local IP Address towards NEAT <XXX.XXX.XXX.XXX>
172.20.16.64
New configuration added successfully ... !!!
Press Enter key to go back to Main Menu...
█
```

VIEW ALL CONFIGURATIONS

User can view all configurations by selecting option 4 (Display All Configurations) from Main Menu. All the configurations are displayed in comma separated format.

```
ID,MKT,RECEIVER_IP,RECEIVER_PORT,SENDER_IP,SENDER_PORT,LOCAL_IP_TO_HOST,LOCAL_IP_TO_NEAT,MKT_DATA_FLAG
1,CM,239.50.50.12,10812,239.1.2.5,6789,172.20.20.131,172.20.20.132,N
2,FO,239.50.50.22,10822,239.1.2.6,6790,172.20.20.131,172.20.20.132,N
3,CD,239.50.50.72,10872,239.1.2.7,6791,172.20.20.131,172.20.20.132,N
Press Enter key to go back to Main Menu...
```

MODIFY CONFIGURATION

To modify already added configurations select option 3 (Modify Configuration).

Application then displays all available configurations and asks user to enter configuration instance number to be modified.

```
ID,MKT,RECEIVER_IP,RECEIVER_PORT,SENDER_IP,SENDER_PORT,LOCAL_IP_TO_HOST,LOCAL_IP_TO_NEAT,MKT_DATA_FLAG
1,CM,239.50.50.12,10812,239.1.2.5,6789,172.17.4.152,172.17.4.152,N
2,FO,239.50.50.22,10822,239.1.2.6,6790,172.17.4.152,172.17.4.152,N
3,CD,239.50.50.72,10872,239.1.2.7,6791,172.17.4.152,172.17.4.152,N
Enter the instance no. to be modified from above
```

After selecting instance number, new “Modification Menu” will be displayed where it list down broadcast parameter and asks user input for the field to be modified.

Application then asks new value for the selected field. After successful modification, this new value is updated in config file.

```
*****
      MODIFICATION MENU
*****
1. MARKET_SEGMENT
2. RECV_MULTICAST_IP
3. RECV_MULTICAST_PORT
4. SEND_MULTICAST_IP
5. SEND_MULTICAST_PORT
6. LOCAL_IP_TO_HOST
7. LOCAL_IP_TO_NEAT
8. Back to Main Menu
*****
Enter which field is to be modified [1-9]
1
Enter new value for selected field
CD
Modified record successfully !
Press Enter key to go back to updation menu...
```

DELETE CONFIGURATION

User can delete already added configuration by selecting option 2 (Delete Configuration) from Main Menu.

Application then displays all available configurations and asks user to enter configuration instance number to be deleted.

After selecting instance number, configuration will be permanently deleted from config file.

```
ID,MKT,RECEIVER_IP,RECEIVER_PORT,SENDER_IP,SENDER_PORT,LOCAL_IP_TO_HOST,LOCAL_IP_TO_NEAT,MKT_DATA_FLAG
1,CM,239.50.50.12,10812,239.1.2.5,6789,172.17.4.152,172.17.4.152,N
2,FO,239.50.50.22,10822,239.1.2.6,6790,172.17.4.152,172.17.4.152,N
3,CD,239.50.50.72,10872,239.1.2.7,6791,172.17.4.152,172.17.4.152,N

Enter the instance no. to be deleted from above
2
Record Deleted Successfully.
Press Enter key to go back to menu...
```

START/STOP UDP SERVER

User has to select option 6(Start All UDP Server) from Main Menu to start all UDP server configurations simultaneously.

```
Started all UDP Servers Successfully !  
Press Enter key to go back to Main Menu...  
█
```

User has to select option 7(Stop All UDP Server) from Main Menu to start all UDP server configurations simultaneously.

```
Stopped all UDP Servers Successfully !  
Press Enter key to go back to Main Menu...  
█
```

To Start UDP Server configuration individually select option 8 (Start Single UDP Server) from Main Menu.

```
ID,MKT,RECEIVER_IP,RECEIVER_PORT,SENDER_IP,SENDER_PORT,LOCAL_IP_TO_HOST,LOCAL_IP_TO_NEAT,MKT_DATA_FLAG  
1,CM,239.50.50.12,10812,239.1.2.5,6789,172.17.4.152,172.17.4.152,N  
2,FO,239.50.50.22,10822,239.1.2.6,6790,172.17.4.152,172.17.4.152,N  
3,CD,239.50.50.72,10872,239.1.2.7,6791,172.17.4.152,172.17.4.152,N  
Enter the UDP Server instance no. to be started:  
1  
  
UDP Server instance no. 1 started successfully !  
Press Enter key to go back to Main Menu...  
█
```

To Stop UDP Server configuration individually select option 9 (Stop Single UDP Server) from Main Menu.

```
ID,MKT,RECEIVER_IP,RECEIVER_PORT,SENDER_IP,SENDER_PORT,LOCAL_IP_TO_HOST,LOCAL_IP_TO_NEAT,MKT_DATA_FLAG  
1,CM,239.50.50.12,10812,239.1.2.5,6789,172.17.4.152,172.17.4.152,N  
2,FO,239.50.50.22,10822,239.1.2.6,6790,172.17.4.152,172.17.4.152,N  
3,CD,239.50.50.72,10872,239.1.2.7,6791,172.17.4.152,172.17.4.152,N  
Enter the UDP Server instance no. to be stopped:  
█
```

```
Stopped instance no. 1 successfully !  
Press Enter key to go back to Main Menu...  
█
```

STATISTICS

User can view receive and send statistics of running UDP server configurations. For that, user needs to select option 5 (Display Statistics) from Main Menu. Statistics will refresh after every 10 seconds.

```
UDP Server Statistics :
INSTANCE_NO, RECEIVED_COUNT, SENT_COUNT, STATUS
Host1,      517391,      1829623, Running
Host2,      577875,      3416298, Running
Host4,      327221,      327221, Running
Host3,       51487,      154566, Running
Host6,      126880,      126880, Running
Host7,     5991440,     5991440, Running
Host5,      375809,      375809, Running

Stats will keep on updating after every 10 secs...
Press Ctrl + C to go back to main menu...
```