Linkar
Suite

Configure Linkar 2.0 with a D^3 *database.*

March 2020

by Kosday Solutions

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![Linkar Suite]

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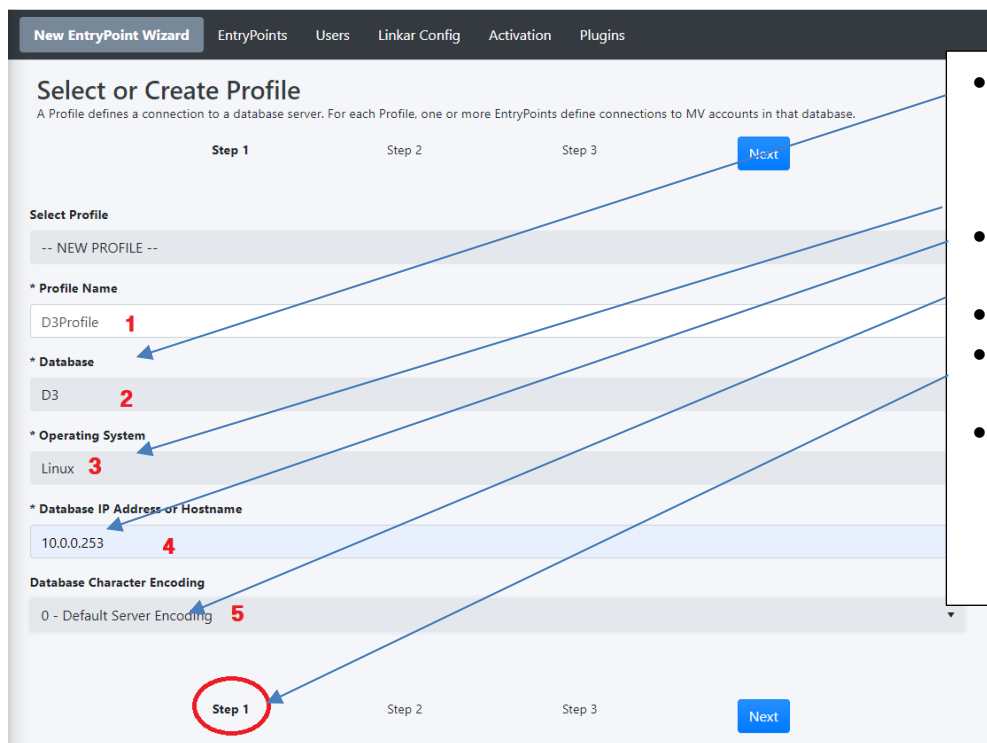www.kosday.com

Configure Linkar 2.0 with a D³ database.

1. Install Linkar Server in your preferred platform.

You must install Linkar Server in Windows, Linux, or MacOS, somewhere with TCP/IP access to the machine where D3 is installed (even in the same machine if you prefer).

2. Configure Profile and EntryPoint in Linkar Manager as Permanent connections.

a.   Open Linkar Manager.
b.   Select Configuration.
c.   Select New Entrypoint Wizard

STEP 1

- Profile Name. ONLY letters from A to Z and numbers from 0 to 9 can be used
- Select D3 as the Database
- D3 OS
- IP of the machine where D3 is installed
- Database Character Encoding. This is the text code of the database. Zero is used by default
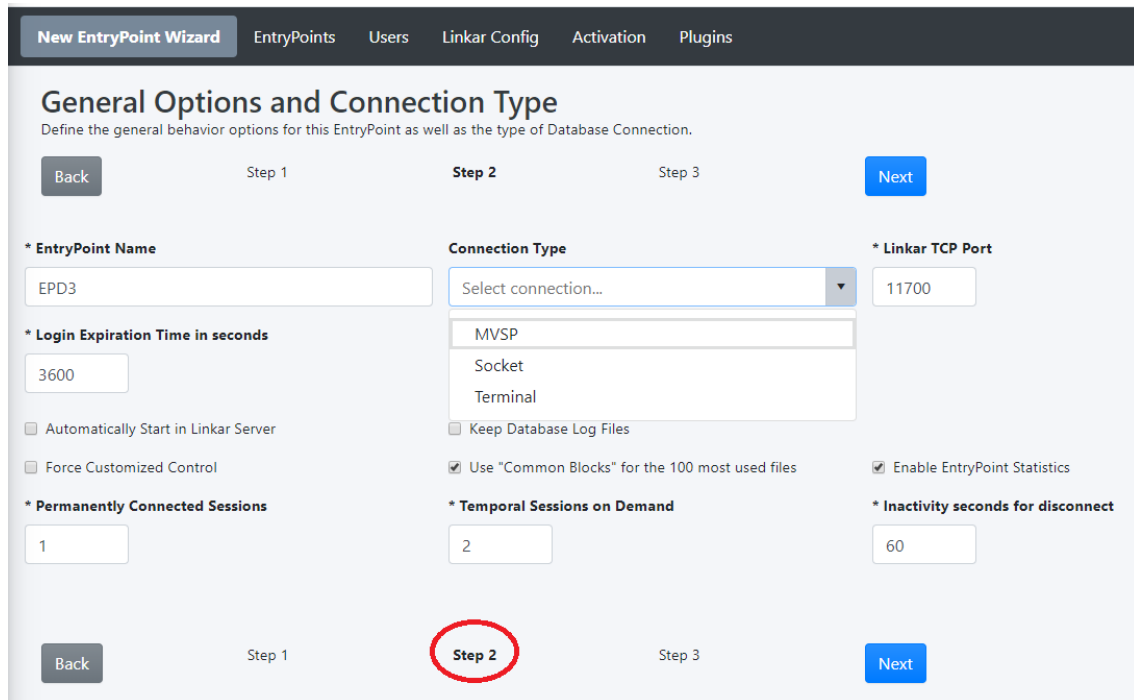
Step 1

Complete the form with your information and press the **Next** button.

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Configure Linkar 2.0 with a D3 database.

STEP 2

Step 2

- **EntryPoint Name:**

Assign a name to the *EntryPoint*. This name can only include alphanumeric characters and not symbols.

- **Connection Type:**

Three different connection types can be chosen with D3: *SOCKET, MVSP* or *TERMINAL. SOCKET* connections **are not allowed** with D3/Windows. It is important to make sure that if you use *MVSP* or SOCKET connection types, all your programs **must be compiled** with FlashBasic. If you use *TERMINAL* connection type, you can opt to use FlashBasic or not.

- **Linkar TCP Port:**

This is the port where **Linkar Server will be listening** for the clients in order to connect to the database. It must NOT BE used in other Entrypoints and it is a TCP Port that must be kept free in the machine where Linkar Server is running.

- **Login Expiration Time in seconds:**

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Configure Linkar 2.0 with a D3 database.

When *Linkar Clients* use *PERSISTENT FUNCTIONS*, they must perform a prior Login process to establish a session between *Linkar Client* and *Linkar Server*. When the seconds indicated in this property have elapsed without any activity in the session, it closes automatically and the *Linkar Client* must perform the Login process again.

A 0 value in this property means that the sessions will never expire.

- **Maximum string size in database memory (Kb):**

By default, the *Linkar MV components* will keep the information that will be returned to *Linkar Server* in the memory until it exceeds the size indicated here in kbytes. Then, temporary files will be used. This parameter is important when *Linkar Server* manages large volumes of data transfer, for example with the PowerBI plugin. The correct value depends on the database, size of the files in it, etc.

- **Automatically Start in Linkar Server:**

If this option is enabled, when *Linkar Server* starts this *EntryPoint* will also start.

The EntryPoint will establish connections with the database and will be available for the *Linkar Clients*.

- **Keep database Log Files:**

If this option is enabled, a LOG file will be generated with the activity of the database of this *EntryPoint*.

The LOG file is located in the LOGS folder where Linkar is installed.

- **Force Customize Control:**

If this option is activated, the execution of the subroutine *SUB.LK.MAIN.CUSTOM.CONTROL* is forced in each operation requested by *Linkar Clients*.

Each client operation request executes this subroutine so the database administrator can customize and control the requested operations.

- **Use Common Blocks for the 100 most used files:**

This option allows you to save the 100 most used files opened in a Common Block to optimize their access. A new *ResetCommonBlock* function allows a warm resetting of the COMMON variables. Without this option, each file will be opened and closed on each request.

- **Enable EntryPoint statistics:**

Linkar Server will keep the statistics of this *EntryPoint* displayed on the Dashboard.

- **Permanently Connected Sessions:**

The number of sessions or database lines that are always open can be specified here.

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Configure Linkar 2.0 with a D³ database.

The numbers of sessions or database lines permanently open since the *EntryPoint* starts until it stops are also shown here.

Sessions or lines are opened when the *EntryPoint* is started and will never close automatically.

The allowed values range may be from 0 to N (Value 0 can be used only when *Temporal Sessions on Demand* is 1 or greater).

- **Temporal Sessions on Demand**:

The number of sessions or lines the *EntryPoint* will open when the requests of the *Linkar Clients* cannot be attended with the permanent sessions. The *EntryPoint* will open a new session, one by one, until the maximum lines number defined in this property is reached.

The allowed values range may be from 0 to N (Value 0 can be used only when *Permanently Connected Sessions* is 1 or greater)

- **Inactivity seconds for disconnect:**

When the *Temporary Sessions on Demand* is greater than 0, this property indicates the time in seconds of inactivity in the opened on demand session. Once this time is exceeded in an open on demand line, the *EntryPoint* will automatically close it. Like the opening, this closing process is carried out one at a time. This value must be greater than 30 seconds.

Fill in the form with your information and press the **Next** button. Step 3 is different, depending on the type of connection selected.

STEP 3

---

1. *MVSP connection type (Flash Basic required):*

EntryPoint connects to the database through dynamic link libraries provided by Rocket *Software*.

Only the *EntryPoints* of a *Linkar Server* that is installed in *Windows* can use this type of connection since only *MVSP* is available for this operating system.

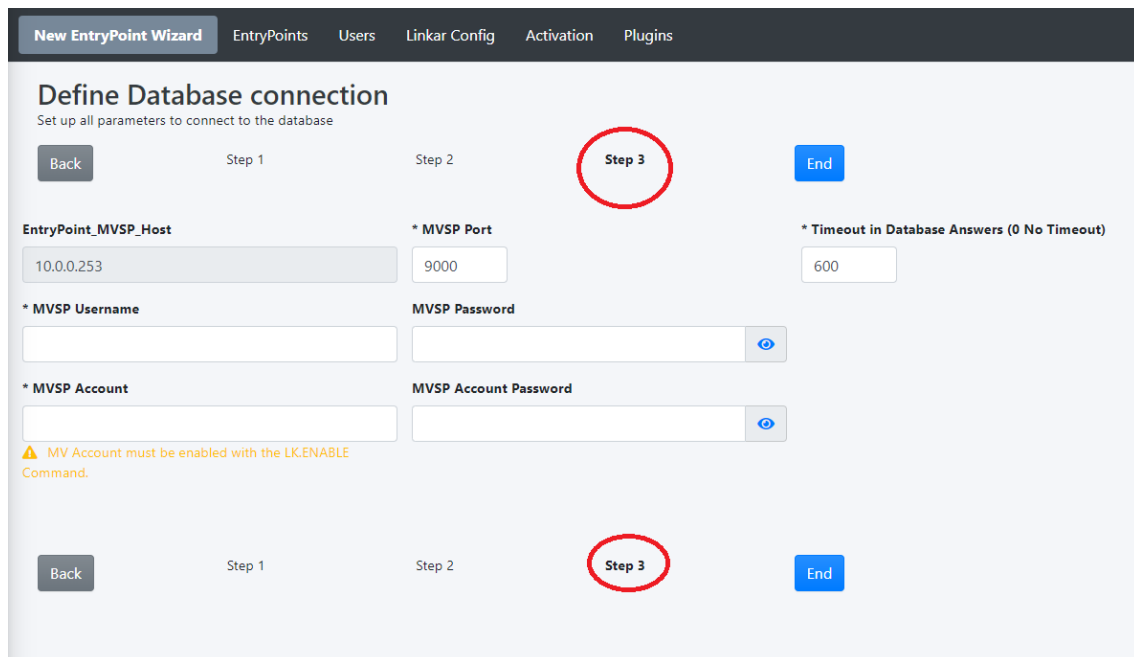***This is the recommended connection type for D3 databases running with a Windows Linkar SERVER.***

You must install *MVSP* in D3 and configure it.
- You must enable the user that Linkar uses.
- You must enable the data account that Linkar uses.

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Configure Linkar 2.0 with a D3 database.

Refer to your D3 manual.

It is mandatory to use Flash Basic in the MV Components and in all your soubroutines.

Step 3

- **EntryPoint MVSP Host:**
    Show the IP address or DNS name defined in Profile, where the database is installed.

- **MVSP port:**
    TCP port through which MVSP is listening. D3 uses port 9000 by default.

- **Timeout in database answers:**
    This property allows the maximum waiting time to be specified, expressed in seconds, for database answers.
    If there has not been any response from the database after this time, the operation is canceled and *Linkar Client* will receive an error.
    Database session or line will continue in use until the operation ends or until it is forced to close from *Linkar Manager* (*Close Selected* button).

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Configure Linkar 2.0 with a D3 database.

Options	EntryPoint		Profile		Entry Point Status
▼ ■ ⑤	D3Lx		D3		STARTED at 2020-03-24 04:51

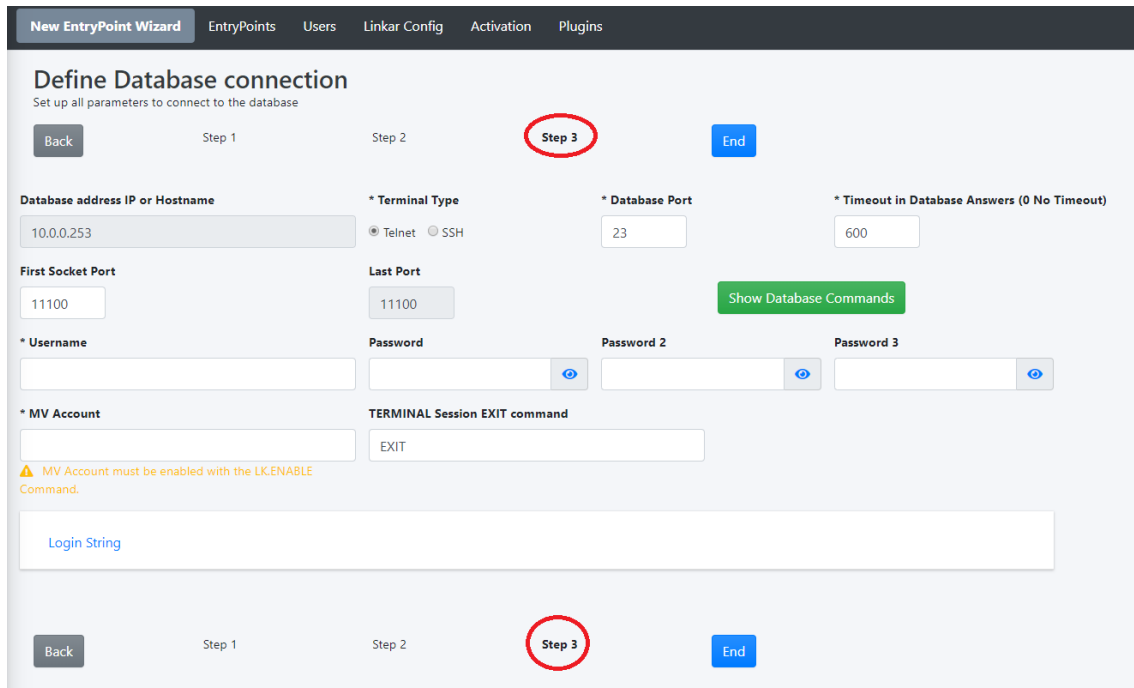|	■ Close Selected	▶ Open Selected	
☐	Options	Linkar Line	Database Session
☐	■	0	Line 1 10.0.0.253:9000

- **MVSP username:**
  This property allows the D3 user ti be specified. It is mandatory that the user used in the *EntryPoint* is enabled for use with MVSP

- **MVSP password:**
  This property allows you to specify the D3 user password (if it is required).
  .

- **MVSP Account:**
  Data account on which requests will be executed. It is mandatory that the account used in the EntryPoint is enabled for use with MVSP and *Linkar Suite*.

- **MVSP account password:**
This property allows the D3 account password to be specified (if it is required).

2. SOCKET connection type (not allowed in D3/Windows)

It is mandatory to use Flash Basic in the MV Components and in all your soubroutines with the Socket connection type.

BASIC CONFIGURATION:

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Configure Linkar 2.0 with a D3 database.

Step 3

- **Database address IP or Hostname:**

Show the IP address or DNS name defined in *Profile*, where the database is installed.

- **Terminal Type:**

When the *Entrypoint is started*, the sockets defined in the database must be started as long if we do not do this directly on it. To do this, you must connect to the database via Telnet or SSH if it is available.

- **Database port:**

TCP port through which the Terminal is listening. By default, port 23 for Telnet and port 22 for SSH.

- **Timeout in database answers:**

This defines the maximum time in seconds, to wait for a response from the database.
The operation is canceled and an error is returned to *Linkar Client* when there is no response during this time.
Database session or line will continue in use until the operation ends or until it is forced to close from *Linkar Manager* (*Close Selected* button).

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If an expiration time of 0 is defined, the session never expires.

- **First socket port:**

Listening TCP port specified from the sockets server, which will be executed in the first database line that is opened (by default 11100).

The socket server running on the second database line will use port 11101, and so on for each line assigned to the *EntryPoint*.

- **Last port:**

This is a merely informative property to know what the last TCP port that will have to be used will be. This will depend on the number of lines assigned to the *EntryPoint*.

- **Username:**

The user that opens the connection with the database.

- **Password:**

User password. This is used in the login chain to establish the connection.

- **Password2:**

User password. This is used in the login chain to establish the connection if a second one is required.

- **Password3:**

This is applicable in some databases.

- **MV Account:**

Data account on which the requests will be executed.

The data account must have been previously enabled for use with *Linkar Server*.

- **Terminal session ·exit· command:**

Command that is redirected to close the TELNET / SSH session. This is usually "exit" or "quit".

- **Show database commands:**

This button shows the commands that must be executed from the database to enable the socket servers in each port.

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LKLISTENING -SOCKET,TCP_Port

This command must be executed as many times as the sockets we want to open in the data account that is defined in the *EntryPoint*.

It is advisable to execute this command at the start of the database.

This type of operation is not recommended if we use on demand temporary sessions because disconnecting the session involves closing the socket.

LOGIN STRING:

Login String

Range D3 ports to Force command d3 -port.number. Separated by semicolon

Select Linkar Template... ▼ **Load Linkar Template**

Select Custom Template... ▼ **Load Custom Template** **Delete Custom Template**

+ Add New Line **Capture Login String** **Save As CustomTemplate** **Test Login String Connection**

Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step	
1	▲ ▼	login:	☐	%username%	☑	☐	3	🗑
2	▲ ▼	Password:	☐	%password%	☑	☐	3	🗑
3	▲ ▼	$	☐	d3	☑	☐	3	🗑
4	▲ ▼		☐		☑	☐	3	🗑
5	▲ ▼	your user id:	☐	dm	☑	☐	3	🗑
6	▲ ▼	password:	☐	%password2%	☑	☐	3	🗑
7	▲ ▼	master dictionary:	☐	%account%	☑	☐	3	🗑
8	▲ ▼	password:	☐	%password3%	☑	☐	3	🗑
9	▲ ▼	:	☐		☑	☐	3	🗑

Linkar Manager needs to communicate with the database by opening a telnet or SSH session. The manner to connect to this is defined in the table describing the commands sequence required to establish a Database connection.

In this table, each line is basically the expected text to be received from the Database through a Telnet connection (*Wait for the text column*) and the text that must be sent over the same Telnet connection to the Database (*Send Text column*) when the expected text was received. Characters at the end of the text are not needed in the "*Wait for the text*" column space. If the Database sends them, they will be ignored. There is a contextual menu in this menu, which allows you to add or delete rows and move them up and down.

IMPORTANT: Using SSH the username and password MUST NOT BE included in the Login String.

- **d3 ports to Force range:**

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Configure Linkar 2.0 with a ~~D³~~ database.

This feature is a list of allowed port numbers, separated by semicolons (for example 5; 8). The first number of this list will be used (for example d3 -5) when opening a line in the database for the first time, using the "d3" or "ap" command, The second line number will be used for the second line of the database (for example d3 -8) and so on. When there are no line numbers available, the "d3" or "ap" command is executed without a line number. (f.i. ap) and it will be the system that determines the line number.

This information can be defined inside the *Send Text* column with the *%forced3port%* variable.

- **Select Linkar Template:**

  Linkar Manager includes a series of templates to connect to different databases and in different configurations. One of them can be selected in this dropdown and by pressing the *Load Linkar Template* button this will load that definition, which can be used to configure your connection.

- **Select Custom Template:**

  Once your connection is defined, this can be saved in a custom template for later use or for use in a new installation. To do this, just press the *Save as Custom Template* button. Your custom templates can be retrieved in this dropdown. These custom templates are saved in the *%ProgramData%\KOSDAY\LinkarSuite* folder in the *ConnectionCustomTemplates.xml* file.

- **Test Login Screen:**

  Once your connection is defined, you can press the *Test Login String Connection* button and verify that the connection occurs without any problem.

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Configure Linkar 2.0 with a D³ database.


```
Test Login String Connection                                        ×

Enter your user id: j█████
user password:

[1301] The Speller is off.
master dictionary: DEMO.LINKAR
md password:


                          3
<<< 19:28:15   --          D             --   25 Mar 2020    >>>
<<<                                                           >>>
<<< Copyright (c) 1982-2010 TigerLogic Corp.  All rights reserved. >>>
<<< This work is property of, and embodies trade secrets and  >>>
<<< confidential information proprietary to TigerLogic Corp.  It  >>>
<<< may not be reproduced, copied, used, disclosed, transferred  >>>
<<< adapted or modified without the express written approval of  >>>
<<< TigerLogic Corp.                                          >>>

:EXIT

                        Close Terminal
```

by the 'Username' TextBox value

If the screen verifies that the connection and disconnection to your data account are correct, the process has been completed and the Login String is correctly configured. Otherwise, correct the errors that do not allow you to establish the connection, which can be seen on the screen.

Capture Login String:

Linkar Manager also includes a wizard to capture your connection step by step.

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Configure Linkar 2.0 with a D³ database.
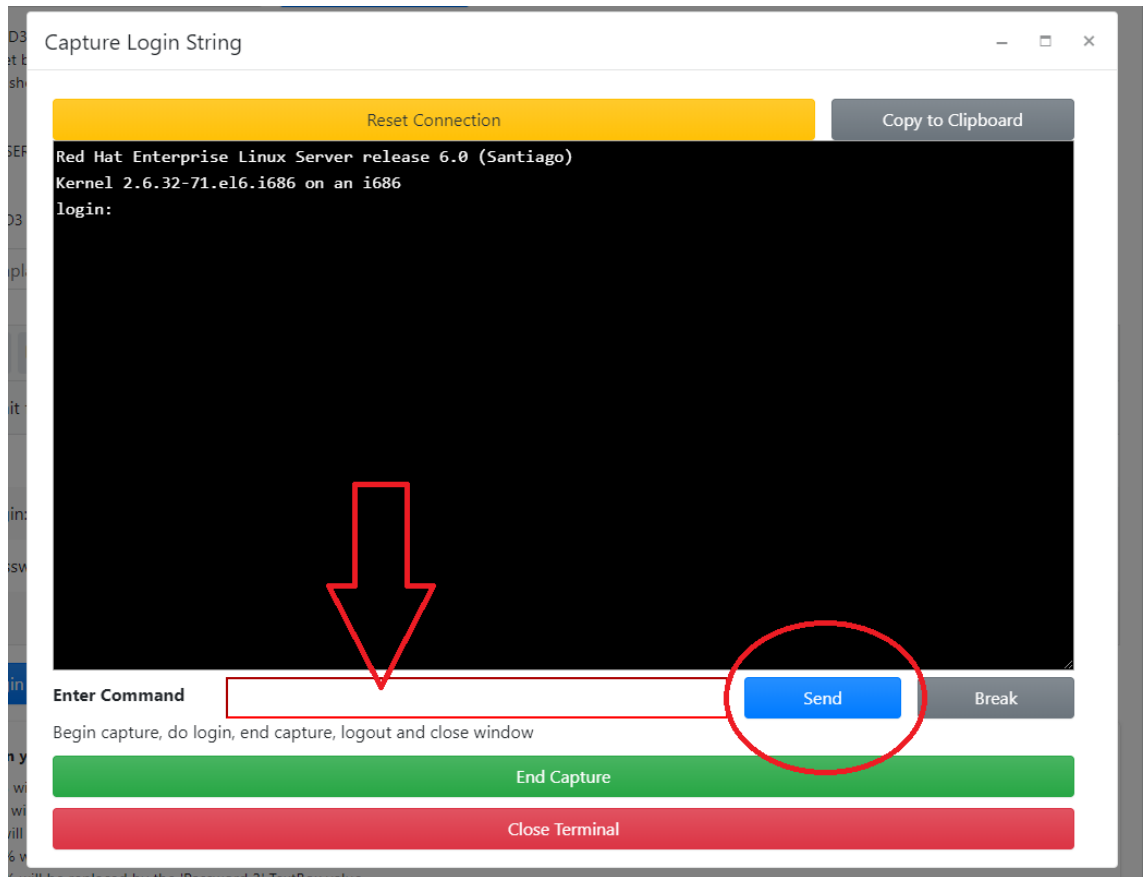
Linkar Manager will attempt to establish a Telnet or SSH connection with your database by clicking on the *Capture Login String* button.

If you do not see the data request on the screen, you should verify the IP or DNS assigned to the database and the configuration of your firewall, if there is one.

If you see the request, in this case, "Username:" write your credentials in the red box and press the Enter or Send button.
Repeat this process until you reach TCL in the data account you want to connect to. You do not need to execute the quit or exit command.

Press the green *End Capture* button and the definition of your connection will appear with the steps you have followed.
You can review the strings created to optimize connection times.

- **+ Add new line:**
  New lines can be added at the end of the grid with this button

- **Trash icon:**
  Lines of the grid can be deleted with this button.

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Configure Linkar 2.0 with a D3 database.

- **Column No.:**
  The order of execution of each grid line is presented in this column.

- **Order column:**
  In this column, you will see two icons, an up arrow and a down arrow, which allow you to modify the execution order of this line.

- **Wait for Text column:**
  In this column, you must indicate the text that will be received from the database at each step to establish the connection.

- **In Any Place column:**
  If this switch is selected, Linkar Manager will wait for the time defined in the *Waiting time in seconds* in the "next step" column and once it has elapsed, it will verify that the text of the *Wait for Text* column has been received within the entire received string and will send the text of the *Send Text* column.
  If it is not checked, Linkar Manager automatically sends the text in the *Send Text* column at the time the text in the *Wait for Text* column is received. The connection will be faster but you must be careful with repeated texts returned by the database that can cause Linkar Manager to send the text in the *Send Text* column earlier than desired.

- **Send Text column:**
  In this column, you must indicate the text that will be sent to the database once the previous point is finished.
  Special variables can be used in this column:
  - %username% will use the value of the 'Username' box.
  - %password% will use the value of the 'Password' box.
  - %account% will use the value of the 'MV Account' box.
  - %password2% will use the value of the 'Password 2' box.
  - %password3% will use the value of the 'Password 3' box.
  - %forced3port% will use the value of the 'Range d3 ports to Force' box

- **ADD CR Carriege Return column:**
  Additionally, a CR character (13 ASCII code) can be added to the text to be sent in that table line.

- **ADD LF End of line column:**
  Additionally, a LF character (10 ASCII code) can be added to the text to be sent in that table line.

- **Waiting time in seconds next step column:**
  This column specifies the time that Linkar *Manager* should wait to receive the text indicated in the *Wait for Text* column.

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Configure Linkar 2.0 with a D³ database.

Once the connection with the *Test Login String* button is verified, press the *END* button to finish the configuration.

:list-jobs

PHANTOM JOBS STATUS AT 12:36:06 15 Nov 2018   **PAGE 1**

user-md............................. ln.. pib. status........ start-dt... stop-dt.... tcl-command...........................

dm linkar_demo   1   66 running(1606) 15/11 12:09   LKLISTENING -SOCKET,11101

dm linkar_demo   1   65 running(1647) 15/11 12:08   LKLISTENING -SOCKET,11100

Remember that, depending on the D3 version, sockets will use licenses of the database.

For better performance you can use the **Linux user profile** to connect with D3. Edit the **.bash_profile** in the **/home/your_user** directory and add these lines:

```
...
d3 -d '\r{D3USER}\r{D3USERPASSWORD}\r{D3ACCOUNT}\r{D3ACCOUNTPASSWORD}\r'
exit
```

If your **D3 User** or the **D3 Account** does not have a password you must remove "D3USERPASSWORD\r" or/and "D3ACCOUNTPASSWORD\r"

With this configuration your login string, using Telnet, will be very simple:

Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step	
1	▲ ▼		☑		☑	☐	3	🗑
2	▲ ▼	login:	☑	%username%	☑	☐	3	🗑
3	▲ ▼	Password:	☑	%password%	☑	☐	3	🗑
4	▲ ▼	:	☑		☑	☐	3	🗑

And even more simple using SSH (with ssh you do not send the username and password in the Login String):

+ Add New Line	📋 Capture Login String	📋 Save As CustomTemplate	📋 Test Login String Connection				
Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step
1	▲ ▼	:	☐		☑	☐	5	🗑

3. Terminal connection type

BASIC CONFIGURATION:

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Configure Linkar 2.0 with a D³ database.

Step 3

- **Database address IP or Hostname:**

Shows the IP address or DNS name defined in *Profile*, where the database is installed.

- **Terminal Type:**

When you start the *Entrypoint*, you must start the sockets defined in the database as long if we do not do this directly on it. To do this, you must connect to the database via Telnet or SSH if this is available.

- **Database port:**

TCP port through which the Terminal is listening. By default, port 23 for Telnet and port 22 for SSH.

- **Timeout in database answers:**

This defines the maximum time in seconds to wait for a response from the database.

The operation is canceled and an error is returned to *Linkar Client* when there is no response during this time.

Database session or line will continue in use until the operation ends or until it is forced to close from *Linkar Manager* (*Close Selected* button).

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Configure Linkar 2.0 with a D3 database.

Options	EntryPoint ▼	Profile ▼	Entry Point Status
▼ ■ Ⓢ	D3Lx	D3	STARTED at 2020-03-24 04:51

	■ Close Selected ▶ Open Selected		
☐	Options	Linkar Line	Database Session
☐	■	0	Line 1 10.0.0.253:9000

If an expiration time of 0 is defined, the session never expires.

- **Username:**

The user that opens the connection with the database.

- **Password:**

User password. This is used in the login chain to establish the connection.

- **Password2:**

User password. This is used in the login chain to establish the connection if a second one is required.

- **Password3:**

This is applicable is some databases.

- **MV Account:**

Data account on which the requests will be executed.
The data account must have been previously enabled for use with *Linkar Server*.

- **Terminal session ·exit· command:**

Command that is redirected to close the TELNET / SSH session. This is usually "exit" or "quit".

LOGIN STRING:

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Configure Linkar 2.0 with a D³ database.

Login String

**Range D3 ports to Force command d3 -port.number. Separated by semicolon**

Select Linkar Template... ▾   **Load Linkar Template**

Select Custom Template... ▾   **Load Custom Template**   **Delete Custom Template**

+ Add New Line   **⧉ Capture Login String**   **⧉ Save As CustomTemplate**   **⧉ Test Login String Connection**

Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step	
1	▲ ▾	login:	☐	%username%	☑	☐	3	🗑
2	▲ ▾	Password:	☐	%password%	☑	☐	3	🗑
3	▲ ▾	$	☐	d3	☑	☐	3	🗑
4	▲ ▾		☐		☑	☐	3	🗑
5	▲ ▾	your user id:	☐	dm	☑	☐	3	🗑
6	▲ ▾	password:	☐	%password2%	☑	☐	3	🗑
7	▲ ▾	master dictionary:	☐	%account%	☑	☐	3	🗑
8	▲ ▾	password:	☐	%password3%	☑	☐	3	🗑
9	▲ ▾	:	☐		☑	☐	3	🗑

Linkar Manager needs to communicate with the database by opening a telnet or SSH session. The way to connect is defined in the table describing the commands sequence required to establish a Database connection.

In this table, each line is basically the expected text to be received from the Database through a Telnet connection (*Wait for the text column*) and text that must be sent over the same Telnet connection to the Database (*Send Text column*) when the expected text was received. Space characters at the end of the text are not required in the "*Wait for the text*" column. They will be ignored if the Database sends them. There is a contextual menu in this table, which allows you to add or delete rows and move them up and down.

IMPORTANT: Using SSH the username and password MUST NOT BE included in the Login String.

- **Range d3 ports to Force:**
- This feature is a list of allowed port numbers, separated by semicolons (for example 5; 8). The first number of this list will be used (for example d3 -5) when opening a line in the database for the first time, using the "d3" or "ap" command, The second line number will be used for the second line of the database (for example d3 -8) and so on. When there are no line numbers available, the "d3" or "ap" command is executed without a line number. (f.i. ap) and it will be the system that determines the line number.

  This information can be defined inside the *Send Text* column with the *%forced3port%* variable.

- **Select Linkar Template:**

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Configure Linkar 2.0 with a database.

Linkar Manager includes a series of templates that can be connected to different databases and in different configurations. One of them can be selected in this dropdown and by pressing the *Load Linkar Template* button this will load that definition, which can be used to configure your connection.

- **Select Custom Template:**

  Once your connection is defined, you can save it in a custom template to use it later on or in a new installation. To do this, just press the *Save as Custom Template* button. Your custom templates can be retrieved in this dropdown. These custom templates are saved in the *% ProgramData% \ KOSDAY \ LinkarSuite* folder in the *ConnectionCustomTemplates.xml* file

- **Test Login Screen:**

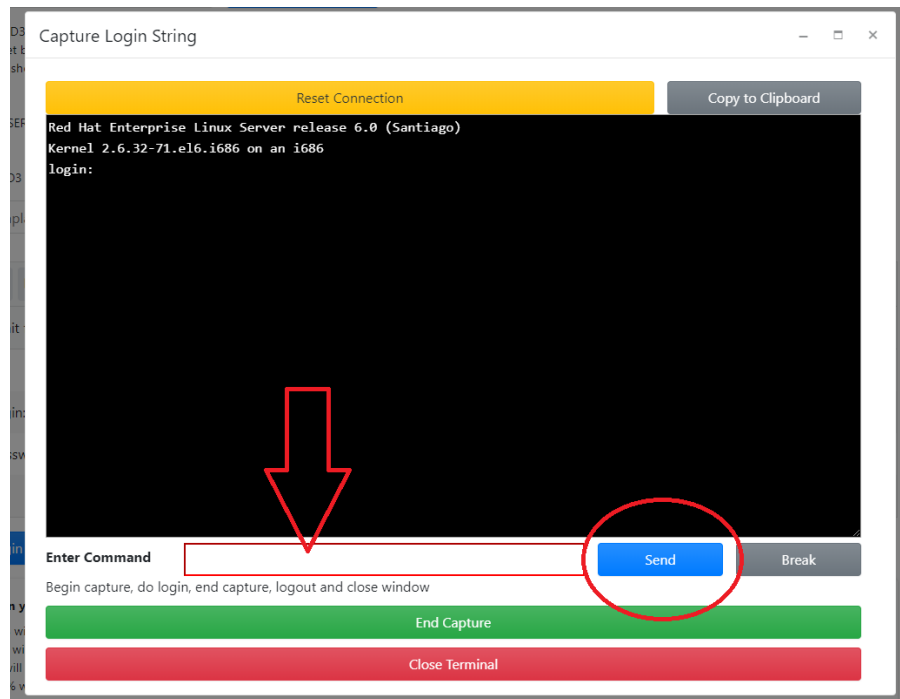 Once your connection is defined, you can press the *Test Login String Connection* button and check that it connects without problem.

If the screen verifies that the connection and disconnection to your data account are correct, this process has been completed and the Login String is correctly configured. Otherwise, correct the errors that do not allow you to establish the connection, which can be seen on the screen.

Capture Login String:

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Configure Linkar 2.0 with a D³ database.

Linkar Manager also includes a wizard to capture your connection step by step.

By clicking on the *Capture Login String* button, *Linkar Manager* will attempt to establish a Telnet or SSH connection with your database.

If you do not see the data request on the screen, please verify the IP or DNS assigned to the database and the configuration of your firewall, if there is one.

If you see the request, in this case, "Username:" write your credentials in the red box and press the Enter or Send button.
Repeat this process until you reach TCL in the data account you want to connect to. The quit or exit command need not be executed.

Press the green *End Capture* button and the definition of your connection will appear with the steps you have followed.
You can review the strings created to optimize connection times.

- **+ Add new line:**
  New lines can be added at the end of the grid with this button.

- **Trash icon:**
  Lines of the grid can be deleted with this button.

- **Column Nº:**
  The execution order of execution of each grid line is presented in this column.

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Configure Linkar 2.0 with a D3 database.

- **Order column:**

    Two icons, an up arrow and a down arrow are seen in this column, which allow you to modify the execution order of this line.

- **Wait for Text column:**

    The text that will be received from the database at each step to establish the connection must be indicated in this column.

- **In Any Place column:**

    If this switch is selected, Linkar Manager will wait for the time defined in the *Waiting time in seconds* in the "next step" column and once it has elapsed it will verify that the text of the *Wait for Text* column has been received within the entire string received and will send the text of the *Send Text* column.

    If it is not checked, Linkar Manager automatically sends the text in the *Send Text* column at the time the text in the *Wait for Text* column is received. The connection will be faster but you must be careful with repeated texts returned by the database that can cause Linkar Manager to send the text in the *Send Text* column earlier than desired.

- **Send Text column:**

    In this column, you must indicate the text that will be sent to the database once the previous point is completed.
    Special variables can be used in this column:
    - %username% will use the value of the 'Username' box.
    - %password% will use the value of the 'Password' box.
    - %account% will use the value of the 'MV Account' box.
    - %password2% will use the value of the 'Password 2' box.
    - %password3% will use the value of the 'Password 3' box.
    - %forced3port% will use the value of the 'Range d3 ports to Force' box

- **ADD CR Carriege Return column:**

    Additionally, a CR character (13 ASCII code) can be added to the text to be sent in that table line.

- **ADD LF End of line column:**

    Additionally, an LF character (10 ASCII code) can be added to the text to be sent in that

    table line.

- **Waiting time in seconds next step column:**

    This column specifies the time that Linkar *Manager* should wait to receive the text indicated in the *Wait for Text* column.
    Once the connection with the *Test Login String* button is verified, press the *END* button to finish the configuration.

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# Configure Linkar 2.0 with a D3 database.

Remember that, depending on the D3 version, sockets will use licenses of the database.

The **Linux user profile** can be used to connect with D3 for a better performance. Edit the **.bash_profile** in the **/home/your_user** directory and add these lines:

```
…
d3 -d '\r{D3USER}\r{D3USERPASSWORD}\r{D3ACCOUNT}\r{D3ACCOUNTPASSWORD}\r'
exit
```

If your **D3 User** or the **D3 Account** does not have password you must remove "D3USERPASSWORD\r" or/and "D3ACCOUNTPASSWORD\r"

With this configuration your login string, using Telnet, will be very simple:

Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step	
1	▲ ▼		☑		☑	☐	3	🗑
2	▲ ▼	login:	☑	%username%	☑	☐	3	🗑
3	▲ ▼	Password:	☑	%password%	☑	☐	3	🗑
4	▲ ▼	:	☑		☑	☐	3	🗑

And even more simple using SSH (with ssh you do not send the username and password in the Login String):

+ Add New Line	🗐 Capture Login String	🗐 Save As CustomTemplate	🗐 Test Login String Connection					
Nº	Order	Wait for the text	In any place	Send Text	Add CR Carriage Return	Add LF End of Line	Waiting Time in seconds next step	
1	▲ ▼	:	☐		☑	☐	5	🗑

CHARACTER CONVERSION FROM-TO DATABASE:

It may be necessary to replace certain characters in the communication depending on the Telnet / SSH server that uses each database.

This type of conversion is defined in this form.

Linkar Manager presents the usual options necessary for each database and operating system by default.

- **Maximum Telnet Data Packet Size:**

Size of each Telnet package sent or received.

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Configure Linkar 2.0 with a D³ database.

- **Telnet Communication Timeout:**

Linkar Manager generates an error if the time elapsed between sending or receiving 2 packets exceeds this value in seconds. This error is always due to a Telnet communication failure. It is not common.

- **To Database:**

  - **Replace MV marks:**

Replaces the characters MV, char (251) to char (253) when sending the package to the database.

  - **Replace Control Characters:**

Replaces the control characters, char (0) to char (31) when sending the package to the database.

  - **Replace Extended Characters:**

Replaces the extended characters, char (128) to char (255) when sending the package to the database. It includes MV characters.

- **From Database:**

  - **Replace MV marks:**

Replaces the characters MV, char (251) to char (253) when sending the package from the database.

  - **Replace Control Characters:**

Replaces the control characters, char (0) to char (31) when sending the package from the database.

  - **Replace Extended Characters:**

Replaces the extended characters, char (128) to char (255) when sending the package from the Database. It includes the MV characters.

The configuration of these parameters affects the communication speed between Linkar Server and the database. We do not recommend that these be chaged unless it is necessary for the proper functioning of the communication system.

Once the connection has been completed press the **End** button to install the **MV Components.**

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Configure Linkar 2.0 with a D3 database.

3. Installing the MV Components
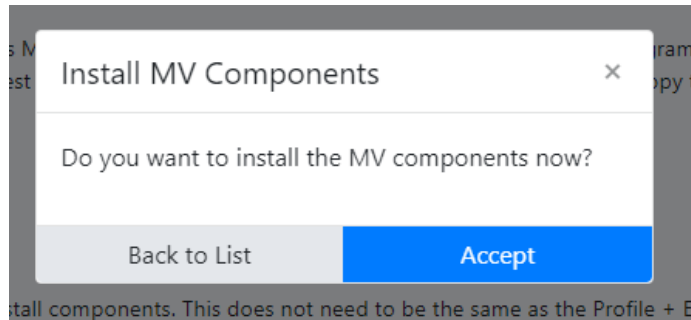
Press the *Accept* button to install the MV Components.

If there is a new version of the **MV components**, this can be downloaded from the **Download** button. An uncompressed pseudo floppy will be downloaded, which must be installed in the MV Components.

The pseudo floppy name will be:

Linkar_D3_x_y_z

If you do not want to download it from Kosday's servers, you can find it in:

% ProgramData%\KOSDAY\ LinkarSuite\MV

This folder was created when you installed Linkar Suite.

You must leave this pseudo floppy in a folder or directory from which it is accessible from the database and remember its full path. Linkar Manager will ask for this information during the installation process of the MV components. At least one defined uncompressed pseudofloppy is required in the Linux Versions

At the bottom of the screen you will see:

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Configure Linkar 2.0 with a D³ database.

How to Install MV Components

At the bottom of this form, set the connection type you want to use to install components. This does not need to be the same as the Profile + EntryPoint details.

You must be sure that you have all the necessary rights to make the connection.

Once you have everything completed, press the "Start Connection" button and open a database session to the account where you want to install the MV components.

When you are at TCL in the account press the "Install MV Components" button

During the installation process you can enable data accounts and/or demo accounts in order to use them with Linkar. You can also do this from the EntryPoint configuration.
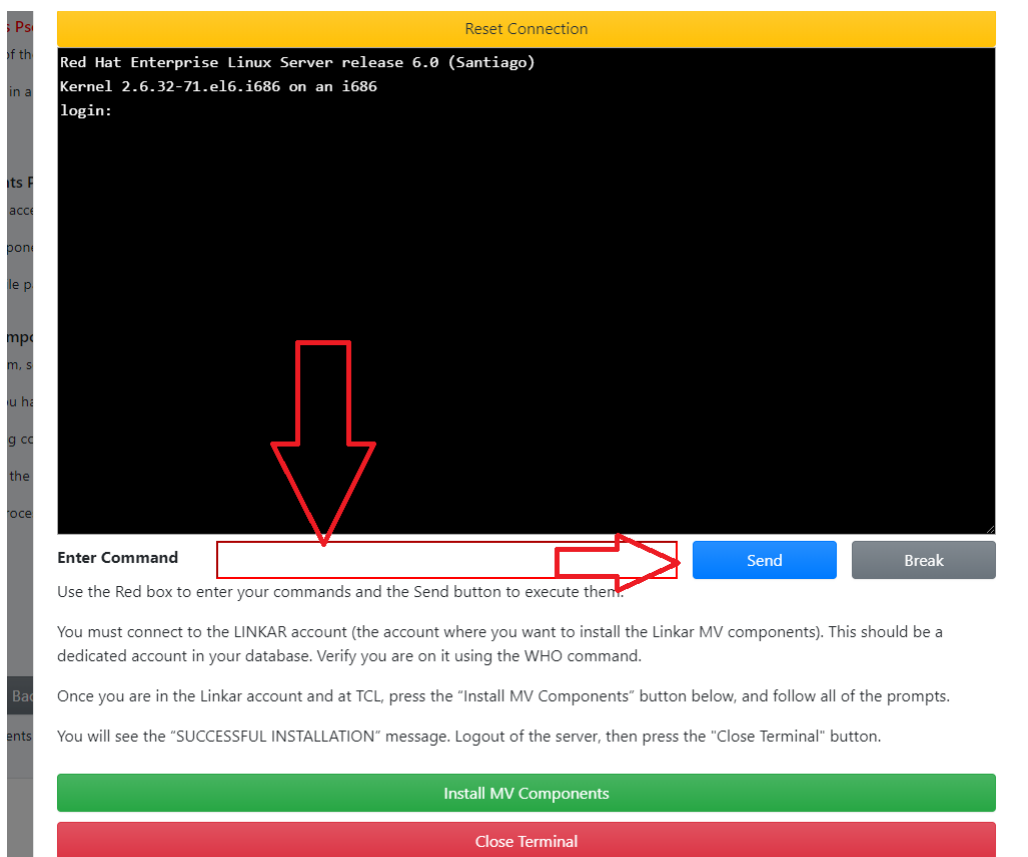
Profile Name   NEWD3   ◉ Telnet   ○ SSH

* Port   23   *** Timeout**   5000

[Start Connection]   [Back to List]

After the server components are installed, go 'Back to List'.

Create 2 accounts in D3, one for the MV Components and one for test purposes (by default we call them **LINKAR** and **DEMO.LINKAR**)
Press the *Start Connection* button when you have created the accounts and have the path where the pseudo floppy was placed.

Reset Connection

```
Red Hat Enterprise Linux Server release 6.0 (Santiago)
Kernel 2.6.32-71.el6.i686 on an i686
login:
```

Enter Command   [Send]   [Break]

Use the Red box to enter your commands and the Send button to execute them.

You must connect to the LINKAR account (the account where you want to install the Linkar MV components). This should be a dedicated account in your database. Verify you are on it using the WHO command.

Once you are in the Linkar account and at TCL, press the "Install MV Components" button below, and follow all of the prompts.

You will see the "SUCCESSFUL INSTALLATION" message. Logout of the server, then press the "Close Terminal" button.

[Install MV Components]

[Close Terminal]

Now you need to connect to the account where the MV components will be installed (default **LINKAR**).
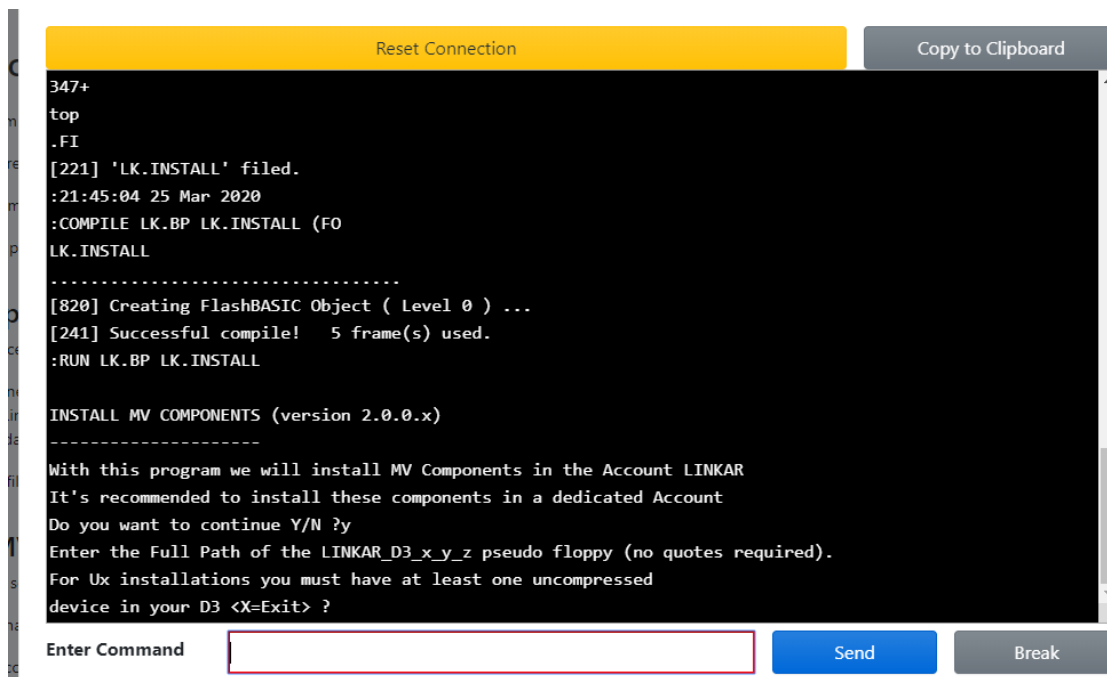
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Configure Linkar 2.0 with a D³ database.

To do this, write what is necessary in the **red box** and press the **Enter** or **Send** button. Repeat the process until you are positioned on the account.

Once you are positioned in TCL on the account, press the **Install MV Components** button and answer the questions you see on the screen, again by typing in the **red box** and pressing the **Enter** or **Send** button.

Press "Y"

Enter the complete path of your pseudo floppy file, for instance:

- **Linux: /tmp/LINKAR_D3_2_0_0**
- **Windows: c:\temp\LINKAR_D3_2_0_0**

For D3 / Linux installations you must have at least one uncompressed pseudo floppy defined in D3.

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Configure Linkar 2.0 with a D³ database.


```
oK, /backup/LINKAR_D3_2_0_2


If you are going to use MVSP as the connection type you MUST compile these programs with FlashBasic.
If you are going to use SOCKET or TELNET as the connection type you can choose to use FlashBasic or not.
If these programs are Flash-compiled, all application programs used by Linkar must also be Flash-
compiled.
Do you want to compile with FlashBasic Y/N/X?
```

If you are going to use the MVSP or SOCKETS connection type in D3, the programs must be complied with **FlashBasic**.

If you are going to use the TERMINAL connection type, FlashBasic need not be used. The use of FlashBasic implies that all the subroutines that *Linkar Server* is going to access must be compiled with FlashBasic.

Press Y or N according to your installation.

```
Do you want to Enable Accounts to connect with Linkar Server Y/N/X ?
```

If you are activating accounts for use with Linkar, press **"Y"**

```
Type the names of your Data Accounts separated with spaces ?
```

Enter the name of the accounts you wish to activate separated by spaces.

We recommend that you at least activate the DEMO.LINKAR account.

```
Do you want create Linkar Demo Files Y/N/X ?
```

If you want to create the *Linkar Suite Demo* files, press Y.

We recommend that you create the files to verify that *Linkar Server* works correctly and to be able to use the published demos of the *Linkar Suite*.

```
Type the names of your Data Accounts separated with spaces to install DEMO Files ?
```

Enter the name of the accounts where you want to create the files separated by spaces.

We recommend that the *DEMO.LINKAR* account be used

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Configure Linkar 2.0 with a D³ database.

```
CHG-DEVICE 3 name=/backup/LINKAR_D3_2_0_2
Tape Status           28 Feb 2020  11:32:48
 #   Type               Density          Owner   Device Name
-------------------------------------------------------------------
 3 | Floppy           | Pseudo Floppy  |        | /backup/LINKAR_D3_2_0_2
-------------------------------------------------------------------


Device changed


SET-DEVICE 3
Block size: 500
[1705] Tape device is assigned to a hard disk file (pseudo floppy).
Please, Check Errors. Is there an error message? Y/N ?
```

From now on, **Linkar Manager** will ask for confirmation that no installation error has occurred. If an error occurs, press "Y", the **Break** button and the **Close Terminal** button. If you identify the error and can correct it yourself, do this and restart the installation. If you cannot resolve the error, please send it to Kosday at **sp@kosday.com**.

If no error occurs, press "N". Repeat the process every time the message appears.

If you are going to install the Demo files you will see:

```
How many Orders do you want to create?:
```

Enter the number of Orders you want to create in the DEMO files.

```
%SUCCESSFUL INSTALLATION IN linkar 2.0.2%

:
```

The installation of the **MV components** has been completed successfully when you see this message.

Press the **Close Terminal** button to finish the installation.

Press the **Back to List** button.

Congratulations, the installation of Linkar Suite has been completed.

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Configure Linkar 2.0 with a D³ database.

4. Configure Profile and EntryPoint in Linkar Manager as On Demand connections

- **SOCKET type connection:**

If we want to have **On Demand connections** (connect when needed and autodisconnect them) you must configure the **Login String** parameters. Please note that this is slower than the permanent connection. In fact, *Linkar Server* will connect to D3, start the SOCKET, and exit. When *Linkar Server* detects it is not necessary to maintain the line open it will close the socket.

- **Terminal type connection:**

Please note that this is slower than the permanent connection. In fact *Linkar Server* will connect and disconnect to D3 when necessary. When *Linkar Server* detects it is not necessary to maintain the line open it will close the connection.

Thanks

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