

# LDI Plus ServiceNow Integration Guide



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### 1 ServiceNow Integration

The Lenovo Device Intelligence (LDI) Plus ServiceNow Integration Guide helps you setup LDI ServiceNow Plugin so that ServiceNow platform can connect to device(s) in the LDI organization account through LDI external API.

#### 1.1 Audience

IT Administrators, Analysts, and Managers.

#### 1.2 Prerequisites

• Establish parity between LDI and ServiceNow Platforms.

#### Note:

A physical device like laptop, desktop, server, etc. is referred to as a Device in LDI application and as an Asset in the ServiceNow application.

You must synchronize devices in LDI with the Assets or configuration items in the ServiceNow application for the proper working of the LDI ServiceNow plugin. Therefore, you must fulfil the following conditions:

- The name of the LDI device must be the same as the name of the Asset in the ServiceNow application
- The Serial number of the LDI device and Asset serial number must be the same.
- Requisite Roles and Rights required for LDI and ServiceNow accounts.

Application	Roles and Rights
Lenovo Device Intelligence (LDI)	You must have an Organization Administrative account to generate API credentials - Client ID and Secret. The API credentials are required for API integration between LDI and ServiceNow so that the LDI ServiceNow plugin can work.
ServiceNow	Administrator account

**Disclaimer** – The LDI ServiceNow plugin was developed and tested in a clear and empty ServiceNow Instance. Any change done by ServiceNow in their platform can affect the LDI ServiceNow plugin.



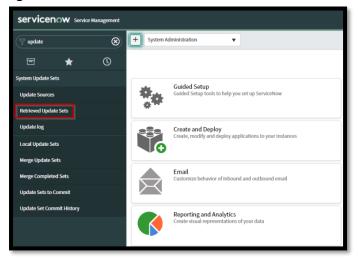
#### 1.2.1 Import and Install Lenovo XML File in ServiceNow

Application Remote Update Set is an XML file that you can import into ServiceNow Instance. The file contains configuration and scripts developed by Lenovo.

Note: It is mandatory to have an administrative account in ServiceNow application.

Follow these steps to import and install Lenovo XML file:

1. Sign in to the ServiceNow dashboard.



- 2. Enter update in the search box. The System Update Sets menu appears.
- 3. Click **Retrieved Update Sets**. In the Related Links, Import Update Set from XML link appears.

servicenow. Service	e Management	
	8	Retrieved Update Sets Search Name
e 🛨	()	$\begin{array}{c} \blacksquare \\ \blacksquare $
System Definition		
System Upgrades		
System Update Sets		Related Links
Update Sources		Import Update Set from XML
Retrieved Update Sets		

4. Request the ServiceNow XML file via email to <a href="https://lisupport@lenovo.com">lisupport@lenovo.com</a> and once received click Import Update Set from XML.



5. Click **Choose file**, and then click **Upload**. After the file is imported, the LDI Ng application appears in the list.

≡ 7		eved Update Sets	lame	▼ Search			Actions of the second secon	on selected rows
All > Cla	Name •	Application	State	Update source	Description	Loaded	Committed	Parent
<u>ן</u>	LDI Ng	(empty)	Loaded	(empty)		2022-07-22 05:27:25	(empty)	(empty)

6. Click LDI Ng. The LDI record appears in the ServiceNow application.

	Favorites :	≡ Retrieved Updat 😭	Q Search	0 Q
< = Retrieve	d Update Set	Ø	🗟 … Update Delete Prev	iew Update Set
Name	LDI Ng	Con	nmitted	
Application	LDI Ng	() h	nserted	
Update source		t.	Deleted	
Parent	Q			
State	Loaded			
Loaded	2022-07-22 05:27:25			
Description				
Application name	LDI Ng			
Update Delete	Preview Update Set			

Note: You can update, delete, or get a preview of the LDI update sets.

7. Click Preview Update Set.

Note: The preview fails if there are errors during import of LDI XML file.

Retri	eved Update Set	M	4	000	Update	Delete	Preview Update Set
	Update Set Preview						×
							Failed at 100%
App date	Preview problems for LDI: 4 Errors   0 Warnings. To commit this update set you must address all	probler	ns.				_
							Close

8. To resolve the errors, select all errors in the tab, click Update Set Preview Problems.

Update	e Set Preview Problems (4)	Customer Up	pdates (71)	Child U	pdate Sets			
	Update Set Preview Proble	ms Search	Туре	•	Search			
$\bigtriangledown$	Update Set = LDI > Status	s = (empty)						
ক্ষ	О ≡ Туре	🔳 Remote u	update			=	Description	
Y	(i) • Error	<u>sys_properti</u>	ies b3901a1	b07b1701	.0c17cfa4d7.	F	ound a local update that is newer than this on	ıe
<b>&gt;</b>	Actions on selected rows Delete Accept remote update	svs_ann_ap	plication 18	cdea8507	b17010c17c		Could not find a record in sys_app_category fo	r col
>	Skip remote update Create Application File Assign Tag: New tag Android Java JavaScript		remote u ies cb5f8ad				oblem to be committed found a local update that is newer than this on	1e
>	Development EVAM configuration for 5 Remove Tag: Android Java JavaScript Development		ies f770ded	707b1701	0c17cfa4d7.		ound a local update that is newer than this on	ıe
~	EVAM configuration for s	Search						

9. Click Accept remote update.

= 10	ΙNσ	Ű			Update	Delete	Preview Opdate Set	
Upd	ate Set Preview						×	
							Succeeded 100%	
Jp :	Success! - Succeeded in 4 Seconds							
							Close	
Lo	aded 2022-07-22 05:27:25		🐼 Tota	al 79	)			

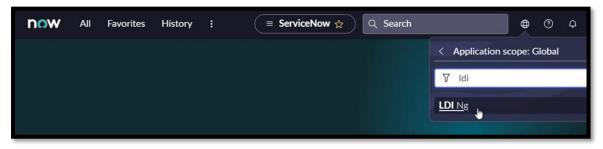
	Favorites :	≡ Retrieved Updat	🗙 🗘 Q Se	arch	• © ¢
Retrieved LDI Ng	d Update Set	∅ ∞ …	Update Delete	Run Preview Again	Commit Update Set
Name	LDI Ng		Committed		
Application	LDI Ng	0	Inserted	79	
Update source			Updated	0	
Parent	Q		Deleted	0	
State	Previewed		Collisions	0	
Loaded	2022-07-22 05:27:25		Total	79	
Description					
Application name	LDI Ng				
Update Delete	Run Preview Again Commit Up	pdate Set			

10. Click Commit Update Set. The update set is successfully commited.

#### 1.2.2 Authenticate LDI API Credentials in ServiceNow

This section explains how to add the LDI API credential in the ServiceNow instance to setup LDI ServiceNow plugin.

1. We recommend switching to the context of the newly committed LDI Ng application



2. In the search box, enter LDI. The LDI Diagnostics Config tab appears.



3. Click **LDI Config**. The **Properties** page appears. In this page, enter credentials of LDI API to establish connection between ServiceNow and LDI platform.

Properties						
<b>Lenovo</b> Insert properties values to establish connection to LDI API						
LDI External API url link in format https:// ③						
Authentication URL to get LDI API token ③						
External API client id ③						
External API client secret ③						
Save						

4. Enter the External API URL and Authentification URL for your LDI portal's region as denoted below:

LDI API URLs
1. NA
External API: <u>https://api.naea1.uds.lenovo.com</u> Authentication: <u>https://auth.naea1.uds.lenovo.com</u>
2. EU
External API: <u>https://api.euwe1.uds.lenovo.com</u> Authentication: <u>https://auth.euwe1.uds.lenovo.com</u>
NA is North American Region and EU is European Union Region.

**Note**: For more information, refer to the LDI API Guide.

5. Enter LDI API Client ID and Client Secret. These can be sourced in the LDI portal by navigating to the Profile dropdown and selecting Organization Settings → API Credentials.

Organization settings	FEATURE	SECURITY	DEVICE POLICY	CONNECTORS	API CREDENTIALS
GENERATE API CREDENTIALS To access LDI data via REST API, you need to generate communicate with your organization's IT management		ese APIs allow Lenovo Device	: Intelligence to		
The API credentials will only be showed once. Mak CLIENT ID	ke sure you save and keep them	SECRET			
Copy Client ID		Co	py Secret		
				Close	Regenerate

**Note**: After you generate a new pair of Client ID and Secret key, the older pair gets invalid.

6. Now select save once the fields are completed.

Properties
Lenovo
Insert properties values to establish connection to LDI API
LDI External API url link in format https:// ⑦
https://api.naea1.uds.lenovo.com
Authentication URL to get LDI API token ③
https://auth.naea1.uds.lenovo.com
External API client id ③
External API client secret ⑦
Save

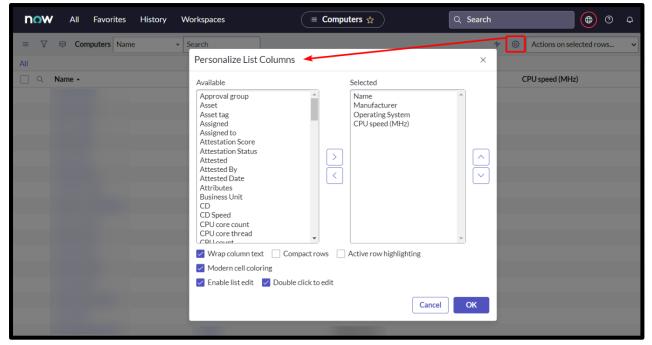
#### 1.2.3 Synchronize Assets in ServiceNow and LDI

Refer <u>Prerequisites</u> section before proceeding ahead.

- 1. Log in to ServiceNow instance.
- 2. In the search box, enter **computers**. Click the **Computers** tab that appears in the navigation menu.



3. Click the Settings icon so that the Personalize List Columns window appears.



Note: The checkboxes shown in the screenshot are marked by default.

≡ Name ▲	≡ Model ID	E Serial number
EPUAKYIWOFCA	Search	Search
EPUAKYIWOFCA	HP HP EliteBook 850 G7 Notebook PC 2	5CG1092PLB

- 1. Name of the Asset. For example, EPUAKYIWOFCA
- 2. Model ID of the Asset HP EliteBook 850G7 Notebook
- 3. Serial Number of the Asset 5CG1092

Personalize List Columns	×
Available Selected          Skip sync         Start date         Status         Subcategory         Substatus         Support group         Support group         Support dby         Sys class path         Tags         Updated         Updated         Updated by         Updates         Vendor         Warranty expiration         Operating System         CPU speed (MHz)         Manufacturer         V         Wrap column text	
Modern cell coloring	- 1
Enable list edit     Double click to edit     Cancel	ок

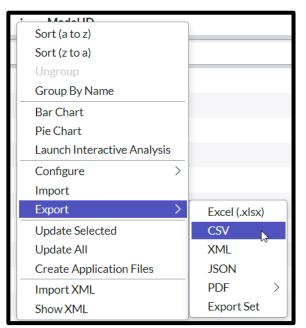
You can search an asset by the Name, Model ID, or Serial Number. Choose assets you want to synchronize by using filters.

**Important Note:** Do not apply filter if you want to synchronize all.

4. Mark the checkboxes to select Assets(s) that you want to synchronize with LDI platform.

<b>NOW</b> All Favorites History	Workspaces 📃 Computers 📩
$\equiv$ $\nabla$ $region Computers Name •$	Search
All > Name >=	
□ Q Name ►	Sort (a to z)
Search	Sort (z to a) Ungroup
	Group By Name
	Bar Chart Pie Chart Launch Interactive Analysis
	Configure > Import Export >
	Update Selected Update All Create Application Files
	Import XML Show XML

5. Right-click the **Export** tab. In the context menu, choose **Export**  $\rightarrow$  **CSV**.



6. Select the type of format of the file to be exported. For example, CSV.



7. Click **Download.** The file is downloaded on the device.

The format of the ServiceNow file is:

"name","model id","serial number" "EPUAKYIWOFCA", "HP HP EliteBook 850 G7 Notebook PC", "5CG1092PLB" DEVICE NAME, MACHINE TYPE, SERIAL NUMBER, GROUP

EPUAKYIW0FCA, HP EliteBook 850 G7 Notebook PC,5CG1092PLB,

EPBYMINW150E, HP EliteBook 850 G7 Notebook PC, 5CG1092PMP, Office1

#### 1.2.4 Mandatory Requirements for LDI CSV Format

If the name of a device in LDI and ServiceNow is different, then the device name can be changed automatically using the CSV file.

#### Important Notes:

- Only underscore (\_) and dash (-) symbols are allowed.
- To upgrade DEVICE NAME automatically, MACHINE TYPE must be model\_id, and SERIAL NUMBER must be equal to serial\_number.

EPRUPETW089B SCG0431RL3 (urresponsive) DEVICE INFO	Unavai	alth Score
Hardware and Software on this Device Powered by Lenovo Device Intelligence /	Inspect De	vice /
Hardware	Software	D
There is no available data	Crashes & Unsafe Shutdowns	•
	Installed Components & Versions No Issues	•

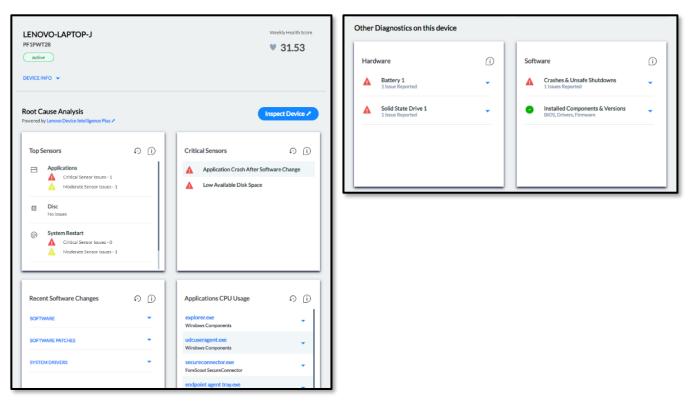
- 1.2.5 Update Asset Information from ServiceNow to LDI Account
  - 1. Log in to your LDI portal.
  - 2. Click **Devices** in the navigation menu. The **Devices** pane appears.

Ξ	Lenovo Device Intelligence Plus	Hon	ne / Devices				Lenovo User Organization Admin	<mark>₩</mark> <b>▼</b>
Ŷ	Dashboard	D	evices +		ℜ Refr	esh 🔇 Trout	oleshooting Tips 🔻	More 🔺
• 🖄	Issues & Reports	QUIC	CK FILTERS (5)		-		🔁 Import Device C	Changes
• <sub>Cu</sub>	User Experience	Troubl	eshooting () ▼ (Device Status () ▼ (	Manufacturer 0 -	•		🗘 Update Fleet Ag	gent Status
• ₽€	UX Surveys		DEVICE NAME	SERIAL NO.	DEVICE STATUS	LAST SEEN DAT	C Export Device L	ist
Ш	Discover & Resolve			3	Offline	02-07-2023	☐ Export Detailed	Device List
Q	Device Lookup			1	Pending	06-16-2022	Edit Labels	
ľ	App Vision				Offline	05-16-2023	Dell Inc.	Latitude
- 🖵	Device Manager				Offline	02-24-2023	Dell Inc.	Latitude
	Devices				Online	11-14-2022	HP	103C_533(
• 🖒	Users Manager				Offline	08-16-2022	HP	HP ProBoo

- 3. Click **More**. The drop-down window appears.
- 4. Click Import Device Changes.

Import Device Changes	
Please export devices that you wan information you want to import.	t to update and upload this CSV file with all updated device
	Drop CSV file here or Of Click to select file to upload
Devices_changed.csv	282 B 🛞

- 5. Select the file. For example, the CSV file of Assets exported from ServiceNow.
- 6. Click **Verify**. The file is verified.
- 7. Click **Yes.** The device information is updated in LDI, and you receive a confirmation email at your registered email ID. ServiceNow receives data of specific device(s) and renders it in the Plugin tab. The LDI ServiceNow plugin is set up.



#### 1.2.6 Integrate ServiceNow into LDI

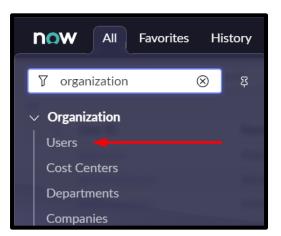
This feature allows the system to raise a ticket and assign it to the LDI Support team when an incident occurs. It includes tasks such as configuring connection to ServiceNow portal, creating rules that includes sensor management, etc.

Communication between servicenow-integration-service and ServiceNow API occurs using basic authentication. Thus, ServiceNow user credentials are stored in the servicenow-integration-service database and provided each time the API is called.

There is a possibility to use a more secure mechanism - OAuth authentication, when a limited-time token is obtained from OAuth API by credentials and is used in the API calls.

Follow this procedure to support the OAuth authentication:

- 1. The Organization Admin must create a user in ServiceNow for User ID and Password and a client for Client ID and Client Secret. For example, the user could be called **Idiservice**.
- 2. To do this, begin by searching in your ServiceNow portal for **organization** and select **Users**.



- 3. Inside the Users page, click on New and create a new user such as ldiservice and generate a password for the user. Take note of the username and password for step 10.
- The user must also have roles specified: Admin, Asset, App\_service\_user, etc. With this set of roles, there is an issue with setting high impact and urgency through the API. When High is requested, Medium is set in the incident
- 5. In the search box type **application registry** and select Application Registry.



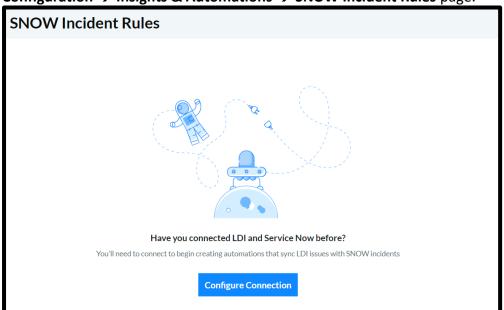
6. Once in the Application Registry page, select the ldi-service-connect.

<b>NOW</b> All Favorites History W	/orkspaces	$\equiv$ Application Re	egistries 🕁	Q Search
$\equiv$ $\nabla$ $\bowtie$ Application Registries Name	Search			
All > Type = OAuth Client .or. Type = OAuth Provider				
Name •	Active	Туре	Client ID	
ADFS	true	External OIDC Provider		
AuthO	true	External OIDC Provider		
Azure AD	true	External OIDC Provider		
Google	true	External OIDC Provider		
Idi-servicenow-client	true	OAuth Client		

7. Within the Idi-service-connect Application Registry, take note of the Client ID and Client Secret for step 10.

<b>NOW</b> All	Favorites :		Gearch 🕀	)
Applicati Idi-servic	on Registries enow-client View: Default*			Delete 1
Client Secre     Refresh Tok     Access Toke     Redirect UF     Enforce Tok	ique name. lient ID automatically generated I et: Client secret for the OAuth ap <b>sen Lifespan</b> Time in seconds the <i>I</i> <b>n Lifespan</b> : Time in seconds the <i>A</i> <b>RL</b> :The rediect URLs authorization	plication. Leave it empty for auto-generation. Refresh Token will be valid. Access Token will be valid. n server redirect to. They must be absolute URI ess token usage to the API 's defined in the <u>RES</u>		tion would allow
* Name	Idi-servicenow-client	Applicatio	on LDI Ng	
* Client ID		Accessible fro	m All application scopes	·
Client Secret		Activ	/e 🔽	
Redirect URL		A Refresh Toke		
Logo URL		A × Access Toke	en 1,800	
Comments				

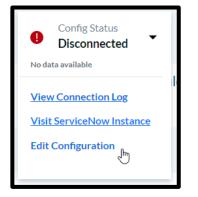
8. Now in another browser window, navigate to your LDI Portal and open the **Configuration** → **Insights & Automations** → **SNOW Incident Rules** page.



- 9. We're now going to enter the ServiceNow API fields into the LDI portal so click **Configure Connection**.
- 10. Complete the Configuration form with the fields collected in the past few steps

Configure connection to ServiceNow	Having trouble connecting? Contact Support			
1. Add Instance Credentials				
ServiceNow Instance URL 📀				
Eg. Lenovo.servicenow.com				
ServiceNow User ID 👔				
Johndoe@lenovo.com				
ServiceNow Password 🕘				
2. Add Client Credentials				
	Cancel Connect ServiceNow			

**Note:** If you've done this previously and need to update the credentials you can click on the Config Status and choose **Edit Configuration**.



11. Fill-in Instance URL.

12. Enter the values for these fields:

- User ID or Admin Credentials
- Password
- Client ID
- Client Secret
- Click Connect to ServiceNow. All the filled-in credentials are stores in the database afterward. This way it's possible to receive tokens whenever it's needed.
   Note: This option requires saving user and password, but this user can be controlled at ServiceNow side.

			Se	erviceNow is connected su	ccessfull	lу	
	Plus						1400000
$\nabla$	Dashboard			<b>SNOW Incide</b>	nt Ru	les 🕂	Config Status
							Show Active Rules
• 🖄	Issues & Reports	Automations		<b>RULE NAME</b>		ACTIVITIES SYNCED	ACTIONS
ا <u>بات</u> •	User Experience	Collection Extensions					u 🖉 🖉
•	UX Surveys	Views					
<u>ښ</u>	Discover & Resolve	views					2 (b) 🖬
Q	Device Lookup	Role Management					🧷 🕛 💼
	App Vision	Policies					
• 🖵	Device Manager	System Assignments					
• പ	Users Manager						
₫	Support Tickets						
• 💱	Configuration						
• Ei	Help & Resources						

**Note**: You must have an LDI Admin access privileges to configure and create a rule.

- 1. Log in to LDI portal.
- 2. Select Configuration → Insights & Automations → ServiceNow Incident Rules. The SNOW Incident Rules page appears.
- 3. Click the **Config Status** drop-down on top-right in the page.
- 4. Select Edit Configuration. The Configure Connection to ServiceNow page appears.
- 5. In the **Add Instance Credentials** section, enter the ServiceNow Instance URL, ServiceNow User ID, and ServiceNow Password.
- 6. In the **Add Client Credentials** section, enter the ServiceNow Client ID and ServiceNow Client Secret.

Note: All are mandatory fields.

7. Click Connect ServiceNow.

#### 1.2.7 Create a ServiceNow Incident Rule

**Note**: You need to configure ServiceNow in LDI before creating an incident rule. Refer to <u>Integrate ServiceNow Into LDI</u> for more details.

Field Name	Field Description			
Rule Name	he Name of the ServiceNow rule.			
Activities Synced	The activities logged by LDI Plus automation. Activities synced displays the number of incidents created when this rule is applied. When the rule is deactivated, this field is not updated.			
Actions	<ul> <li>Click the icon to edit a rule.</li> <li>Click the icon to activate a rule.</li> <li>Click the icon to deactivate a rule.</li> <li>Click the icon to delete a rule.</li> </ul>			

The following table displays the fields in the SNOW Incident Rules page:

**Note**: You can also click the <sup>OD</sup> Show Active Rules</sup> toggle button on top of the page to display all the active rules for the ServiceNow devices.

To create a rule:

- 1. In the **SNOW Incident Rules** page, click the <sup>to</sup> icon. The **New Rules** page appears.
- 2. Enter the name you want to give to a new rule.
- 3. Select the conditions from the dropdowns.

e Name				
E.g. Sensor Rules				
any of the following con	ditions are met, then create <i>ir</i>	ncidents	in Service Now	
If Hardware / Software	Causing		Has been	
Applications (13)	Application Blocked 👻		Detected	• 🛞
Then Urgency	And Impact			
High 🔫	High -			
Add More Conditions blies to the following De	vices / Labels			

- 4. Enter the device name or label to which the new rule is applicable.
- 5. Click Save Rules.

#### 1.2.8 Handle an Incident in ServiceNow

The following page displays all the related details of an event created due to occurrence of an incident.

Number	INC0010688	E				Contact type	None	~		
* Caller	LDI Platform	Q	ofe	(		State	New	~		
Category	Inquiry / Help	~				Impact	1 - High	~		
Subcategory	None	~				Urgency	2 - Medium	~		
Service		Q				Priority	2 - High			
Service offering		Q				Assignment group		Q		
Configuration item	EPRUPETW089B	Q	8	0		Assigned to	Recent selections Hardware	Q		
* Short description	2: Application Crash After Softw	are Chang	e, Major	Latency	y Issues				8	
Description	The following 2 sensors have be Sensor: Application Crash After Severity; 7 Triggered: 1 time(s) Details: APPNAME: OPSWATClientULex FLTCOUNT : 2.0 LS_1D: APPNAME: OPSWATClien MOD_DATE : L64872214E9	Software (		sensor c	ategories by Lenovo	Device Intelligence Automatic	on.			

**Note**: When you create an incident, the details are updated in the **LDI Diagnostics** tab. You can see this tab at the bottom of the page. This tab helps you to take appropriate actions.

If the connection of ServiceNow is broken with the LDI Plus device for more than 24 hours, you are unable to see the updated issue resolution details.