

[DRAFT VERSION v2]

NDR Geoportal User Manual

Access, Harvesting and Spatial Query Execution

Prepared By:

Panacea Infosec Pvt Ltd, RSI Softech India Pvt Ltd

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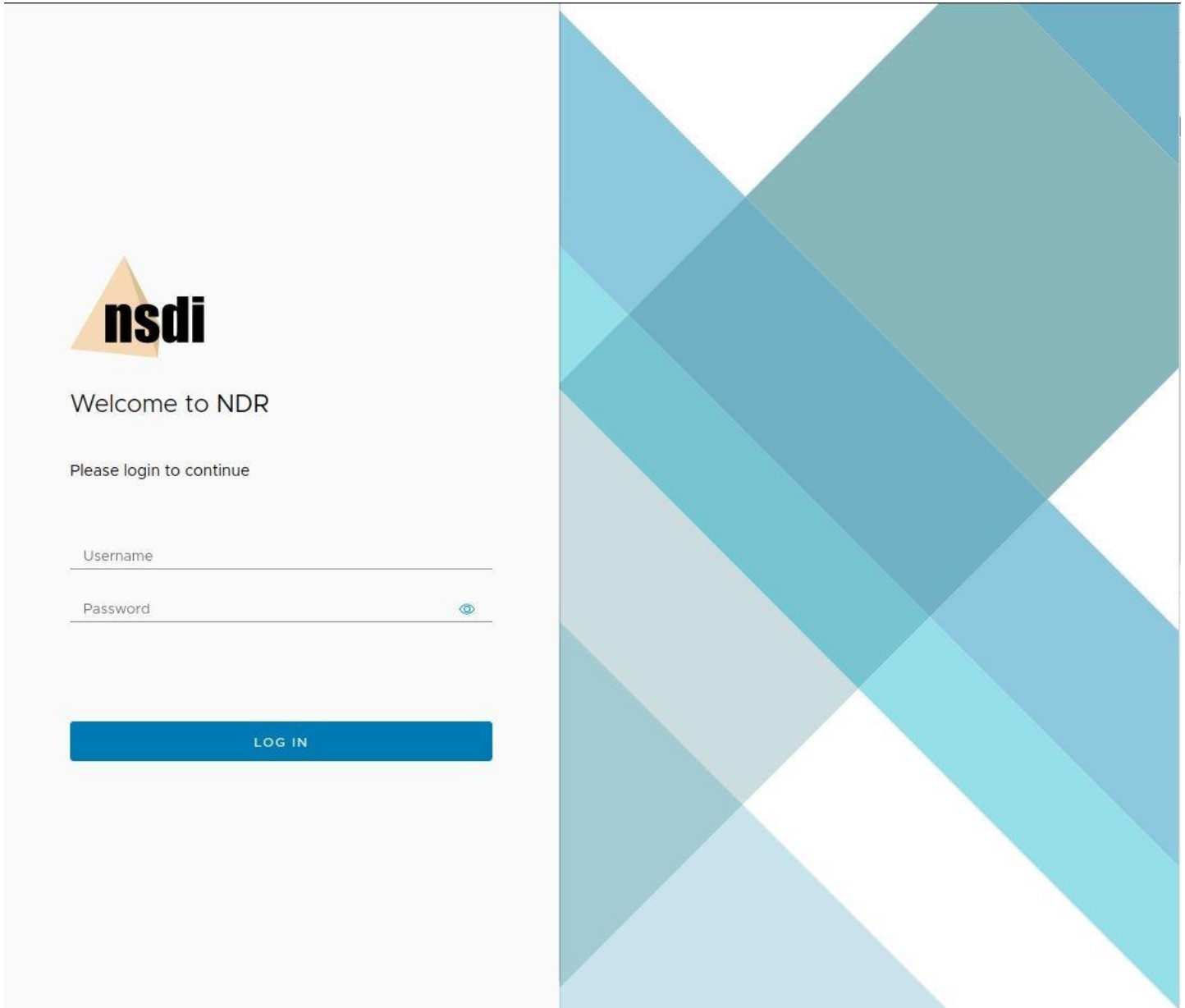



Introduction

1. The NDR project comprises of the central NDR Geoportal Node, which is connected to the various Data Nodes configured for each participating agency, which serve the required geospatial services, datasets and layers (e.g. WMS/WFS/CSW services etc.).
2. These services are then harvested and consumed by the NDR Geoportal and Registry: for both metadata and GIS data queries.
3. As a starting point, the Data Nodes have been configured on the Geospatial Cloud for the participating agencies.
4. The following user manual is intended to provide the needed steps for administrators and officers to interact with the configured and running NDR Geoportal node.
5. The manual takes Users through the various components of the NDR Geoportal such as, Harvesting, Dynamic Query Builder, Registry, and Proposals along with concise steps involved in interacting with each component.
6. The Dynamic Query Builder is a unique and powerful component of the NDR Geoportal. It enables users and administrators to search for and find any layer, dataset or service that has been harvested by NDR. It also provides a powerful Spatial Query Builder, which empowers users to perform complex cross-service, cross-domain and cross-layer spatial queries across multiple spatial layers.

NDR Geoportal: User Login

1. Open the NDR Geoportal Login page on Chrome/Firefox browser through the URL:
<http://117.239.146.89/login>






Welcome to NDR

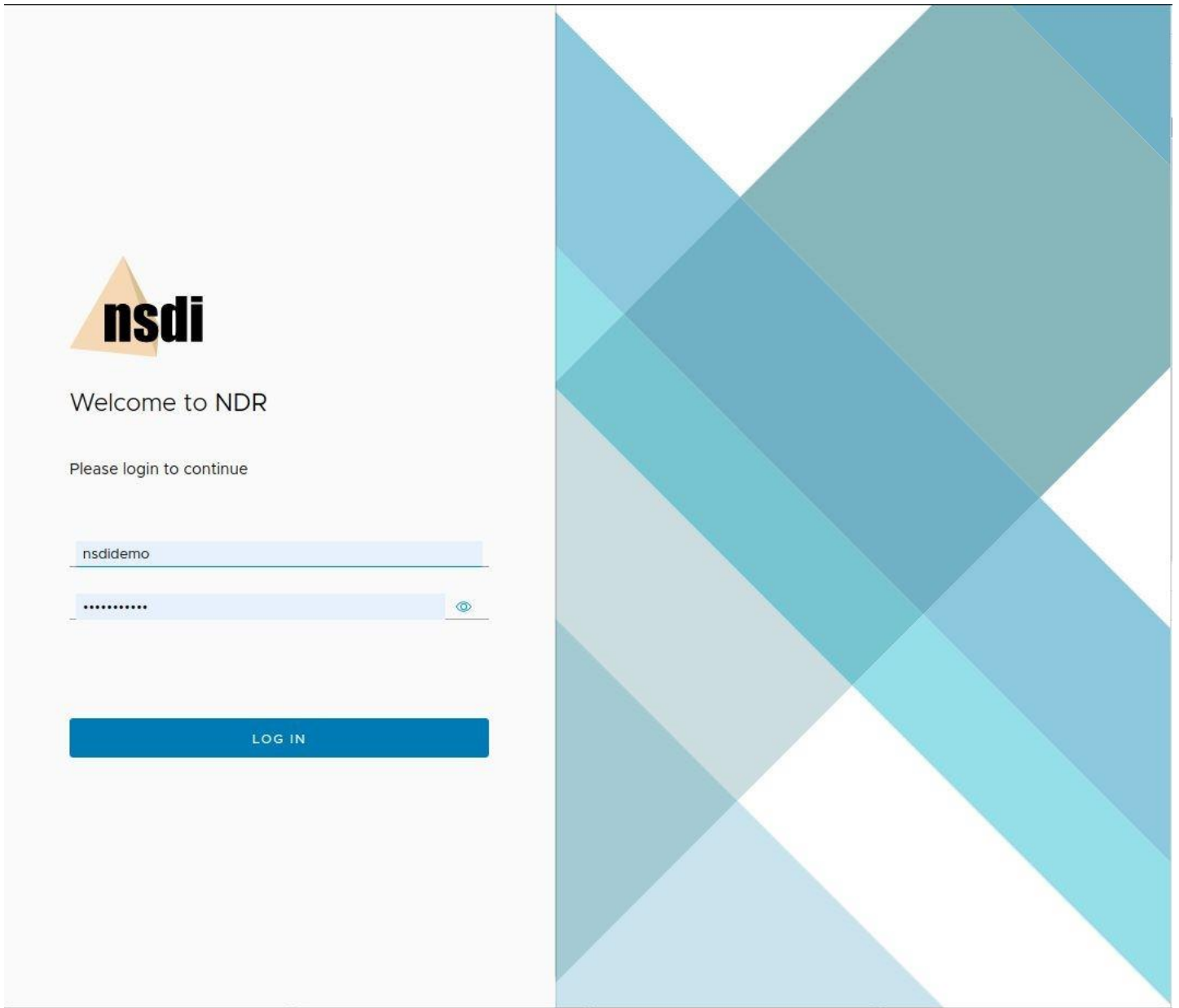
Please login to continue

Username

Password 

LOG IN

2. Enter the UserID and Password to login to the NDR Geoportal



3. NDR Dashboard (Home Screen):

- The User is navigated to the **NDR Dashboard**, a.k.a Home Screen.
- The Dashboard displays statistics for Registered Datasets, Registers Created, Queries Executed, Registered Organizations, Visitors and Users.
- Options to access **Harvest**, **Search**, **Registry**, **Proposals**, and **Admin** screens are available on the left side of the Dashboard.
- Links to the Data Nodes' Geoserver instances are present on the left side of the Dashboard namely, **SOI Data Node**, **GSI Data Node** etc.

The screenshot displays the National Data Registry (NDR) Dashboard. The header includes the 'nsdi' logo and the text 'National Data Registry'. A left sidebar contains navigation links: Home, Harvest, Search, Registry, Proposals, and Admin. Below the sidebar are 'Datanode Links' for SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, and WB SDI. The main content area features a 'Welcome, sysadmin' message, a 'Registry Stats' section with four cards (Datasets: 95, Users: 13, Registers: 5, Organizations: 7), and a 'Datasets' table. The table has columns for Dataset Title, Name, Theme, and Agency. The bottom of the table shows pagination: 'Datasets Per Page: 5', '1 - 5 of total 95', and navigation arrows.

Dataset Title	Name	Theme	Agency
FSI_Mysore_FTM_2011	Forest Type	Forest	FOREST SURVEY OF INDIA
FSI_Mysore_FCM_2017	Forest Cover	Forest	FOREST SURVEY OF INDIA
Intrusives_Mysore	Intrusive	Geology	Geological Survey of India
Boundaries_Mysore	Boundaries	Geology	Geological Survey of India
Fault_Mysore	Fault	Geology	Geological Survey of India

NDR Geoportal: Harvesting

1. Select the 'Harvest' option on the Left Side of the Dashboard. The user is directed to the Harvest screen and prompted to choose a Resource Type.

The screenshot shows the 'Harvest' interface in the NSDI National Data Registry. The main heading is 'Harvest' with the instruction 'Choose a Resource Type'. There are two buttons for selection: 'OGC CSW Service' and 'OGC WMS/WFS Service'. A 'CANCEL' button is located below these options. The left sidebar includes a navigation menu with 'Home', 'Harvest', 'Search', 'Registry', 'Proposals', and 'Admin'. Below the menu is a 'Datanode Links' section with buttons for 'SOI DATANODE', 'GSI DATANODE', 'MOSPI DATANODE', 'FSI DATANODE', 'NBSSLUP DATANODE', 'KSCST DATANODE', and 'WB SDI DATANODE'.

OGC CSW Service	For harvesting NSDI Metadata records from an agency Data Node running NSDI Metadata CSW Service
OGC WMS/WFS Service	For creating a NSDI Metadata record for publicly available OGC compliant WMS/WFS service

2. Option 1: Harvest OGC CSW Service

- a. Select the 'OGC CSW Service' option to harvest the CSW service of a Data Node
- b. Harvesting of a CSW service automatically harvests a Data Node's WFS and WMS services together

The screenshot displays the 'National Data Registry' interface. The top header includes the 'nsdi' logo and the text 'National Data Registry'. A navigation sidebar on the left contains a home icon, 'Harvest' (selected), 'Search', 'Registry', 'Proposals', and 'Admin'. Below the sidebar, a 'Datanode Links' section lists seven categories: SOI DATANODE, GSI DATANODE, MOSPI DATANODE, FSI DATANODE, NBSSLUP DATANODE, KSCST DATANODE, and WB SDI DATANODE. The main content area, titled 'Harvest', shows an 'OGC Service Definition' section with a 'Service URL' field containing 'http://'. A 'NEXT' button is positioned below the field.

- c. Enter the OGC CSW Service URL
- d. Take note of the CSW service URL format: <http://10.0.10.74:8000>
- e. The format includes the Data Node's internal IP (unique to each Data Node) and the port number on which the CSW service is running (8000).
 - i. Note: CSW service configuration is described in the **NDR Data Node User Manual**
- f. Select 'Next'.

The screenshot shows the 'National Data Registry' interface. The top navigation bar includes the 'nsdi' logo, the text 'National Data Registry', and a settings icon. A left sidebar contains a navigation menu with options: Home, Harvest (selected), Search, Registry, Proposals, and Admin. Below the menu is a 'Datanode Links' section with seven blue buttons: SOI DATANODE, GSI DATANODE, MOSPI DATANODE, FSI DATANODE, NBSSLUP DATANODE, KSCST DATANODE, and WB SDI DATANODE. The main content area is titled 'Harvest' and shows 'OGC Service Definition' with a 'Service URL' field containing the text 'http://10.0.10.59:8000'. Below the field is a blue 'NEXT' button.

g. Metadata Record listings are displayed.

The screenshot shows the 'National Data Registry' interface. The top header includes the 'nsdi' logo and the text 'National Data Registry'. A left sidebar contains navigation options: Home, Harvest (selected), Search, Registry, Proposals, and Admin. Below the sidebar, there are 'Datanode Links' for various categories like SOI, GSI, MOSPI, FSI, NBSLUP, KSCST, and WB SDI. The main content area is titled 'Harvest' and displays the 'Metadata Service URL : http://10.0.10.59:8000'. It includes links for 'Select Records' and 'Submit Proposal'. A message states 'Metadata Records Available : 40'. Below this is a table with columns for Identifier, Title, Status, and Metadata. Each row contains a checkbox, an identifier, a title, a status (all 'Harvested'), and a 'VIEW DETAILS' button.

<input type="checkbox"/>	Identifier	Title	Status	Metadata
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_socialgroup/2020	tripura_tehsilwise_socialgroup	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_religion/2020	tripura_tehsilwise_religion	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_ownership/2020	tripura_tehsilwise_ownership	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_natureofoperation/2020	tripura_tehsilwise_natureofoperation	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_majorsourceoffinance/2020	tripura_tehsilwise_majorsourceoffinance	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_handloom/2020	tripura_tehsilwise_handloom	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_broadactivity/2020	tripura_tehsilwise_broadactivity	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/statewise_socialgroup/2020	statewise_socialgroup	✓ Harvested	VIEW DETAILS

- h. Select **'View Details'** option. This opens up a popup on the screen. The popup has two tabs, namely **'Metadata'** and **'Map Preview'**. Metadata is displayed under the Metadata tab structured as per BIS standard IS 16439:2016.

The screenshot shows the National Data Registry (nsdi) interface. A popup window titled "MOSPI/tripura_tehsilwise_religion/2020" is open, displaying the "Metadata" tab. The popup contains the following information:

Data Identification Information		
Dataset Title tripura_tehsilwise_religion	Name Of The Data tripura_tehsilwise_religion	Theme Statistics
Keywords ⓘ 1:50K , , district	Access Constraints ⓘ Registered Users Only	Use Constraints Read Only
Purpose Of Creating Data tripura_tehsilwise_religion in district district	Data Type Vector	Metadata Standard Version BIS IS-16439:2016
Audience Government, Statisticians, Researchers, Planners and others	Availability Yes	DQ Topological Consistency ⓘ Yes

Below the metadata information, there is a section for **Contact Information**.

At the bottom of the screen, a table lists datasets with a "VIEW DETAILS" button for the selected dataset:

<input type="checkbox"/>	MOSPI/statewise_socialgroup/2020	statewise_socialgroup	✓ Harvested	VIEW DETAILS
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- i. Select 'Map Preview' tab on the pop-up to view a preview of the harvested layer on the map.
- j. Close the pop-up to return to Harvest screen.



3. Option 2: Harvest OGC WMS/WFS Service

Note: This option may be selected in case an OGC CSW Service is not set up for a Data Node, and OGC WMS/WFS Services are required to be registered separately.

- a. Select the **'OGC WMS/WFS Service'** option to harvest these services of a Data Node

The screenshot shows the 'Harvest' page in the National Data Registry. The page title is 'Harvest' and the subtitle is 'Choose a Resource Type'. There are two buttons: 'OGC CSW Service' and 'OGC WMS/WFS Service'. The 'OGC WMS/WFS Service' button is highlighted with a blue border. A 'CANCEL' button is also present. The left sidebar contains navigation links: Home, Harvest, Search, Registry, Proposals, Admin, and a section for Datanode Links with buttons for SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, and WB SDI DATANODE.

b. User is directed to the **Create Metadata** screen

i. **Important Notes:**

1. In order to both view a layer on Map View and use it for queries, it is necessary to add both WMS and WFS service URLs
2. WMS/WFS Service URLs may be structured as follows:
 - a. http://public_IP_address:8080/geoserver/ows, (for agencies aside from the six Data Nodes)
 - b. http://internal_IP_address:8080/geoserver/ows, (for the six Data Node agencies)
3. Metadata sections marked with an asterisk (*) are Mandatory fields
4. WMS services must support CORS policy for the tiles to be visible on the map. This is enabled by default for services generated via Geoserver.
5. WFS services must support the GetPropertyValue WFS operation, in order for the attribute filter in the Dynamic Query Builder to display values, else the filter will be empty.
6. The Dataset Title within the metadata for the selected WFS and WMS layers should be the same.

nsdi National Data Registry

Harvest

Create Metadata

WMS Layer + ADD

WFS Layer + ADD

ⓘ Fields marked with * are mandatory

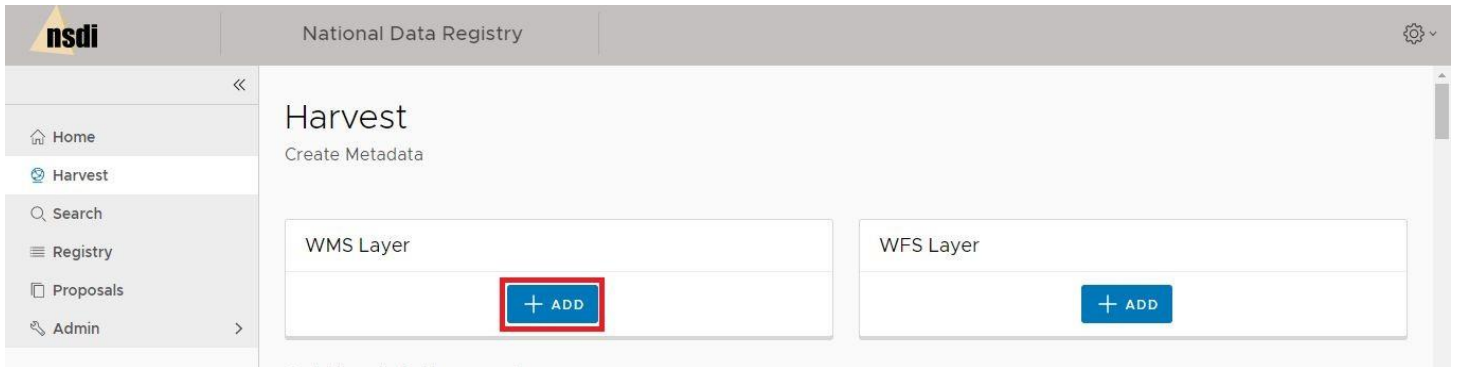
Data Identification Information

0 %

Dataset Title*	Name Of The Data*	Theme*
<small>Dataset Title starts with</small>		
Keywords* ⓘ	Access Constraints* ⓘ	Use Constraints*
<small>ADD KEYWORD</small>		
Purpose Of Creating Data*	Data Type*	Metadata Standard Version*

c. Add WMS Service:

- i. Select the '+Add' option under the WMS Layer section



- ii. 'Add WMS Layer' pop-up opens on the screen.
- iii. Type the WMS service URL in the 'Service URL' field
- iv. Select 'Get Layers' button to view the available layers



- v. The list of available layers is shown
- vi. Select the desired layer from the list
- vii. The layer is previewed on the Map View window

Service URL

http://ssdi.jk.gov.in:1213/cgi-bin/IGIS_Ent_service.exe?IEG_PROJECT=ws_pollingstations

-  Enter the Service URL
-  e.g. <http://www.server.com/wms>

GET LAYERS

	Layer Name
<input type="radio"/>	> IGIS - WS_Polling_Stations
<input checked="" type="radio"/>	> POLLING_STATIONS

- viii. Select 'OK' to complete adding the WMS layer. The WMS service URL will now be automatically updated in the corresponding Online Resource Information section of the metadata

The screenshot shows the 'Harvest' page in the National Data Registry. The page title is 'Harvest' with the subtitle 'Create Metadata'. On the left, there is a navigation menu with options: Home, Harvest (selected), Search, Registry, Proposals, and Admin. Below the menu are 'Datanode Links' for 'SOI DATANODE' and 'GSI DATANODE'. The main content area is divided into two sections: 'WMS Layer' and 'WFS Layer'. The 'WMS Layer' section contains the following information: 'Service URL' is 'http://ssdi.jk.gov.in:1213/cgi-bin/IGIS_Ent_service.exe?IEG_PROJECT=ws_pollingstations', and 'Layer Name' is 'POLLING_STATIONS'. There is a 'CHANGE' button below this information. The 'WFS Layer' section is currently empty and features a '+ ADD' button.

d. Add WFS Service:

- i. Select the '+Add' option under the WFS Layer section

This screenshot is identical to the one above, showing the 'Harvest' page. However, the '+ ADD' button in the 'WFS Layer' section is highlighted with a red rectangular box, indicating the step to click this button to add a new WFS service.

- ii. **'Add WFS Layer'** pop-up opens on the screen.
- iii. Enter the WFS service URL in the **'Service URL'** field
- iv. Select **'Get Layers'** button to view the available layers



- v. The list of available layers is shown
- vi. Select the desired layer from the list, and select **'OK'**. The WMS service URL will now be automatically updated in the corresponding Online Resource Information section of the metadata

Add WFS Layer

Service URL

http://ssdi.jk.gov.in:1213/cgi-bin/IGIS_Ent_service.exe?IEG_PROJECT=ws_pollingstations



- e. Now, continue to fill in the sections of the metadata for the dataset.
- f. After the metadata has been filled in, select the 'Create Proposal For Addition' button.

The screenshot displays the National Data Registry interface. On the left is a navigation sidebar with options: Home, Harvest, Search, Registry, Proposals, Admin, and a section for Datanode Links (SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, WB SDI). The main content area shows a form for adding a new resource. The form includes fields for Application Profile (URL: http://ssdi.jk.gov.in:1213/cgi-bin/GIS_Ent_service.ex), Name (POLLING_STATIONS), and Resource Description. Below these are sections for 'Online Resource Information' (CI Online Resource, Linkage, Protocol: WFS) and another set of metadata fields (Application Profile, Name: PS:POLLING_STATIONS, Resource Description, Instructions). At the bottom of the form, the 'CREATE PROPOSAL FOR ADDITION' button is highlighted with a red box, next to a 'BACK' button.

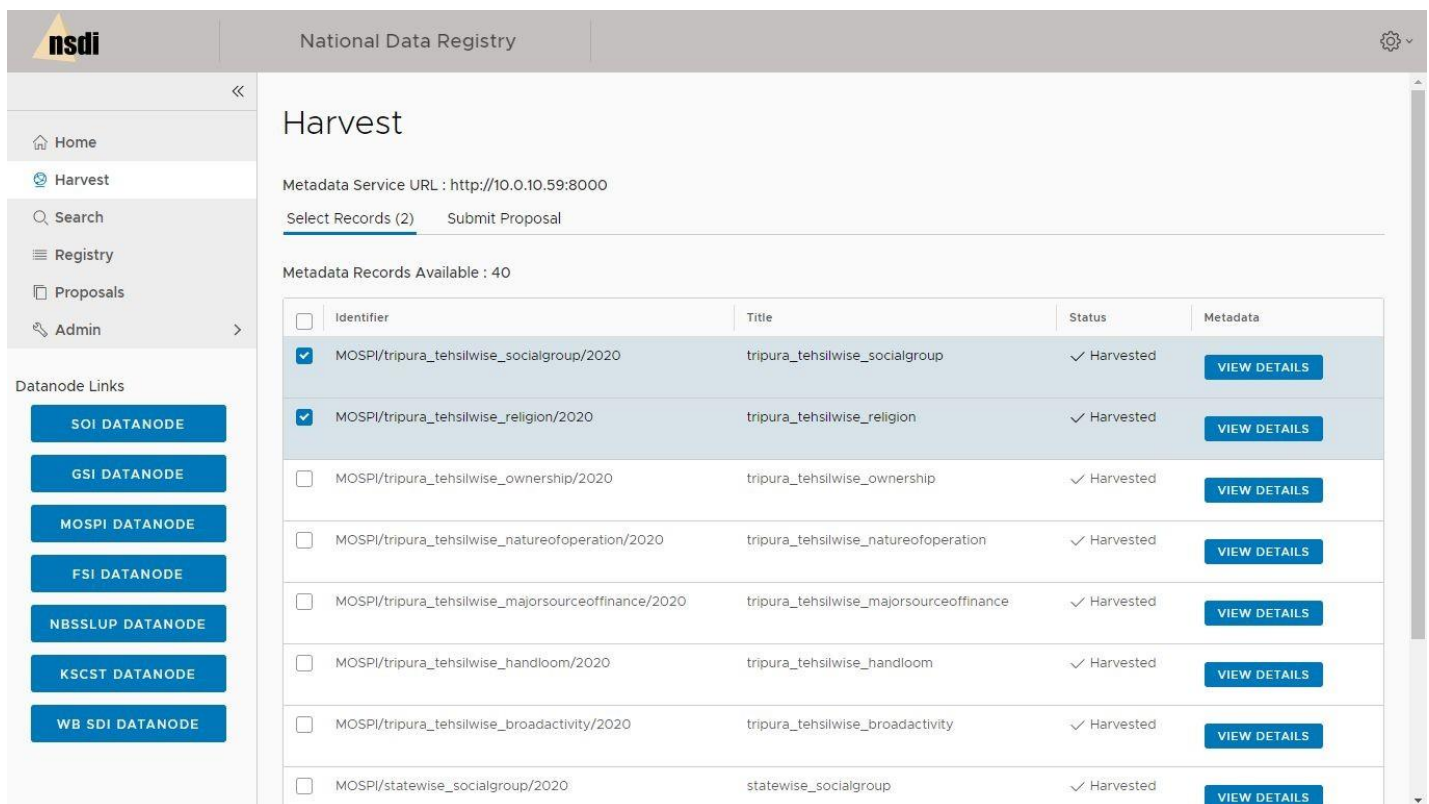
- g. This action submits the proposal to the Registry Administrator for approval.
- h. The proposal is now added under the **My Proposals** tab.

Registration Proposal Submission Workflow (as per ISO 19135)

The Proposal Submission for registering datasets follows the mechanism outlined in ISO 19135 standard. This step is a direct continuation of the harvesting process. The following Proposal workflow can be initiated after harvesting has been performed either OGC CSW Services or IGC WFS/WMS Services.

Note: Steps 1 and 2 cover the proposal initiation process post harvesting of OGC CSW Services. The workflow after harvesting of OGC WMS/WFS Service continues from Step 3 onwards.

1. Select one or more metadata record(s) from the listing



The screenshot shows the 'National Data Registry' interface. The main heading is 'Harvest'. Below it, the 'Metadata Service URL' is 'http://10.0.10.59:8000'. There are two buttons: 'Select Records (2)' and 'Submit Proposal'. Below this, it states 'Metadata Records Available : 40'. A table lists the records with columns for 'Identifier', 'Title', 'Status', and 'Metadata'. Two records are selected with checkboxes.

<input type="checkbox"/>	Identifier	Title	Status	Metadata
<input checked="" type="checkbox"/>	MOSPI/tripura_tehsilwise_socialgroup/2020	tripura_tehsilwise_socialgroup	✓ Harvested	VIEW DETAILS
<input checked="" type="checkbox"/>	MOSPI/tripura_tehsilwise_religion/2020	tripura_tehsilwise_religion	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_ownership/2020	tripura_tehsilwise_ownership	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_natureofoperation/2020	tripura_tehsilwise_natureofoperation	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_majorsourceoffinance/2020	tripura_tehsilwise_majorsourceoffinance	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_handloom/2020	tripura_tehsilwise_handloom	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/tripura_tehsilwise_broadactivity/2020	tripura_tehsilwise_broadactivity	✓ Harvested	VIEW DETAILS
<input type="checkbox"/>	MOSPI/statewise_socialgroup/2020	statewise_socialgroup	✓ Harvested	VIEW DETAILS

2. Select the **'Submit Proposal'** tab. Details such as Name and notes can be added in this section. The previously selected metadata records are listed under the **Dataset Title** section. Once details have been added, select **'Submit'**.

The screenshot displays the 'Harvest' page in the National Data Registry. The page header includes the 'nsdi' logo and the text 'National Data Registry'. A left sidebar contains navigation options: Home, Harvest, Search, Registry, Proposals, and Admin. Below the sidebar are 'Datanode Links' for SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, and WB SDI. The main content area shows the 'Harvest' title, the 'Metadata Service URL : http://10.0.10.59:8000', and two tabs: 'Select Records (2)' and 'Submit Proposal'. The 'Submit Proposal' form includes a 'Name' field with the value 'Tripura Tehsilwise Layers', a 'Submitter Notes' text area containing 'Kindly Approve' (with a '(max 256 chars)' note), and a 'Dataset Title' section listing 'MOSPI/tripura_tehsilwise_socialgroup/2020' and 'MOSPI/tripura_tehsilwise_religion/2020'. A blue 'SUBMIT' button is located at the bottom of the form.

- After selecting the **Submit** button, the user is directed to the Proposals screen. The proposals submitted by the user are listed under **My Proposals** tab. The status of the submitted proposal is also shown. The **Pending** tab lists the proposals which have been submitted but are not accepted/rejected.

The screenshot displays the 'Proposals' page in the National Data Registry. The page header includes the 'nsdi' logo and 'National Data Registry'. The main content area is titled 'Proposals' and has two tabs: 'My Proposals' (active) and 'Pending'. Below the tabs is a table with the following data:

Proposal ID	Name	Date Proposed	Status
urn:uuid:bbbc6329-642c-4ff0-a21a-a5ff6c511018	Tripura Tehsilwise Layers	15-Jan-2021 1:28:34 PM	Submitted
urn:uuid:4dd2b431-afb3-48d0-86af-885ab913103a	Test Proposal	20-Dec-2020 8:29:13 PM	Approved

At the bottom right of the table, there is a pagination control: 'Records Per Page 10' and '1 - 2 of total 2'. The left sidebar contains a navigation menu with 'Home', 'Harvest', 'Search', 'Registry', 'Proposals', and 'Admin'. Below the menu is a section titled 'Datanode Links' with buttons for 'SOI DATANODE', 'GSI DATANODE', 'MOSPI DATANODE', 'FSI DATANODE', 'NBSSLUP DATANODE', 'KSCST DATANODE', and 'WB SDI DATANODE'.

4. Registry Administrator Interface:

- a. The submitted Proposal is listed under the Pending tab on the 'Proposals' screen.
- b. The UI displays Proposal ID, Proposal Name, Date of Proposal submission, Status and option to view the complete proposal details.
- c. Select 'View' option to open the 'Proposal Details' screen.

The screenshot shows the 'Proposals' page in the National Data Registry. The page has a header with the 'nsdi' logo and 'National Data Registry' text. A left sidebar contains navigation links: Home, Harvest, Search, Registry, Proposals (active), and Admin. Below the sidebar are 'Datanode Links' for SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, and WB SDI. The main content area is titled 'Proposals' and has two tabs: 'My Proposals' and 'Pending' (selected). A table displays the following data:

Proposal ID	Name	Date Proposed	Status	Action
urn:uuid:bbbc6329-642c-4ff0-a21a-a5ff6c511018	Tripura Tehsilwise Layers	25-Apr-2020 10:23 AM	Submitted	View

At the bottom right of the table, it shows 'Records Per Page: 10' and '1 - 1 of total 1'.

- d. Proposal Details screen contains:
 - i. Proposal ID, Proposal Name, Status, Submitter Notes, and Datasets included within the proposal
 - ii. 'View Details', option to view metadata for each dataset submitted in the proposal
 - iii. Option to 'Approve/Reject' the proposal
- e. Select 'Approve' or 'Reject' option on the Proposal Details screen. Notes may be added for reference.

The screenshot shows the 'National Data Registry' interface. The top navigation bar includes the 'nsdi' logo and a settings icon. The main header displays 'National Data Registry' and 'My Proposals Pending'. The left sidebar contains navigation links: Home, Harvest, Search, Registry, Proposals, and Admin. Below the sidebar are 'Datanode Links' for various datasets: SOI DATANODE, GSI DATANODE, MOSPI DATANODE, FSI DATANODE, NBSSLUP DATANODE, KSCST DATANODE, and WB SDI DATANODE.

The main content area is titled 'Proposal Details' and shows the following information:

- Id:** urn:uuid:bbbc6329-642c-4ff0-a21a-a5ff6c511018
- Proposal Name:** Tripura Tehsilwise Layers
- Status:** Submitted
- Submitter Notes:** Kindly approve
- Datasets:**

Dataset Title	Status	View
MOSPI/tripura_tehsilwise_socialgroup/2020	UPDATION	VIEW DETAILS
MOSPI/tripura_tehsilwise_religion/2020	UPDATION	VIEW DETAILS

Below the datasets is the 'Approve/Reject' section, which includes a text area for 'Approver Notes' containing the word 'Approved' and a character count '(max 256 chars)'. At the bottom of this section are two buttons: 'APPROVE' and 'REJECT'.

f. Proposal Details screen is updated with the new Proposal status

The screenshot shows the 'Proposals' page in the National Data Registry. The left sidebar contains navigation options: Home, Harvest, Search, Registry, Proposals (selected), and Admin. Below the sidebar are 'Datanode Links' for various datasets like SOI, GSI, MOSPI, FSI, NBSSLUP, KSCST, and WB SDI. The main content area is titled 'Proposals' and has tabs for 'My Proposals' and 'Pending'. The 'Proposal Details' section shows the following information:

- Id:** urn:uuid:bbbc6329-642c-4ff0-a21a-a5ff6c511018
- Proposal Name:** Tripura Tehsilwise Layers
- Status:** Approved (indicated by a green pill)
- Submitter Notes:** Kindly approve
- Datasets:**
 - Dataset Title: MOSPI/tripura_tehsilwise_socialgroup/2020
 - MOSPI/tripura_tehsilwise_religion/2020
- Approver:** nsdiadmin nsdiadmin
- Date:** 15-Jan-2021 1:33:04 PM
- Approver Notes:** Approved

5. Status of the proposals under My Proposal tab is updated with the new status, i.e. Approved or Rejected

The screenshot shows the 'Proposals' page with a list of proposals. The left sidebar is the same as in the previous screenshot. The main content area shows a table of proposals under the 'My Proposals' tab:

Proposal ID	Name	Date Proposed	Status
urn:uuid:bbbc6329-642c-4ff0-a21a-a5ff6c511018	Tripura Tehsilwise Layers	15-Jan-2021 1:28:34 PM	Approved
urn:uuid:4dd2b431-afb3-48d0-86af-885ab913103a	Test Proposal	20-Dec-2020 8:29:13 PM	Approved

At the bottom right of the table, it shows 'Records Per Page' set to 10 and '1 - 2 of total 2'.

NDR Geoportal: Dynamic Query Builder

The Dynamic Query Builder is a unique and powerful component of the NDR Geoportal. It enables users and administrators to search for and find any layer, dataset or service that has been harvested by NDR. It also provides a powerful Spatial Query Builder, which empowers users to perform complex cross-service, cross-domain and cross-layer spatial queries across multiple spatial layers.

1. Dynamic Query Builder UI:

- Select the 'Search' option on the Left Side of the Dashboard.
- The User is directed to the Dynamic Query Builder.
- A **Search** field is available to the User along with a complete list of harvested records. The list includes dataset details such as Title, Agency, Type of Data, and Theme. The basemap is displayed in the Map View by default.
- **Note: After a Proposal has been approved and layers registration is completed, it takes a few minutes for the layer to be available in the Dynamic Query Builder**

Dynamic Query

Metadata Search Datasets Spatial Query Query Results My Queries

Search
Enter Search Keywords

Title	Agency	Type	Theme	
> Soil Profile	NBSS & LUP	Vector	Soil	+ ADD
> Cadastre_Road	KSCST	Vector	Cadastre	+ ADD
> Fault_Mysore	GSI	Vector	Geology	+ ADD
> Oriented Structure Planar Mysore	GSI	Vector	Geology	+ ADD
> Cadastre Land	KSCST	Vector	Cadastre	+ ADD

Records per page 5 1 - 5 of 82 records 1 / 17

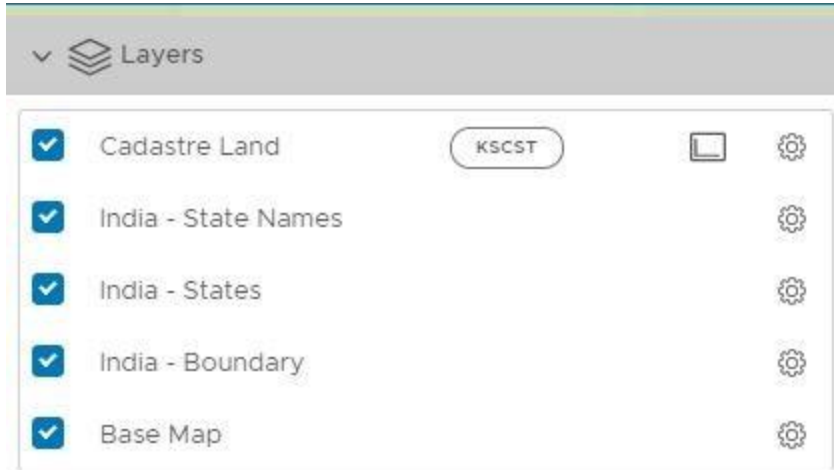
Layers

Base Map

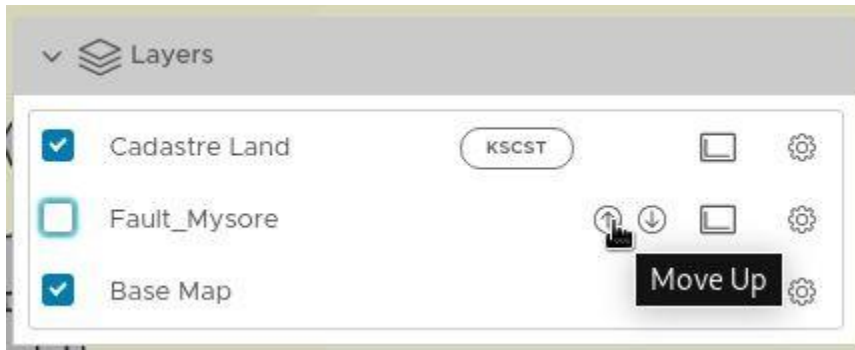


2. Layer Switcher:

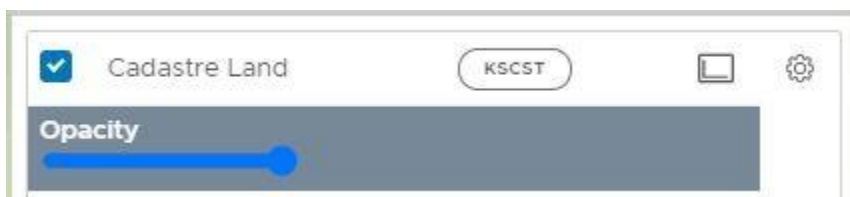
- The Layer Switcher lists the Basemap, India - Boundary, and India - States layers by default.
- Any selected layers added to the Map View are also listed in this menu.



- These can be Selected/Unselected through their respective checkbox.
- The layers can be moved to the top or the bottom using arrow icons.








- Select the Gear icon to access Layer Opacity slider. User can use this slider to change Layer Opacity
- Slider is at the right most position by default for complete Layer Opacity
- Slider can be moved to left to reduce Layer Opacity and view other layers underneath



28. Metadata Search Tab:

- Metadata Search enables users to search for datasets based on values in the metadata.
- Enter any keyword into the Search field to find datasets based on keywords such as Geology, Forest, etc.

The screenshot shows the 'Dynamic Query' interface with the 'Metadata Search' tab selected. A search bar contains the keyword 'geology'. Below the search bar is a table of search results. The table has columns for Title, Agency, Type, and Theme. Five results are displayed, all from the GSI (Geological Survey of India) agency, with types of 'Vector' and themes of 'Geology'. Each result has a green '+ ADD' button. At the bottom, there is a pagination control showing 'Records per page 5', '1 - 5 of 17 records', and navigation arrows.


Title	Agency	Type	Theme	
> Fault_Mysore	 GSI	Vector	Geology	+ ADD
> Oriented Structure Planar Mysore	 GSI	Vector	Geology	+ ADD
> Lineament_Mysore	 GSI	Vector	Geology	+ ADD
> Lineament_Tectonic_La	 GSI	Vector	Geology	+ ADD
> Folds	 GSI	Vector	Geology	+ ADD

Records per page **5** 1 - 5 of 17 records < 1 / 4 >

29. Metadata Search Tab:

- Select the '>' icon next to the Title access record details.

The screenshot shows the 'Dynamic Query' interface with the 'Metadata Search' tab selected. A search for 'geology' has been performed. The results table shows one record for 'Fault_Mysore' from the 'GSI' agency, with a 'Type' of 'Vector' and a 'Theme' of 'Geology'. A dropdown arrow is visible next to the title 'Fault_Mysore'. Below the table, there is a 'VIEW COMPLETE METADATA' button. The footer indicates 'Records per page 5' and '1 - 5 of 17 records'.

Title	Agency	Type	Theme
<input type="checkbox"/> Fault_Mysore	 GSI	Vector	Geology

Dataset_Title	Fault_Mysore
Name_Of_The_Data	Fault
Keywords	1:50K
Theme	Geology
Access_Constraints	Registered Users Only
Use_Constraints	Read Only
Purpose_Of_Creating_Data	Examination of minral distribution in Mysore area

[VIEW COMPLETE METADATA](#)

Records per page **5** 1 - 5 of 17 records < 1 / 4 >

30. Metadata Search

- Select 'View Complete Metadata' to view the complete metadata designed as per BIS Standard IS 16439.

nsdi National Data Registry

View Metadata

Data_Identification_Information

Dataset_Title	Fault_Mysore
Name_Of_The_Data	Fault
Keywords	1:50K
Theme	Geology
Access_Constraints	Registered Users Only
Use_Constraints	Read Only
Purpose_Of_Creating_Data	Examination of minral distribution in Mysore area
Data_Type	Vector
Metadata_Standard_Version	BIS IS-16439:2016
Audience	Government, Geologists, Researchers, Planners and others
Availability	Yes
DQ_Topological_Consistency	Yes

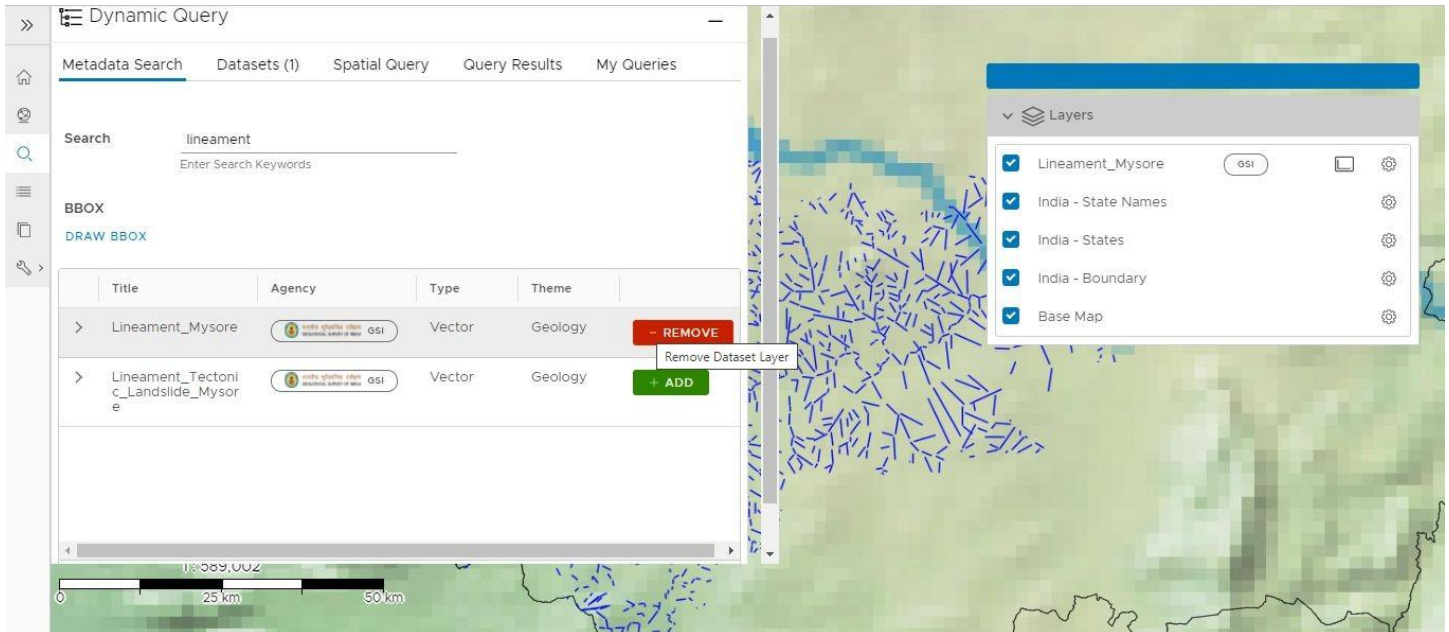
Contact_Information

Contact_Person	Surveyor
----------------	----------

CLOSE

31. Metadata Search

- Select the 'Add' button to add a layer to the Datasets tab. The added dataset is also added to the Layers menu and the Map View.
- Search and add other layers as required.



32. Datasets Tab:

- Select Datasets tab to view the list of added layers and their attributes
- Toggle buttons are available to activate/deactivate attribute values filters.
- Use the toggle button to filter queries as per a particular attribute. For example, forestName, forestTypeCode, etc.

The screenshot shows the 'Dynamic Query' interface. At the top, there are tabs for 'Metadata Search', 'Datasets (2)', 'Spatial Query', 'Query Results', and 'My Queries'. The 'Datasets (2)' tab is selected and highlighted with a red box. Below the tabs, there are two dataset entries: '1. Fault_Mysore' and '2. Cadastre Land'. To the right of these entries is an 'Attribute Filters' table. The table has three columns: 'Attribute Name', 'Filter', and 'Filter Values'. Each row represents an attribute with a toggle switch and the word 'Off' next to it. Below the table is a blue button labeled 'TEST FILTER'. The background of the interface shows a map with a grid overlay.

Attribute Name	Filter	Filter Values
featureId	<input type="checkbox"/> Off	
objectId	<input type="checkbox"/> Off	
toposheetId	<input type="checkbox"/> Off	
geometryId	<input type="checkbox"/> Off	
faultType	<input type="checkbox"/> Off	
faultName	<input type="checkbox"/> Off	

33. Datasets Tab:

- The Datasets tab allows users to apply filters on the layers. These filters are based on attribute values
- Select the **Single** Radio button to filter the query based on a single attribute value. Or,



A screenshot of the Datasets tab interface. On the left, a grey box contains the text 'faultType'. To its right is a green toggle switch labeled 'On'. Further right are two radio buttons: 'Single' (which is selected with a blue dot) and 'Multiple' (which is unselected). Below the radio buttons is a text input field containing the word 'Incline', with a blue underline beneath the text.

- Select the **Multiple** Radio button to filter the query based on more than one attribute value.



A screenshot of the Datasets tab interface. On the left, a grey box contains the text 'faultType'. To its right is a green toggle switch labeled 'On'. Further right are two radio buttons: 'Single' (which is unselected) and 'Multiple' (which is selected with a blue dot). Below the radio buttons is a list of values: 'Heave', 'Slip', and 'Throw', each on a separate line with a horizontal line underneath. At the bottom of the list is a button labeled '+ ADD'.

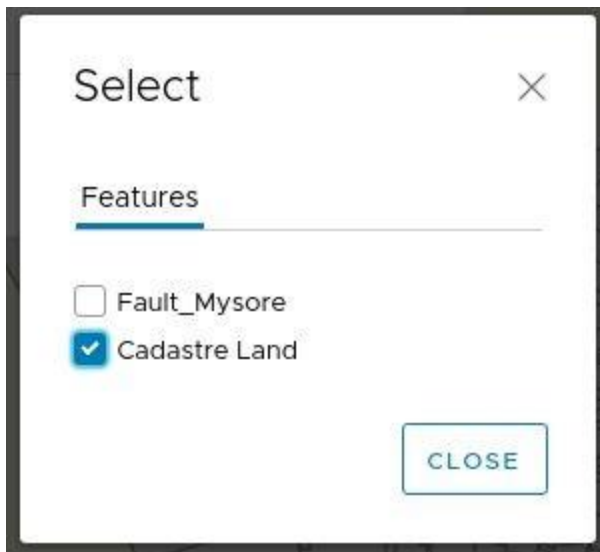
9. Spatial Query Tab:

- Click on SELECT button under “1) Select Output Layer(s) for this Query”

1.) Select Output Layer(s) for this Query



- Click on the check box of desired layer and close the dialog box



10. Spatial Query Tab:

- Click on the 'Add Constraint' button to open the Constraints dialog box.

2.) Select Spatial Query Constraints, Conditions, Relationships

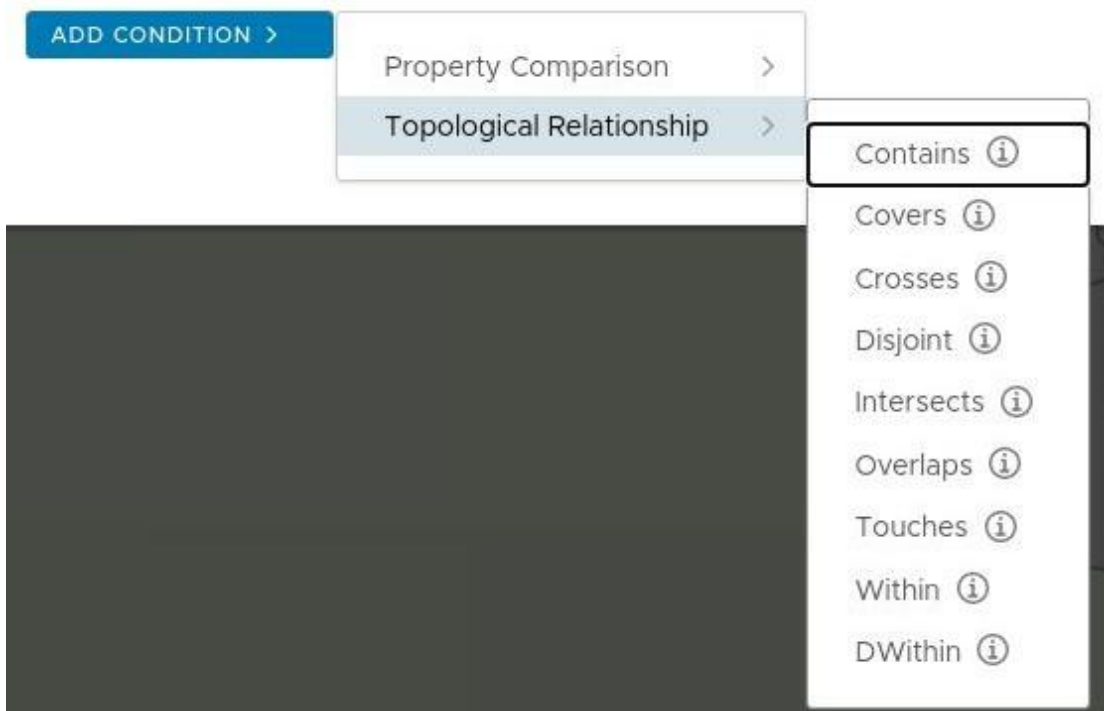
+ ADD CONSTRAINT

11. Spatial Query Tab:

- Select 'Add Condition'.
- Select 'Property Comparison' to perform queries based on attribute values.



- Select 'Topological Relationship' to perform queries based on topological relationship between datasets.



- Select 'Execute Query' and view results in Query Results tab



12. Query Results Tab:

- The tab displays the result of the executed query in the form of a list.
- Select the '>' icon to view the resultant feature's attributes.
- Select the Map icon to zoom into the feature.
- Query result can be exported as PDF/PNG maps at varying page sizes and resolutions.

Dynamic Query

Metadata Search Datasets (2) Spatial Query **Query Results** My Queries

Total number of results: 574

	Cadastre Land	View
>	id: 11	
>	id: 12	
>	id: 13	
>	id: 14	
>	id: 15	

1 - 5 of 574 < < 1 / 115 > >

Export Map

Page Size

A4

Resolution

72 dpi (fast)

EXPORT AS

NDR Geoportal: Registry

1. Registry UI:

- Select the **'Registry'** option from the Left Hand side of the Dashboard.
- User is directed to the Registry screen.
- Four Registers are listed on the screen, namely: Theme Register, Application Schema Register, Feature Concept Dictionary Register, and Codelist Register.
- The Register list includes Register ID and the Status of the Register. The **'Create Register'** option initiates the creation of new registers.

The screenshot displays the National Data Registry (NDR) Geoportal interface. The top navigation bar includes the 'nsdi' logo, the title 'National Data Registry', and a settings icon. The left sidebar contains navigation links for Home, Harvest, Search, Registry, and Proposals. The main content area is titled 'Registry' and features a sub-section 'Registers'. A table lists four registers, each with a unique Register ID and a status of 'Approved'. Below the table is a '+ CREATE REGISTER' button. The table data is as follows:

Name	Register ID	Status
Themes	urn:in:gov:nsdiindia:ndr:register:themes	Approved
Application Schema	urn:in:gov:nsdiindia:ndr:register:applicationschema	Approved
Feature Concept Dictionary	urn:in:gov:nsdiindia:ndr:register:featureconceptdictionary	Approved
Codelist	urn:in:gov:nsdiindia:ndr:register:codelist	Approved

2. Theme Register:

- Select the 'Themes Register' on the Registry Screen.
- Scroll through to view Register details and Register Items.
- Register Items section lists the various Themes of the datasets along with their respective organizations and the Status of the item.

nsdi National Data Registry

Themes

Register Details

Id
urn:in:gov:nsdiindia:ndr:register:themes

Name
Themes

Content Summary

Uniform Resource Identifier
urn:in:gov:nsdiindia:ndr:register:themes

Operating Language
IN-EN [IN-EN]

Alternative Languages

- IN-KAN [IN-KANNADA]
- IN-TEL [IN-TEL]

Register Owner
nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]

Register Manager
nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]

Control Body

Username	First Name	Last Name
nsdiadmin	nsdiadmin	nsdiadmin
kscstadmin	kscstadmin	admin

Items per page 10 1 - 2 of total 2

Submitting Organizations

3. Theme Register: New Item Creation

- Select the 'Add Item' option under the Register Items section.
- Enter Item Name, Description and Justification for creation of Register Item.
- Select 'Submit Proposal' to complete submission.

The screenshot shows the 'New Proposal' form in the National Data Registry. The form is titled 'Add New Item' and contains three main sections: 'Name', 'Definition', and 'Justification'. The 'Name' field contains 'New Theme'. The 'Definition' field contains 'Definition of new theme'. The 'Justification' field contains 'justification'. At the bottom of the form, there are two buttons: 'SUBMIT PROPOSAL' (blue) and 'CANCEL' (red). The left sidebar shows the navigation menu with 'Proposals' selected.

nsdi National Data Registry

New Proposal

Add New Item

Name
New Theme

Definition
Definition of new theme

Justification
justification

SUBMIT PROPOSAL **CANCEL**

4. Application Schema Register

- Select the 'Application Schema Register' on the Registry Screen.
- Scroll through to view Register details and Register Items.
- Register Items section lists the various Application Schemas along with their respective Themes and the Status of the item.

The screenshot shows the 'Application Schema Register Details' page in the National Data Registry. The page has a header with the 'nsdi' logo and 'National Data Registry' text. A left sidebar contains navigation links: Home, Harvest, Search, Registry, and Proposals. The main content area displays the following details:

- Register Details**
- Id**: urn:in:gov:nsdiindia:ndr:register:applicationschema
- Name**: Application Schema
- Content Summary**
- Uniform Resource Identifier**: urn:in:gov:nsdiindia:ndr:register:applicationschema
- Operating Language**: IN-EN [IN-EN]
- Alternative Languages**:
 - IN-ASM [IN-ASM]
 - IN-BEN [IN-BEN]
 - IN-KAN [IN-KANNADA]
- Register Owner**: nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]
- Register Manager**: kscstadmin admin [urn:in:gov:nsdiindia:ndr:user:kscstadmin]
- Control Body**:

Username	First Name	Last Name
nsdiadmin	nsdiadmin	nsdiadmin
kscstadmin	kscstadmin	admin
fsladmin	fsladmin	fsladmin

5. Application Schema Register: New Item Creation

- Select the 'Add Item' option under the Register Items section.
- Enter Item Name, Description and Justification for creation of Register Item.
- Select 'Submit Proposal' to complete submission.

The screenshot displays the National Data Registry (NSDI) web application interface. The top navigation bar includes the NSDI logo, the title 'National Data Registry', and a settings icon. A left sidebar contains navigation links: Home, Harvest, Search, Registry, and Proposals. The main content area is divided into three sections:

- Register Owner:** nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]
- Register Manager:** kscstadmin admin [urn:in:gov:nsdiindia:ndr:user:kscstadmin]
- Control Body:** A table listing users with columns for Username, First Name, and Last Name.

Username	First Name	Last Name
nsdiadmin	nsdiadmin	nsdiadmin
kscstadmin	kscstadmin	admin
fsladmin	fsladmin	fsladmin

Items per page: 10 (dropdown), 1 - 3 of total 3

- Submitting Organizations:** A table listing organizations with columns for Organization Id and Organization Name.

Organization Id	Organization Name
urn:in:gov:nsdiindia:ndr:organization:nsdi	NSDI
urn:in:gov:nsdiindia:ndr:organization:kscst	KSCST
urn:in:gov:nsdiindia:ndr:organization:fsi	FSI

Organizations per page: 10 (dropdown), 1 - 3 of total 3

- Register Items:** A table listing application schemas with columns for Application Schema, Theme, and Status.

Application Schema	Theme	Status
Boundaries	Geology	Valid
Construction Materials	Geology	Valid
Mineral Location	Geology	Valid

A blue button labeled '+ ADD ITEM' is located below the Register Items table.

6. Feature Concept Dictionary

- Select the Feature Concept Dictionary on the Registry Screen.
- Scroll through to view Register details and Register Items.
- Register Items section lists the various Concepts, Definitions, their respective Themes and the Status of the item.

The screenshot displays the National Data Registry (nsdi) interface. The header includes the nsdi logo, the text "National Data Registry", and a settings gear icon. A left sidebar contains navigation links: Home, Harvest, Search, Registry, and Proposals. The main content area is titled "Feature Concept Dictionary" and contains a "Register Details" section. This section lists various metadata fields for a register item, including its ID, Name, Content Summary, Uniform Resource Identifier, Operating Language, Alternative Languages, Register Owner, and Register Manager. Below these details is a "Control Body" table listing users with their usernames, first names, and last names. At the bottom of the table, there is a pagination control showing "Items per page 10" and "1 - 2 of total 3".

Register Details

Id
urn:in:gov:nsdiindia:ndr:register:featureconceptdictionary

Name
Feature Concept Dictionary

Content Summary

Uniform Resource Identifier
urn:in:gov:nsdiindia:ndr:register:featureconceptdictionary

Operating Language
IN-EN [IN-EN]

Alternative Languages

Register Owner
nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]

Register Manager
nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]

Control Body



Username	First Name	Last Name
nsdiadmin	nsdiadmin	nsdiadmin
kscstadmin	kscstadmin	admin
fsladmin	fsladmin	fsladmin

Items per page 10 1 - 2 of total 3

Submitting Organizations

7. Feature Concept Dictionary: New Item Creation

- Select the 'Add Item' option under the Register Items section.
- Enter Item Name, Description and Justification for creation of Register Item.
- Select 'Submit Proposal' to complete submission.


National Data Registry 

<<

- [Home](#)
- [Harvest](#)
- [Search](#)
- [Registry](#)
- [Proposals](#)

Fossil	The remains, trace, or imprint of a life form that has been preserved in an EarthMaterial. Although the passage of time is implicit in the definition of fossil, no constraint is placed on the amount of time necessary to become a fossil. Includes ichnofossils (trace fossils), casts and molds, as well as fossilized remains.	Geology	Valid
Geologic Event	An identifiable event during which one or more geologic processes act to modify geologic entities. A GeologicEvent may have a specified GeologicAge and GeologicEnvironment. An example might be a cratonic uplift event during which erosion, sedimentation, and volcanism all take place.	Geology	Valid
Geologic Process	A function, possibly complex, that acts on one geologic entity to produce another geologic entity at a later time. Process is time independent; some GeologicProcesses are observable, others can only be inferred from observing the results of the process. Processes take one or more of EarthMaterial, GeologicUnit, or GeologicStructure as input and have one or more of EarthMaterial, GeologicUnit or GeologicStructure as output.	Geology	Valid
Geologic Property	An inherent feature used to characterize a GeologicConcept.	Geology	Valid
Geologic Relation	Any of a wide variety of relationships that can exist between two or more GeologicConcepts. For example, the GeologicRelation 'intrudes' is a relationship between an intrusive igneous rock and some host rock. Includes spatial, temporal, sequence, correlation, and parent/child relations.	Geology	Valid
Geologic Structure	A configuration of matter in the Earth based on describable inhomogeneity, pattern, or fracture. The identity of a geologic structure is independent of the material that is the substrate for the structure. There are almost always strong dependencies between the nature of the material substrate and the kinds of structure that may be present. A disaggregated heap of particles does not have structure, and can only be described in terms of the mineralogy and geometrical character of the constituent particles. Geologic structures are more likely to be found in, and are more persistent in, consolidated materials than in unconsolidated materials. Properties like 'clast-supported', 'matrix-supported', and 'graded bed' that do not involve orientation is considered kinds of GeologicStructure because they depend on the configuration of parts of a rock body. Includes: sedimentary structures.	Geology	Valid
Lithological Unit	A body of earth material distinguished from adjoining material on the basis of content (lithologic or fossil), inherent attributes, physical limits, geologic age, or some other property or properties. Corresponds to 'stratigraphic unit'. Commonly used properties include composition, texture, included fossils, magnetic signature, radioactivity, seismic velocity, and age. Sufficient care is required in defining the boundaries of a unit to enable others to distinguish the material body from those adjoining it. A geologic unit is a part of the solid Earth that is identified by its geologic characteristics, has definable, locatable boundaries, and is persistent in time.	Geology	Valid

+ ADD ITEM

8. Codelist Register

- Select the 'Codelist' Register on the Registry Screen.
- Scroll through to view Register details and Register Items.
- Register Items section lists the various Codelist values, their respective Themes and the Status of the item.

The screenshot shows the 'National Data Registry' interface. The top navigation bar includes the 'nsdi' logo, the title 'National Data Registry', and a settings icon. A left sidebar contains navigation links: Home, Harvest, Search, Registry, and Proposals. The main content area is titled 'Codelist' and displays 'Register Details' for a specific codelist. The details include:

- Id:** urn:in:gov:nsdiindia:ndr:register:codelist
- Name:** Codelist
- Content Summary:**
- Uniform Resource Identifier:** urn:in:gov:nsdiindia:ndr:register:codelist
- Operating Language:** IN-EN [IN-EN]
- Alternative Languages:**
- Register Owner:** nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]
- Register Manager:** nsdiadmin nsdiadmin [urn:in:gov:nsdiindia:ndr:user:nsdiadmin]
- Control Body:**

Username	First Name	Last Name
nsdiadmin	nsdiadmin	nsdiadmin
kscstadmin	kscstadmin	admin
fsladmin	fsladmin	fsladmin

Items per page: 10 (dropdown) 1 - 3 of total 3

Submitting Organizations

9. Codelist Register: New Item Creation

- Select the 'Add Item' option under the Register Items section.
- Enter Item Name, Description and Justification for creation of Register Item.
- Select 'Submit Proposal' to complete submission.

The screenshot displays the National Data Registry web application. The header includes the NSDI logo and the text "National Data Registry". A sidebar on the left contains navigation links: Home, Harvest, Search, Registry, and Proposals. The main content area is divided into three sections:

- Control Body:** A table listing users with columns for Username, First Name, and Last Name. The users listed are nsdladmin, kscstadmin, and fsladmin. Below the table is a pagination control showing "Items per page 10" and "1 - 3 of total 3".
- Submitting Organizations:** A table listing organizations with columns for Organization Id and Organization Name. The organizations listed are NSDI, KSCST, and FSI. Below the table is a pagination control showing "Organizations per page 10" and "1 - 3 of total 3".
- Register Items:** A table listing codelist items with columns for Code List, Theme, and Status. The items listed are ERA, FOREST DENSITY, FOREST TYPE, FORMATION, GROUP, SUPER GROUP, and TIME/AGE, all with a status of "Valid". Below this table is a blue button labeled "+ ADD ITEM".