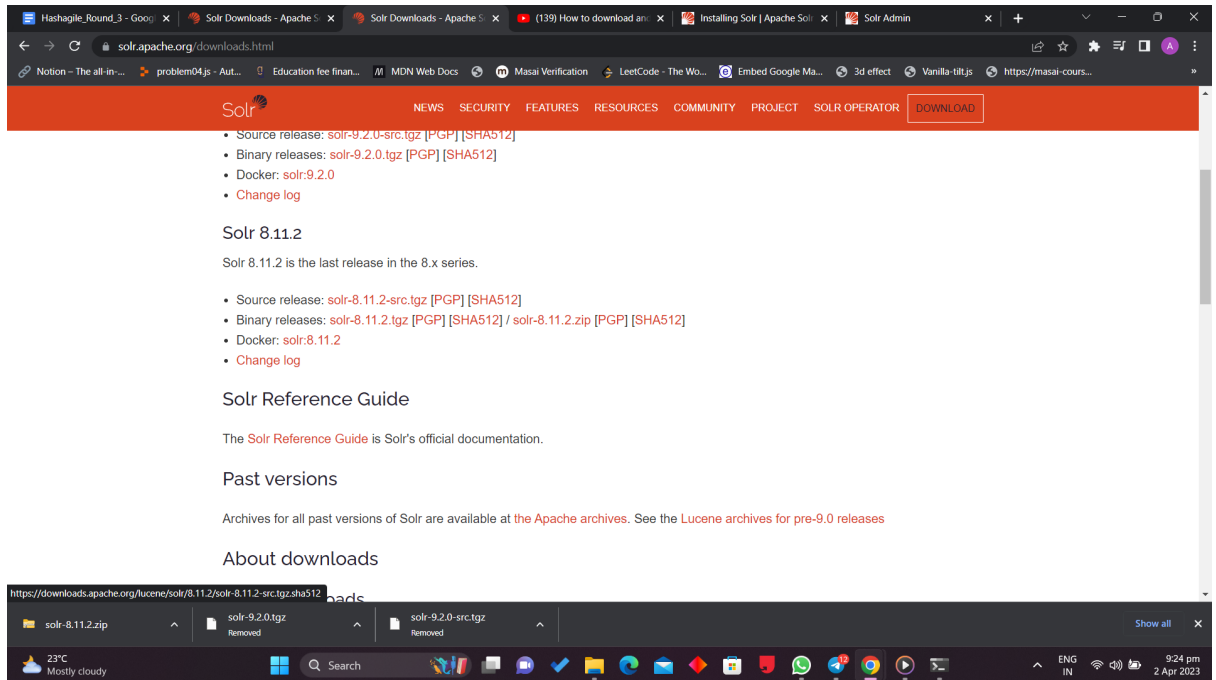
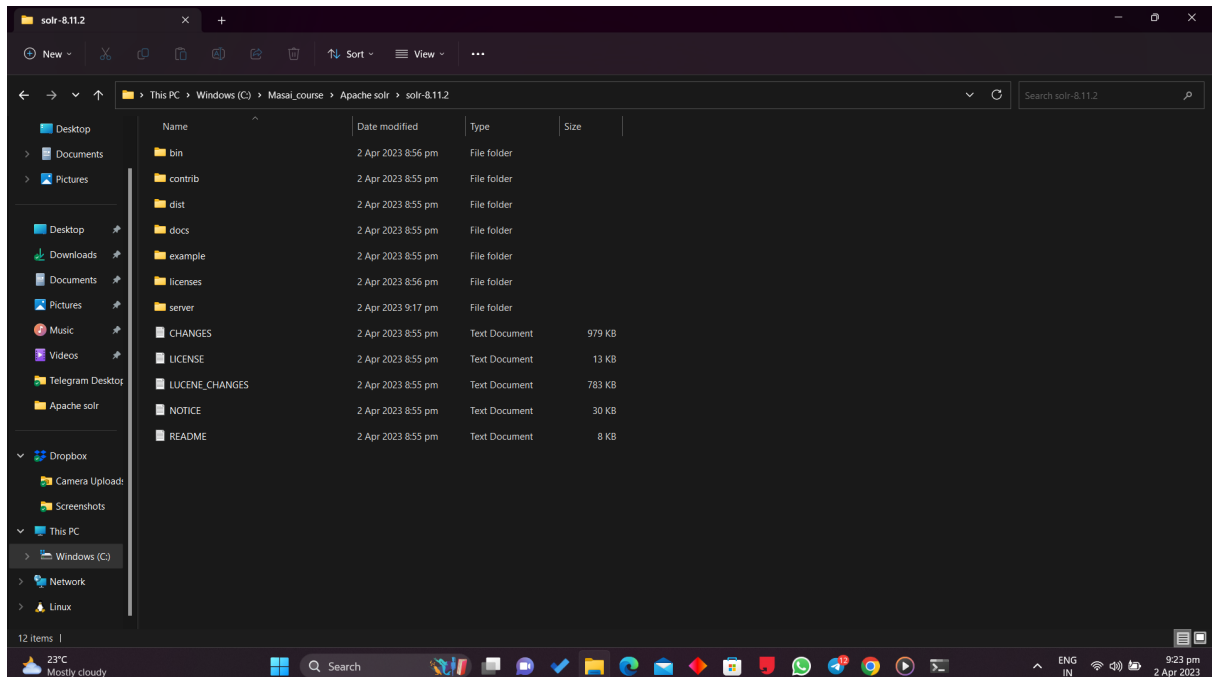


1. Installing Apache Solr:

- Install java if not using (“apt install openjdk-19-jre-headless”) for ubuntu;
- Visit the Apache Solr download page (<https://solr.apache.org/downloads.html>)
- Download the Solr archive suitable for your operating system. I downloaded 8.11.2.zip.



- Extract the downloaded archive to a folder of your choice.



2. Creating a Collection:

- Open the terminal or command prompt and navigate to the Solr bin directory.
- Type the following command to start the Solr server: "bin\solr.cmd start".

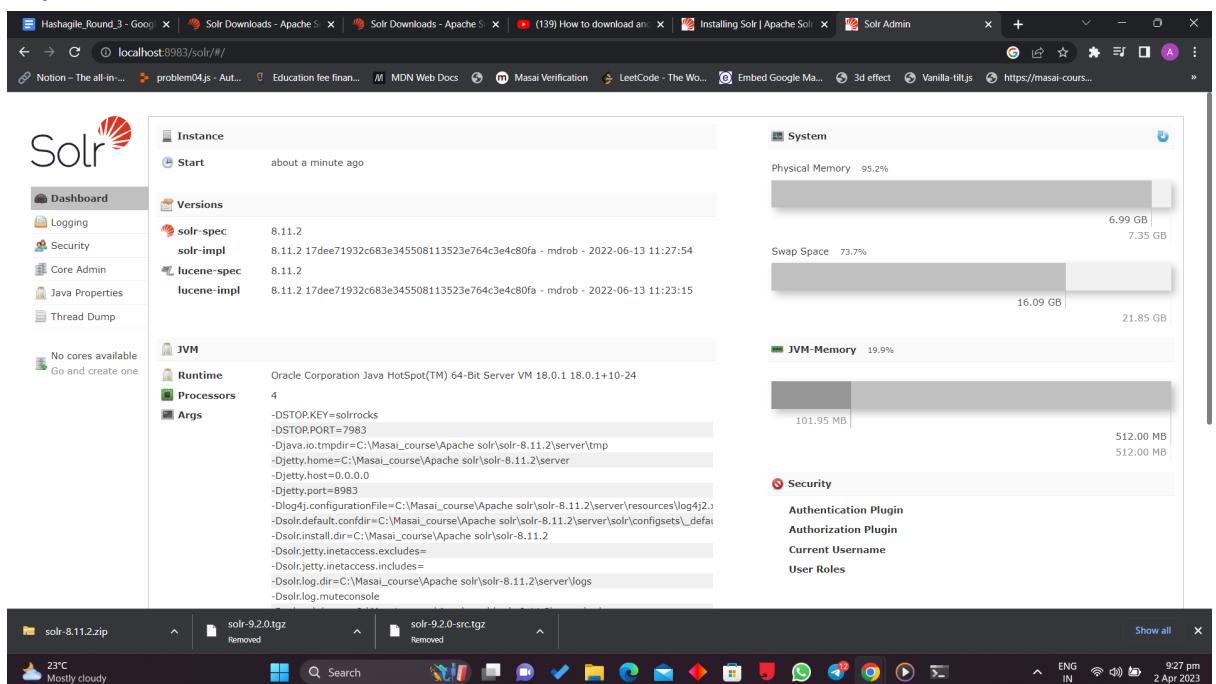
```

Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

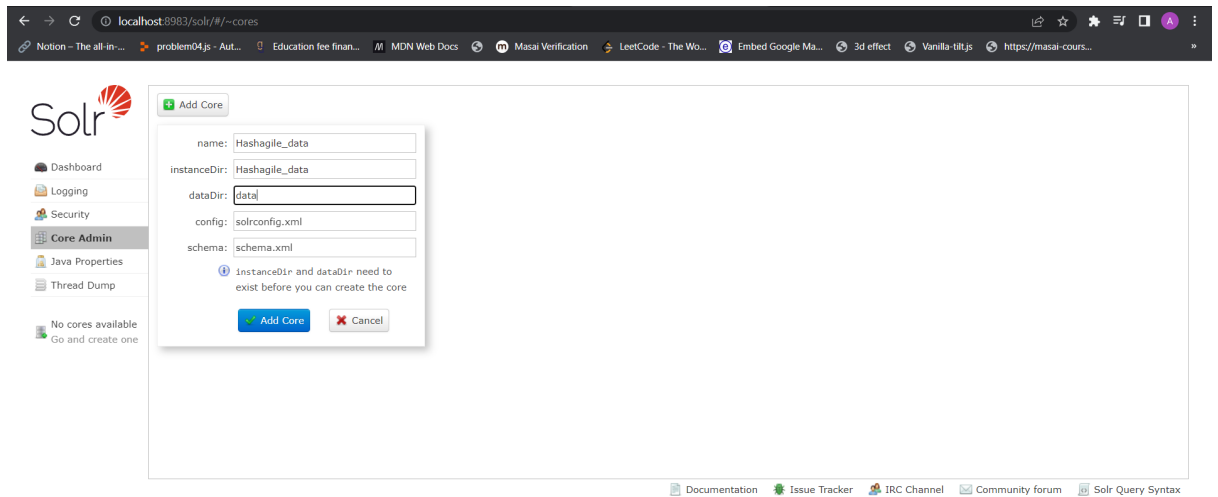
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Masai_course\Apache solr\solr-8.11.2> bin\solr.cmd start;
Java HotSpot(TM) 64-Bit Server VM warning: JVM cannot use large page memory because it does not have enough privilege to lock pages in memory.
Waiting up to 30 to see Solr running on port 8983
Started Solr server on port 8983. Happy searching!
PS C:\Masai_course\Apache solr\solr-8.11.2>
  
```

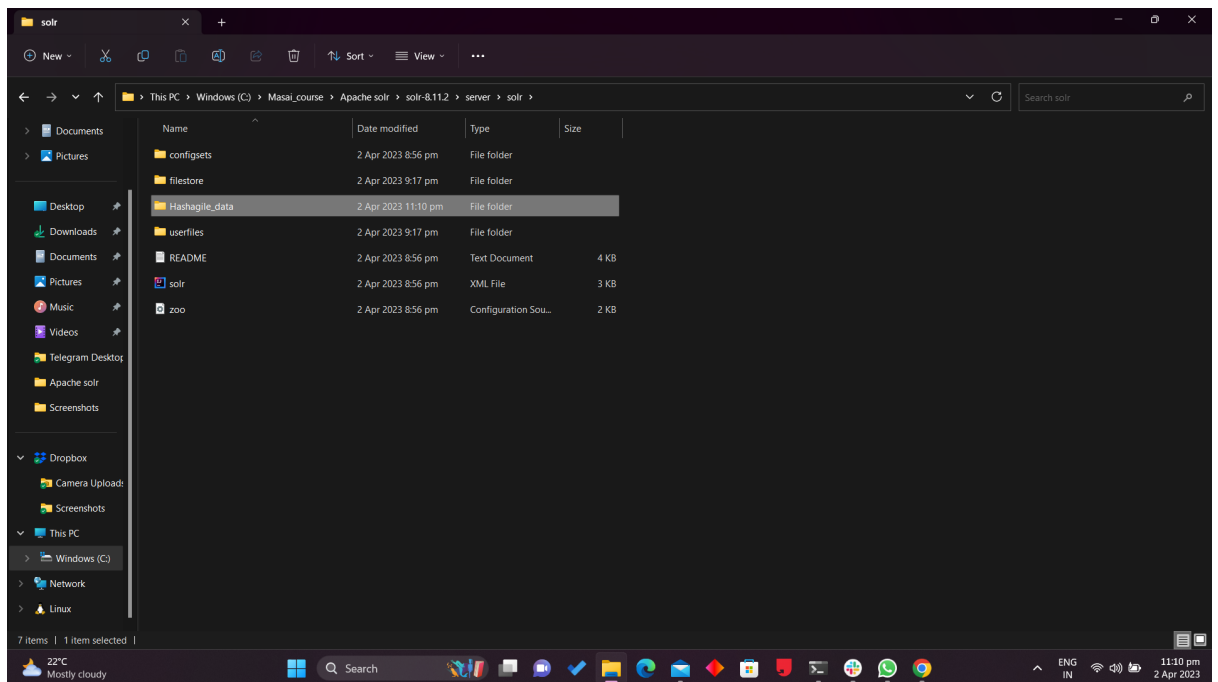
- Once the server is started, you can access the Solr Admin UI by visiting <http://localhost:8983/solr/>.



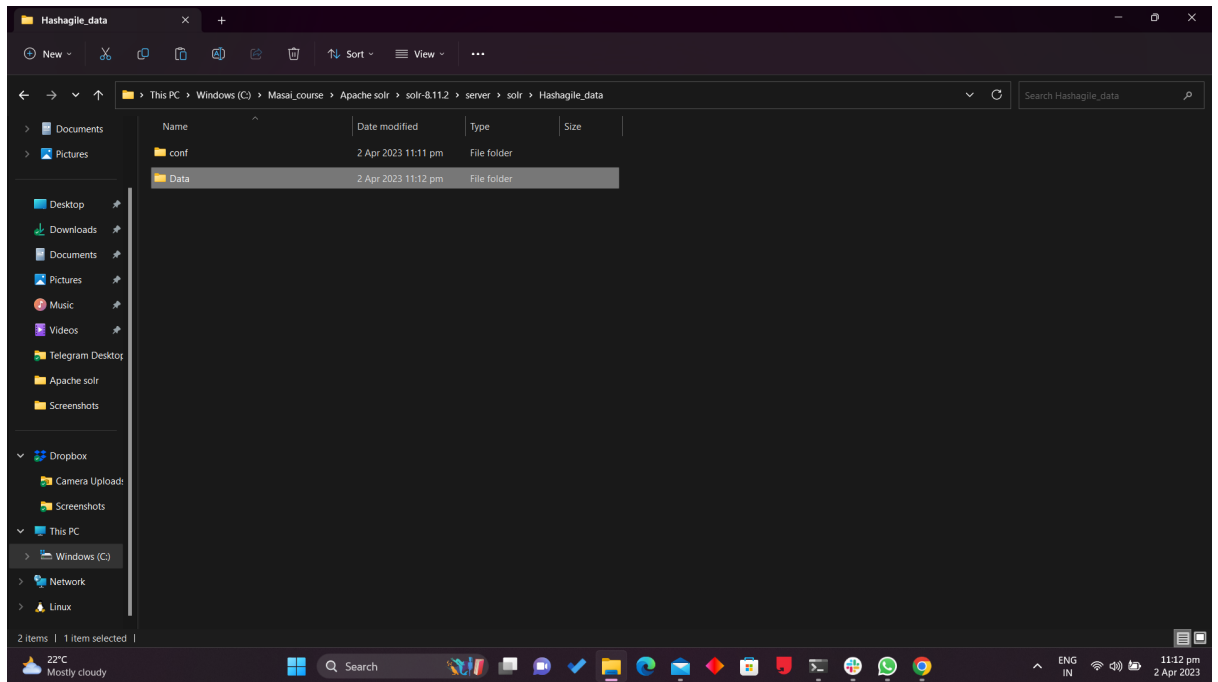
- Click on the "Collections(Core)" link in the left navigation menu.



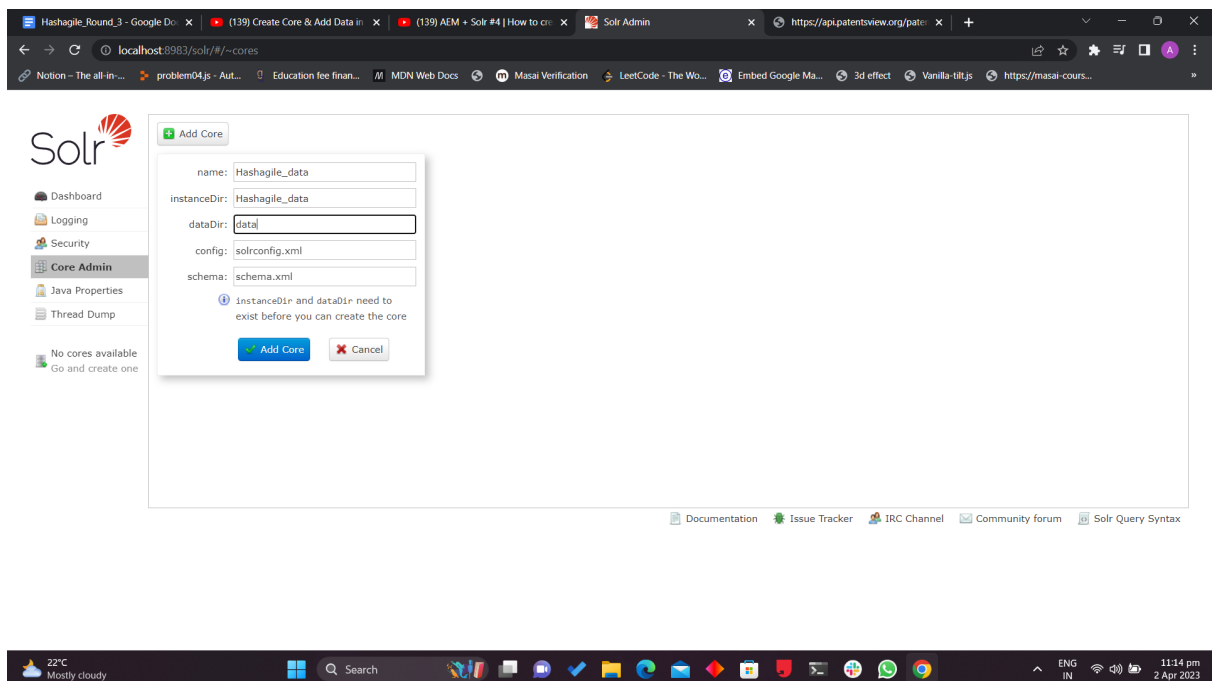
- Click on the "Add Collection" button to create a new collection.
- Fill in the form with the desired collection name, number of shards, and replication factor Note(Make Sure create directory on "`solr-8.11.2\server\solr\`core_name``").



- Create 2 directory and copy ("`solr-8.11.2\server\solr\configsets\sample_techproducts_configs/config`") and paste it in core config.



- Click on the "Add Collection" button to create the collection.



3. Indexing Data:

- In the Solr Admin UI, navigate to the "Core Selector" dropdown in the top right corner and select the collection you just created.
- Create schema for Data;
 - Click 'schema' section
 - Click 'add Field'

The screenshot shows the Solr Admin interface with the 'Add Field' dialog open. The dialog is for adding a field named 'patent_number' of type 'org.apache.solr.schema.StrField'. The 'Flags' section shows various properties like Indexed, Tokenized, Stored, DocValues, Uninvertible, Omit Norms, Omit Term Frequencies & Positions, and Sort Missing Last, all with green checkmarks. The 'Index Analyzer' and 'Query Analyzer' are both set to 'org.apache.solr.schema.FieldType\$DefaultAnalyzer'. The 'Load Term Info' button is visible at the bottom.

- Click on the "Documents" link in the left navigation menu.
- Click on the "Add Document" button to add a new document.
- Enter some sample data in the fields that you defined earlier.
- Click on the "Submit Document" button to index the data.

The screenshot shows the Solr Admin interface with the 'Add Document' form. The 'Request-Handler (qt)' is set to '/update'. The 'Document Type' is set to 'JSON'. The 'Document(s)' field contains a JSON array of patent data. The 'Commit Within' is set to 1000, and 'Overwrite' is set to 'true'. The 'Submit Document' button is highlighted in blue.

5. Searching Data:

- In the Solr Admin UI, navigate to the "Core Selector" dropdown in the top right corner and select the collection you just created.
- Click on the "Query" link in the left navigation menu.

- Enter a search query in the "q" field.
- Click on the "Execute Query" button to see the search results.

The screenshot displays the Solr Admin web interface. On the left is a sidebar menu with options like Dashboard, Logging, Security, Core Admin, Java Properties, Thread Dump, Hashagile_data, Overview, Analysis, Dataimport, Documents, Files, Ping, Plugins / Stats, Query (selected), Replication, Schema, and Segments info. The main area is divided into two panels. The left panel, titled 'Request-Handler (qt)', shows the '/select' handler with a 'q' field containing a search query, a 'q.op' dropdown set to 'OR', and a 'sort' field. The right panel shows the JSON response from the Solr API, which includes a 'responseHeader' with status, QTime, and params, and a 'response' section containing a list of patent documents with fields like patent_number, patent_date, patent_title, id, and _version_.

Request-Handler (qt)
/select

q
:

q.op
OR

sort

start, rows
0 10

fl

df

wt

☒ indent on

☐ debugQuery

defType
lucene

☐ hl

☐ facet

http://localhost:8983/solr/Hashagile_data/select?indent=true&q.op=OR&q=%3A*

```
{
  "responseHeader": {
    "status": 0,
    "QTime": 0,
    "params": {
      "q": "*:*",
      "indent": "true",
      "q.op": "OR",
      "_:": "1680543246309"
    }
  },
  "response": {
    "numFound": 25, "start": 0, "numFoundExact": true, "docs": [
      {
        "patent_number": "10000000",
        "patent_date": ["2018-06-19"],
        "patent_title": "Coherent LADAR using intra-pixel quadrature detection",
        "id": "377bdc8-7f91-4261-ace5-c2562044cc11",
        "_version_": "1762176230716084416"
      },
      {
        "patent_number": "10000001",
        "patent_date": ["2018-06-19"],
        "patent_title": "Injection molding machine and mold thickness control method",
        "id": "905365a8-43a5-4f5a-90fc-52ac912c51a2",
        "_version_": "1762176230841384960"
      },
      {
        "patent_number": "10000002",
        "patent_date": ["2018-06-19"],
        "patent_title": "Method for manufacturing polymer film and co-extruded film",
        "id": "cc808f6d-ab51-449d-80ab-bc81a352a0c8",
        "_version_": "1762176230842433536"
      },
      {
        "patent_number": "10000003",
        "patent_date": ["2018-06-19"],
        "patent_title": "Method for producing a container from a thermoplastic",
        "id": "dac22dd6-c199-4711-be35-38a7f7bf1238"
      }
    ]
  }
}
```