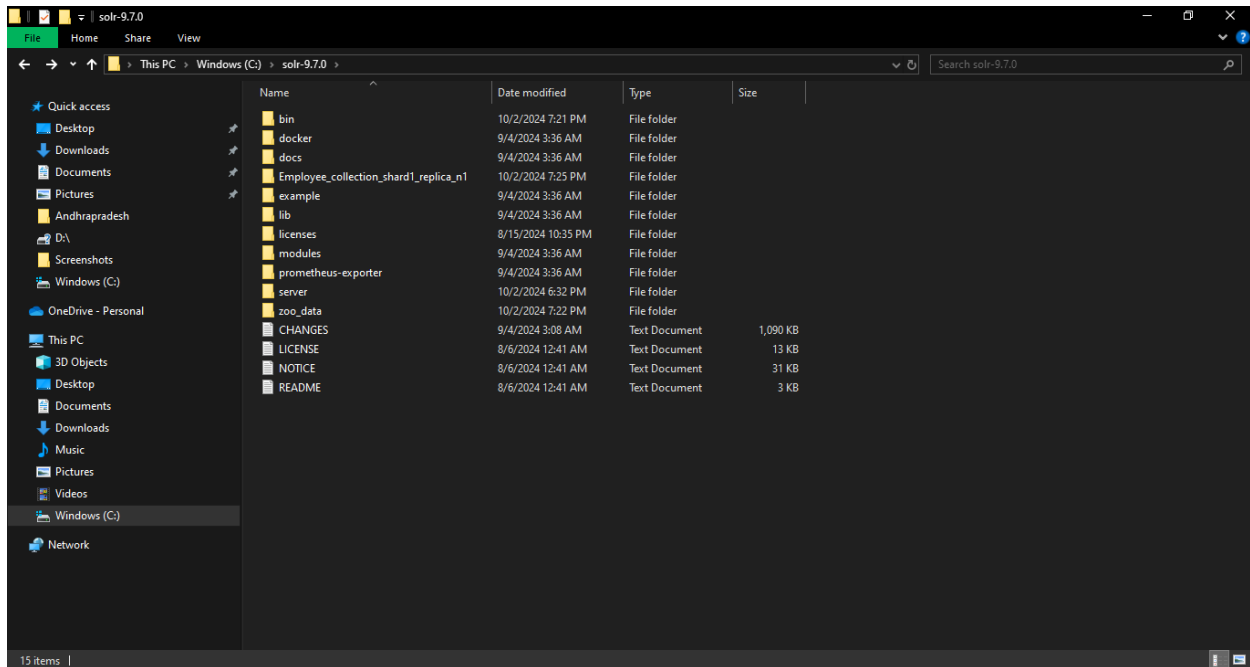
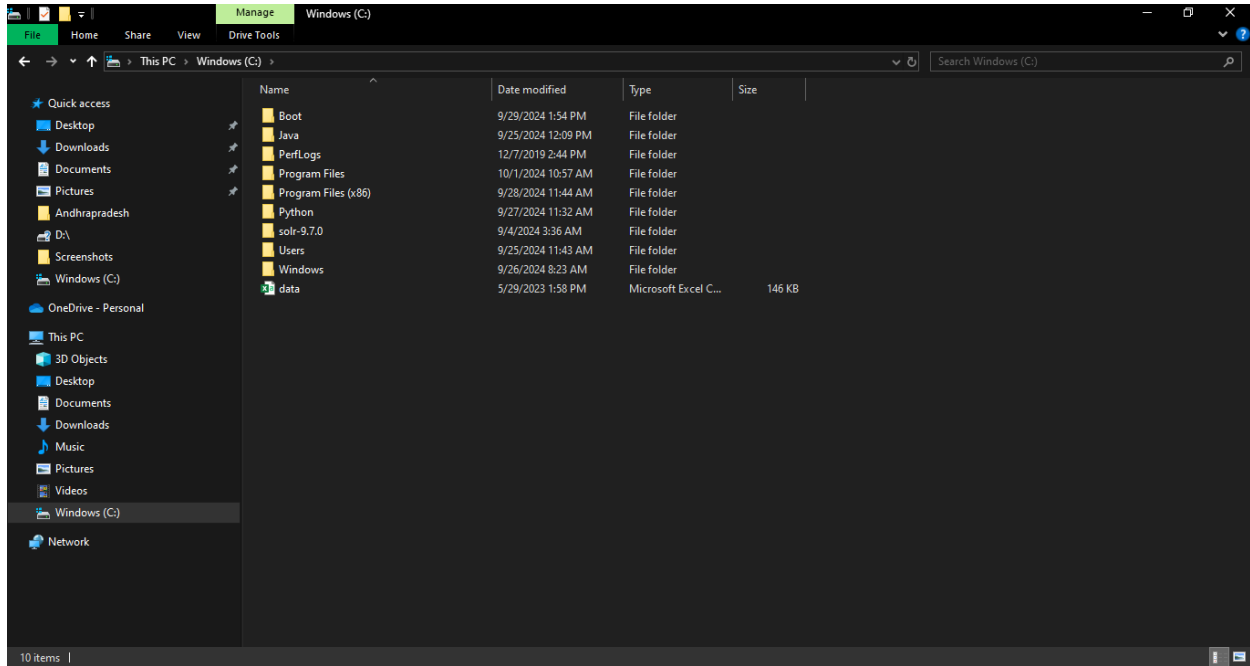
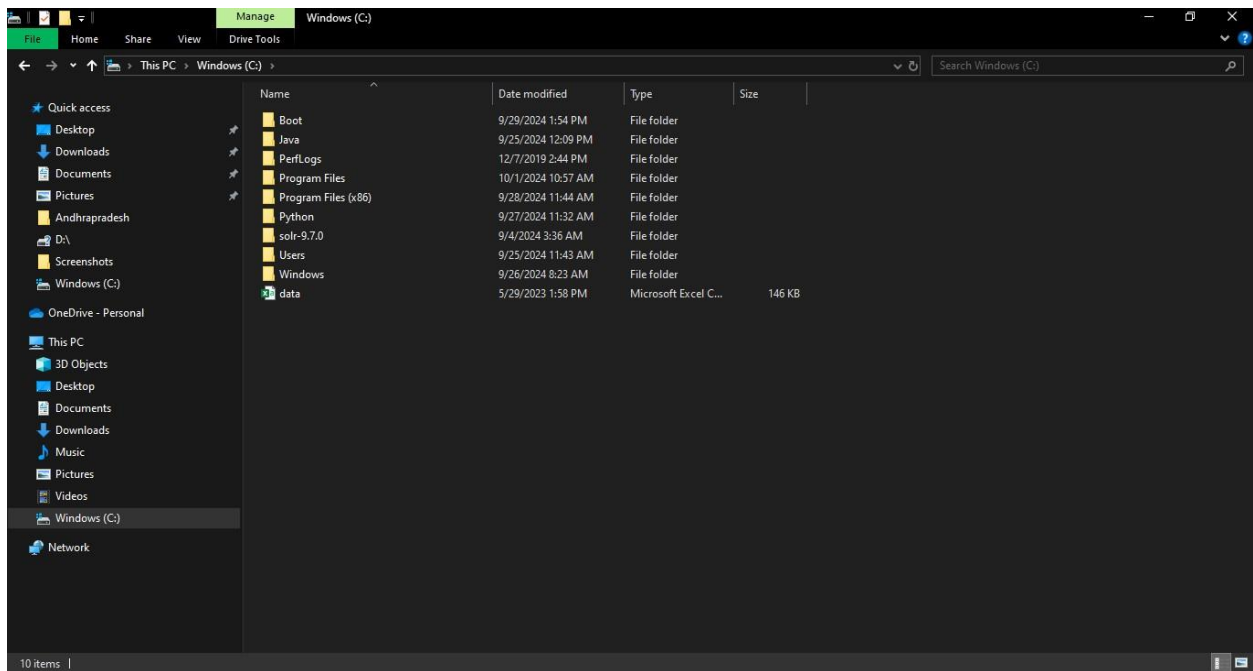


Apache Solr Assessment

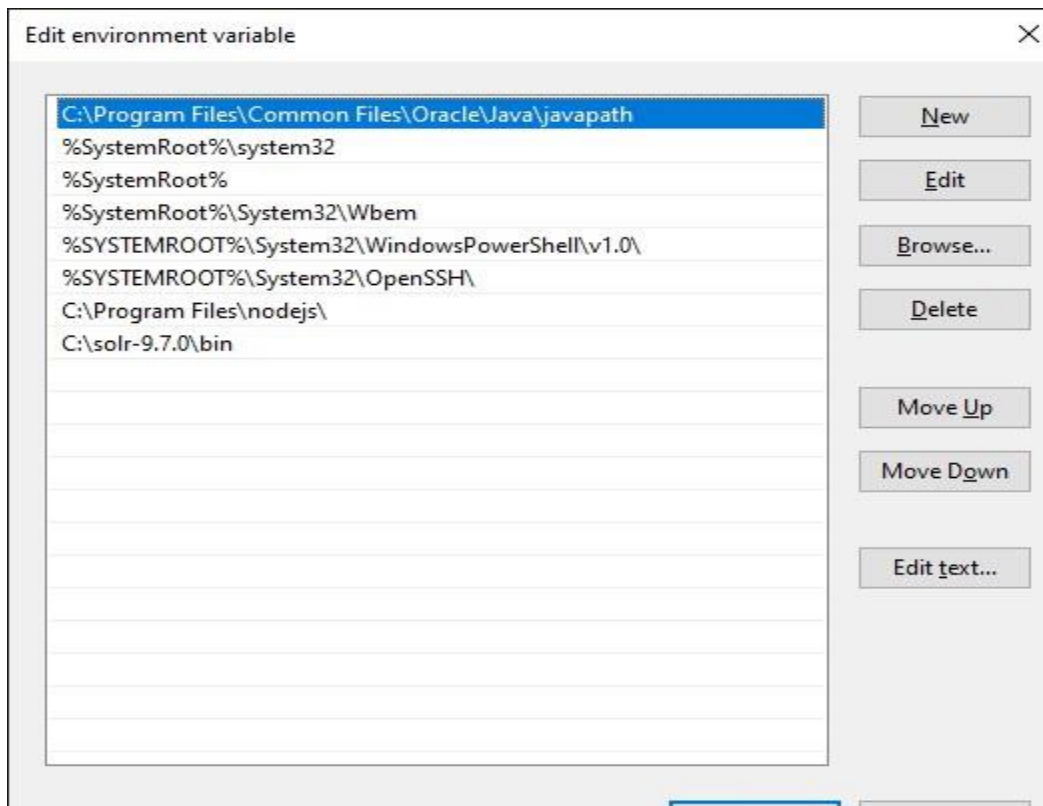
Step 1: Install the apache solr taz file from official site and extract that file using rar software.



Step 2: Install JDK software form official site and install it on windows.



Step 3: Set path for apache solr and jdk.



```
C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.19045.4894]
(c) Microsoft Corporation. All rights reserved.

C:\Users\WINDOWS11>solr -v
Solr version is: 9.7.0

C:\Users\WINDOWS11>java --version
java 23 2024-09-17
Java(TM) SE Runtime Environment (build 23+37-2369)
Java HotSpot(TM) 64-Bit Server VM (build 23+37-2369, mixed mode, sharing)

C:\Users\WINDOWS11>
```

Step 4: Open Comment line interface and redirect to the Solr directory and start Apache Solr server.

Comment Line: bin/solr start -c

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19045.4894]
(c) Microsoft Corporation. All rights reserved.

C:\solr-9.7.0>cd bin

C:\solr-9.7.0\bin>solr start -c
Java 23 detected. Enabled workaround for SOLR-16463
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.
WARNING: A command line option has enabled the Security Manager
WARNING: The Security Manager is deprecated and will be removed in a future release
Failed to parse command-line arguments due to: Unrecognized option: --max-wait-secs

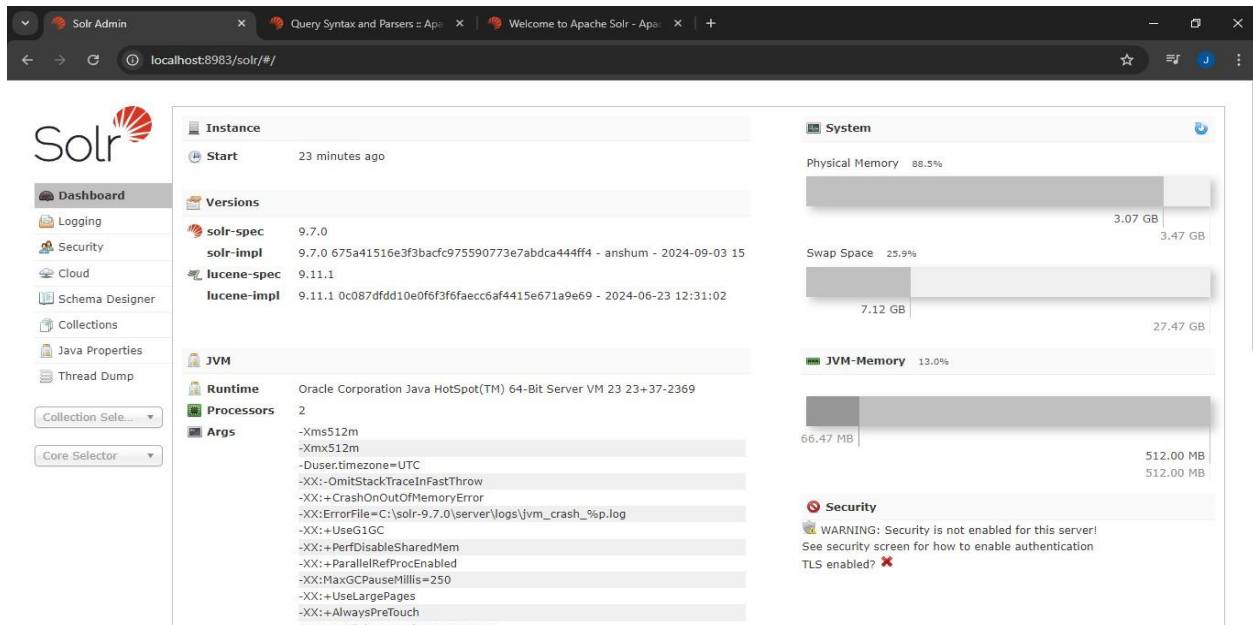
usage: bin/solr status [-maxWaitSecs <SECS>] [--solr-url <URL>]

List of options:
  -maxWaitSecs <SECS>  Wait up to the specified number of seconds to see Solr running.
  --solr-url <URL>     Address of the Solr Web application, defaults to: http://localhost:8983.

Please see the Reference Guide for more tools documentation:
https://solr.apache.org/guide/solr/latest/deployment-guide/solr-control-script-reference.html

ERROR: Solr did not start or was not reachable. Check the logs for errors.
```

Step 5: Now you can see the solr server is running on port no localhost:8983 redirect to the host and you will see the admin panel.



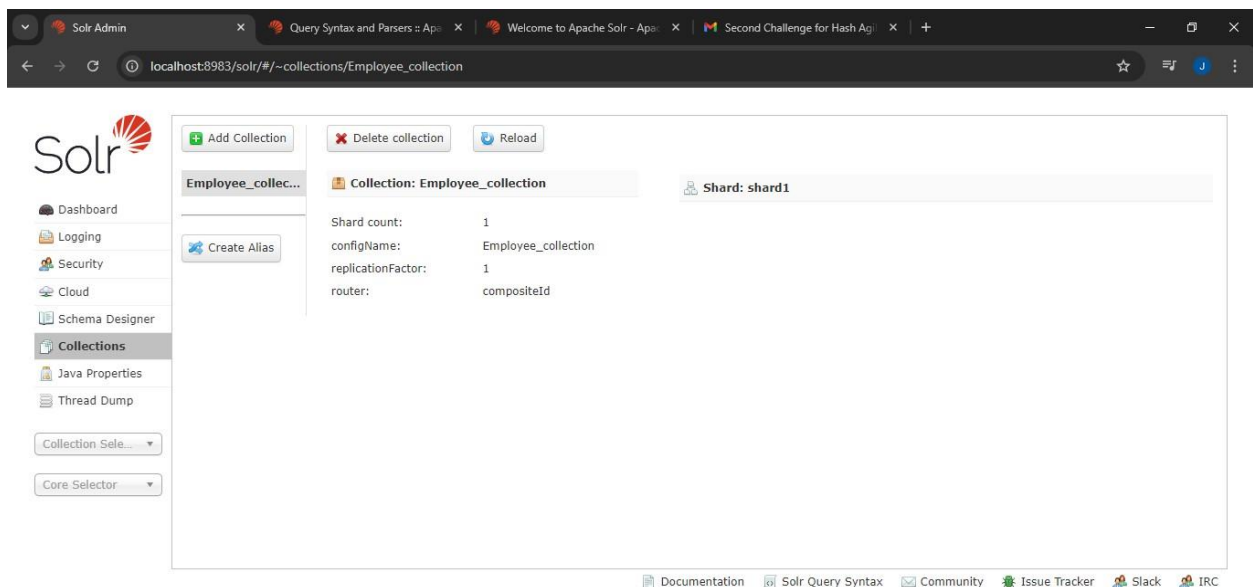
The screenshot shows the Apache Solr Admin interface in a web browser. The URL bar indicates the address is localhost:8983/solr/#/. The left sidebar contains navigation links: Dashboard, Logging, Security, Cloud, Schema Designer, Collections, Java Properties, and Thread Dump. The main content area is divided into several sections:

- Instance**: Shows the instance is 'Start'ed 23 minutes ago.
- Versions**: Lists the versions of solr-spec (9.7.0), solr-impl (9.7.0), lucene-spec (9.11.1), and lucene-impl (9.11.1).
- JVM**: Shows the runtime is 'Oracle Corporation Java HotSpot(TM) 64-Bit Server VM 23.23+37-2369' and the number of processors is 2.
- Args**: Lists various JVM arguments including -Xms512m, -Xmx512m, -Duser.timezone=UTC, and various -XX flags.
- System**: Displays resource usage with progress bars for Physical Memory (88.5% at 3.07 GB of 3.47 GB), Swap Space (25.9% at 7.12 GB of 27.47 GB), and JVM-Memory (13.0% at 66.47 MB of 512.00 MB).
- Security**: Shows a warning that security is not enabled for this server.

Step 6: Lets get start to indexing the Employee data on Solr.

1. Create a collection using comment line

Example: `bin/solr create -c Employee_collection`



The screenshot shows the Apache Solr Admin interface for the 'Employee_collection'. The URL bar indicates the address is localhost:8983/solr/#/~collections/Employee_collection. The left sidebar is the same as in the previous screenshot. The main content area shows the configuration for the 'Employee_collection' with a 'Shard: shard1'. The configuration details are:

- Shard count: 1
- configName: Employee_collection
- replicationFactor: 1
- router: compositeId

 At the bottom of the page, there are links to Documentation, Solr Query Syntax, Community, Issue Tracker, Slack, and IRC.

2. Now indexing our employee data to a solr Employee_collection using comment line.

Example: curl -X POST

http://localhost:8983/solr/Employee_collection/update/csv?commit=true -H "Content-Type: text/csv" --data-binary @"C:/data.csv"

```
C:\solr-9.7.0\bin>curl -X POST "http://localhost:8983/solr/Employee_collection/update/csv?commit=true" -H "Content-Type: text/csv" --data-binary @"C:/data.csv"
{
  "responseHeader":{
    "nf":1,
    "status":0,
    "QTime":10480
  }
}
```

Step 6: Now ensure that the data is successfully upload on the Employee_collection using comment line.

Example: curl "http://localhost:8983/solr/Employee_collection/select?q=*&wt=json"

```
C:\Windows\System32\cmd.exe
C:\solr-9.7.0\bin>curl "http://localhost:8983/solr/Employee_collection/select?q=*&wt=json"
{
  "responseHeader":{
    "zkConnected":true,
    "status":0,
    "QTime":139,
    "params":{
      "q":"*",
      "wt":"json"
    }
  },
  "response":{
    "numFound":1262,
    "start":0,
    "numFoundExact":true,
    "docs":[
      {
        "Department":["Engineering"],
        "Gender":["Male"],
        "Ethnicity":["Asian"],
        "Age":[47],
        "Country":["United States"],
        "City":["Columbus"],
        "id":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"],
        "Employee_ID":["E02002"],
        "Full_Name":["Kai Le"],
        "Job_Title":["Controls Engineer"],
        "Business_Unit":["Manufacturing"],
        "Hire_Date":["2/5/2022"],
        "Annual_Salary":["$92,368 "],
        "Bonus":["0%"],
        "_version_":1811810859435950080,
        "_root_":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"]
      },
      {
        "Department":["Sales"],
        "Gender":["Male"],
        "Ethnicity":["Asian"],
        "Age":[58],
        "Country":["United States"],
        "City":["Chicago"],
        "id":["4c9a0992-c499-47fa-a75c-dd10c624e2c1"],
        "Employee_ID":["E02003"],
        "Full_Name":["Robert Rafe"]
      }
    ]
  }
}
```

Retrieve the specific filed using comment line

Example: curl

http://localhost:8983/solr/Employee_collection/select?q=Department:Engineering&wt=json

```
Select C:\Windows\System32\cmd.exe
}]]
}
}
C:\solr-9.7.0\bin>curl "http://localhost:8983/solr/Employee_collection/select?q=Department:Engineering&wt=json"
{
  "responseHeader":{
    "zkConnected":true,
    "status":0,
    "QTime":21,
    "params":{
      "q":"Department:Engineering",
      "wt":"json"
    }
  },
  "response":{
    "numFound":150,
    "start":0,
    "numFoundExact":true,
    "docs":[
      {
        "Department":["Engineering"],
        "Gender":["Male"],
        "Ethnicity":["Asian"],
        "Age":[47],
        "Country":["United States"],
        "City":["Columbus"],
        "id":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"],
        "Employee_ID":["E02002"],
        "Full_Name":["Kai Le"],
        "Job_Title":["Controls Engineer"],
        "Business_Unit":["Manufacturing"],
        "Hire_Date":["2/5/2022"],
        "Annual_Salary":["$92,368 "],
        "Bonus _":["0%"],
        "_version_":1811810859435950080,
        "_root_":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"]
      },
      {
        "Department":["Engineering"],
        "Gender":["Female"],
        "Ethnicity":["Latino"],
        "Age":[42],
        "Country":["United States"],
        "City":["Austin"],
        "id":["fcb9e850-9ab7-456f-b490-14652189cb56"]
      }
    ]
  }
}
```

Retrive the only the male candidate using comment line

```
C:\Windows\System32\cmd.exe
C:\solr-9.7.0\bin>
C:\solr-9.7.0\bin>curl "http://localhost:8983/solr/Employee_collection/select?q=Gender:Male&wt=json"
{
  "responseHeader":{
    "zkConnected":true,
    "status":0,
    "QTime":36,
    "params":{
      "q":"Gender:Male",
      "wt":"json"
    }
  },
  "response":{
    "numFound":581,
    "start":0,
    "numFoundExact":true,
    "docs":[
      {
        "Department":["Engineering"],
        "Gender":["Male"],
        "Ethnicity":["Asian"],
        "Age":[47],
        "Country":["United States"],
        "City":["Columbus"],
        "id":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"],
        "Employee_ID":["E02002"],
        "Full_Name":["Kai Le"],
        "Job_Title":["Controls Engineer"],
        "Business_Unit":["Manufacturing"],
        "Hire_Date":["2/5/2022"],
        "Annual_Salary":["$92,368 "],
        "Bonus _":["0%"],
        "_version_":1811810859435950080,
        "_root_":["367bcc86-2d46-47ab-8adf-ef2b64b1b723"]
      },
      {
        "Department":["Sales"],
        "Gender":["Male"],
        "Ethnicity":["Asian"],
        "Age":[58],
        "Country":["United States"],
        "City":["Chicago"],
        "id":["4c9a0992-c499-47fa-a75c-dd10c624e2c1"],
        "Employee_ID":["E02003"],
        "Full_Name":["Robert Patel"]
      }
    ]
  }
}
```

Finally Successfully indexed employee data on solr Employee_collection.