

# IIA Code Setup

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### Prerequisite:

Install given softwares before setting up the IIA.

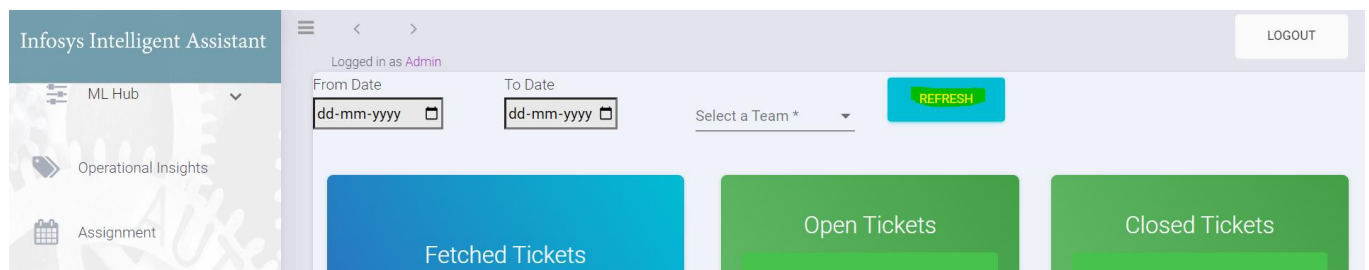
- Python version == 3.9
- Robo3T == 1.4
- Angular CLI 7.0.1 install using this command (npm install -g @angular/cli)
- MongoDB == 3.12.0
- Node 14.22

Default password for IIA to login:

Username: admin

Password: Automation@123

Once IIA is up and Running click on Refresh button to refresh IIA Frontend.



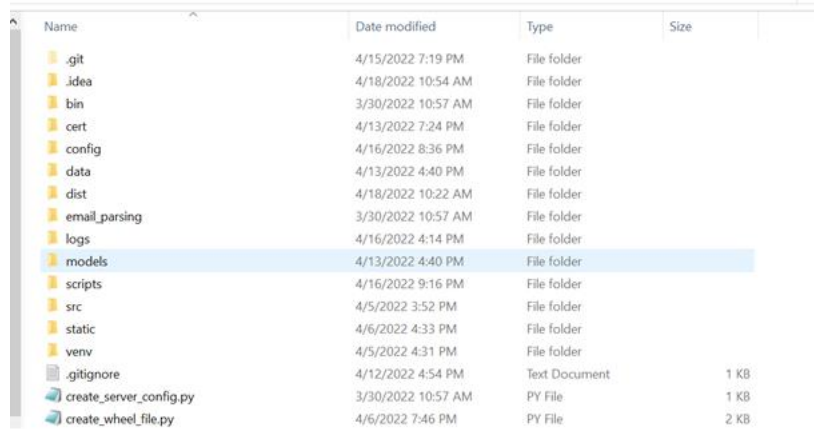
## 1. IIA Code Setup:

### IIA Code:

<https://github.com/Infosys/Infosys-Intelligent-Assistant.git>

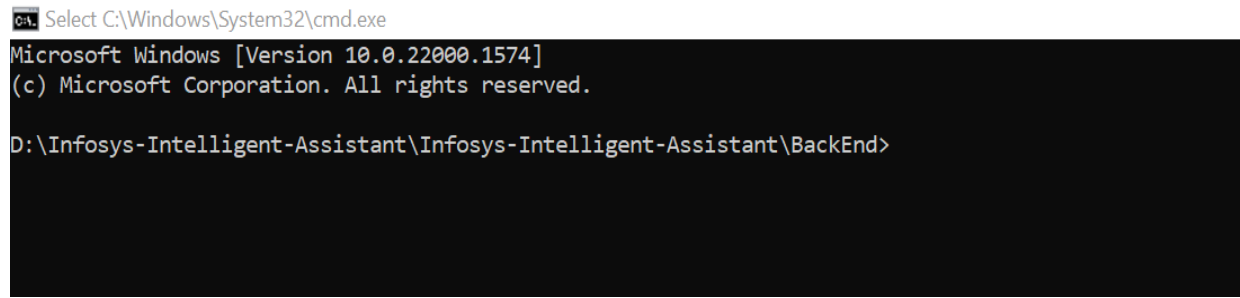
### Run IIA:

Navigate to the place where IIA back end code is present



Name	Date modified	Type	Size
.git	4/15/2022 7:19 PM	File folder	
.idea	4/18/2022 10:54 AM	File folder	
bin	3/30/2022 10:57 AM	File folder	
cert	4/13/2022 7:24 PM	File folder	
config	4/16/2022 8:36 PM	File folder	
data	4/13/2022 4:40 PM	File folder	
dist	4/18/2022 10:22 AM	File folder	
email_parsing	3/30/2022 10:57 AM	File folder	
logs	4/16/2022 4:14 PM	File folder	
models	4/13/2022 4:40 PM	File folder	
scripts	4/16/2022 9:16 PM	File folder	
src	4/5/2022 3:52 PM	File folder	
static	4/6/2022 4:33 PM	File folder	
venv	4/5/2022 4:31 PM	File folder	
.gitignore	4/12/2022 4:54 PM	Text Document	1 KB
create_server_config.py	3/30/2022 10:57 AM	PY File	1 KB
create_wheel_file.py	4/6/2022 7:46 PM	PY File	2 KB

Open Command prompt from the navigated location



```
C:\> Select C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1574]
(c) Microsoft Corporation. All rights reserved.

D:\Infosys-Intelligent-Assistant\Infosys-Intelligent-Assistant\BackEnd>
```

- If you are setting things up for the first time then issue

```
python -m venv venv
```

a folder named venv will be created

- Activate the virtual environment

```
Cd venv
```

```
Cd scripts
```

```
Activate
```

```
Cd..
```

```
Cd..
```

```
Pip install -r requirements.txt
```

```
Cd bin & run
```

```

D:\Github\Development\XXXXXXXXXX>cd python -m venv env
The system cannot find the path specified.

D:\Github\Development\XXXXXXXXXX>python -m venv env

D:\Github\Development\XXXXXXXXXX>cd env

D:\Github\Development\XXXXXXXXXX>cd Scripts

D:\Github\Development\XXXXXXXXXX>activate

(env) D:\Github\Development\XXXXXXXXXX>cd..

(env) D:\Github\Development\XXXXXXXXXX>cd..

(env) D:\Github\Development\XXXXXXXXXX>pip install -r requirements.txt

```

Follow the activate virtual environment and run bin going forward.

## Build Frontend Code:

Navigate to the place where IIA front end code is present

Name	Date modified	Type	Size
.idea	17-03-2023 16:15	File folder	
BackEnd	17-03-2023 16:16	File folder	
FrontEnd	17-03-2023 16:16	File folder	
build_ia_frontend.bat	14-03-2023 15:08	Windows Batch File	1 KB
LICENSE	14-03-2023 15:08	File	2 KB
README.md	14-03-2023 15:08	Markdown Source File	1 KB

Open command prompt at this location and run build\_ia\_frontend.bat using the below code.

C:\Windows\System32\cmd.exe

```

D:\Infosys-Intelligent-Assistant\Infosys-Intelligent-Assistant>build_ia_frontend.bat

```

Once successfully completed It will build static file and paste static file in the Backend Folder.

## 1. Mongodb back up and restore

### BackUp:

**mongodump – db <db name**

C:\Windows\System32\cmd.exe

```

Microsoft Windows [Version 10.0.19042.1826]
(c) Microsoft Corporation. All rights reserved.

```

```

D:\XXXXXXXXXXXXXXXXXXXXXXXXXXXX\IIA Dataset and Assignment>mongodump --db XXXX

```

> OneDrive - Infosys Limited > IIA Dataset and Assignment > dump > INTENT

Name	Date modified	Type	Size
TblAlgorithm.bson	7/19/2022 1:29 PM	BSON File	2 KB
TblAlgorithm.metadata.json	7/19/2022 1:29 PM	JSON File	1 KB
TblApplication.bson	7/19/2022 1:29 PM	BSON File	3 KB
TblApplication.metadata.json	7/19/2022 1:29 PM	JSON File	1 KB
TblApplicationAnalystMapping.bson	7/19/2022 1:29 PM	BSON File	28 KB
TblApplicationAnalystMapping.metadata.json	7/19/2022 1:29 PM	JSON File	1 KB
TblApprovedTickets.bson	7/19/2022 1:29 PM	BSON File	0 KB
TblApprovedTickets.metadata.json	7/19/2022 1:29 PM	JSON File	1 KB

## Restore:

Open command prompt outside dump folder where you kept **mongodump** files

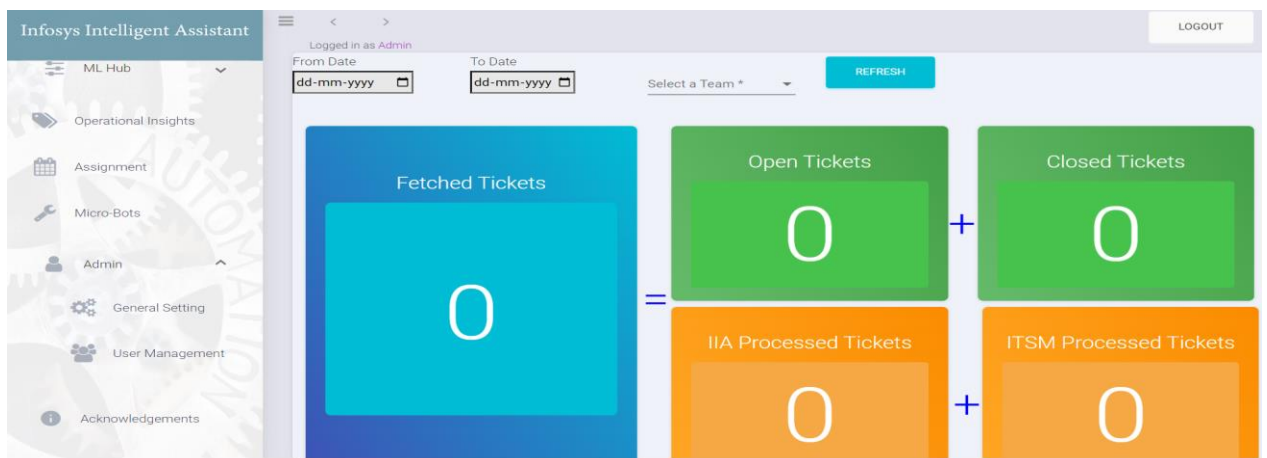
**mongorestore --db <databasename> --drop dump/<databasename>**

```
IIA Dataset and Assignment>mongorestore --db XXXXX --drop dump/XXXXX
```

## 1. IIA Dataset Setup

### Create Team in IIA:

Below is the screenshot of homepage of the IIA. Click on the general setting.



Click on **Team details**.

ITSM Details

Team Details

Notifications

Application Level Settings

Other Settings

Team Details

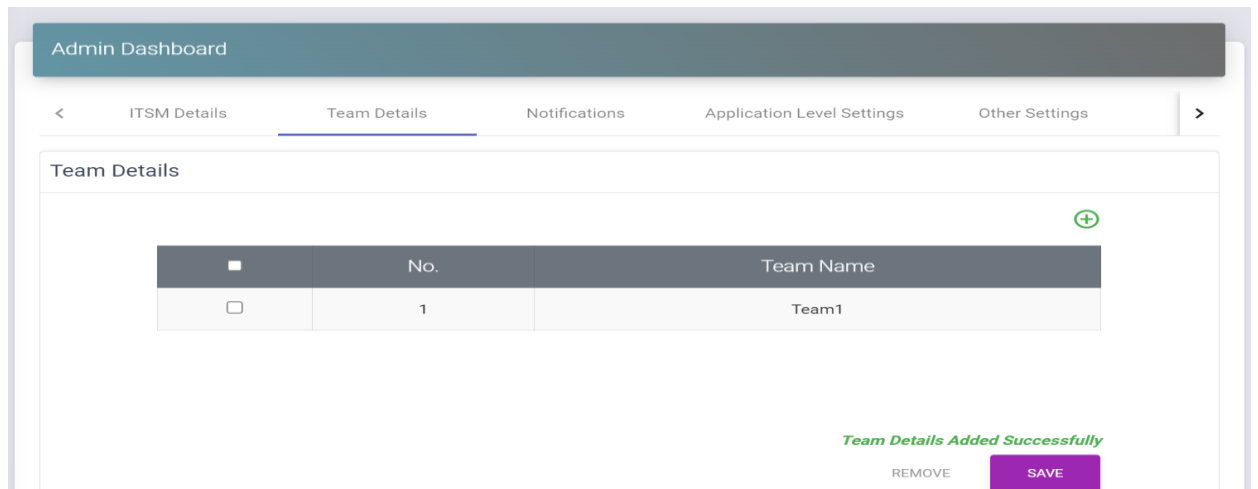
No.

Team Name

REMOVE

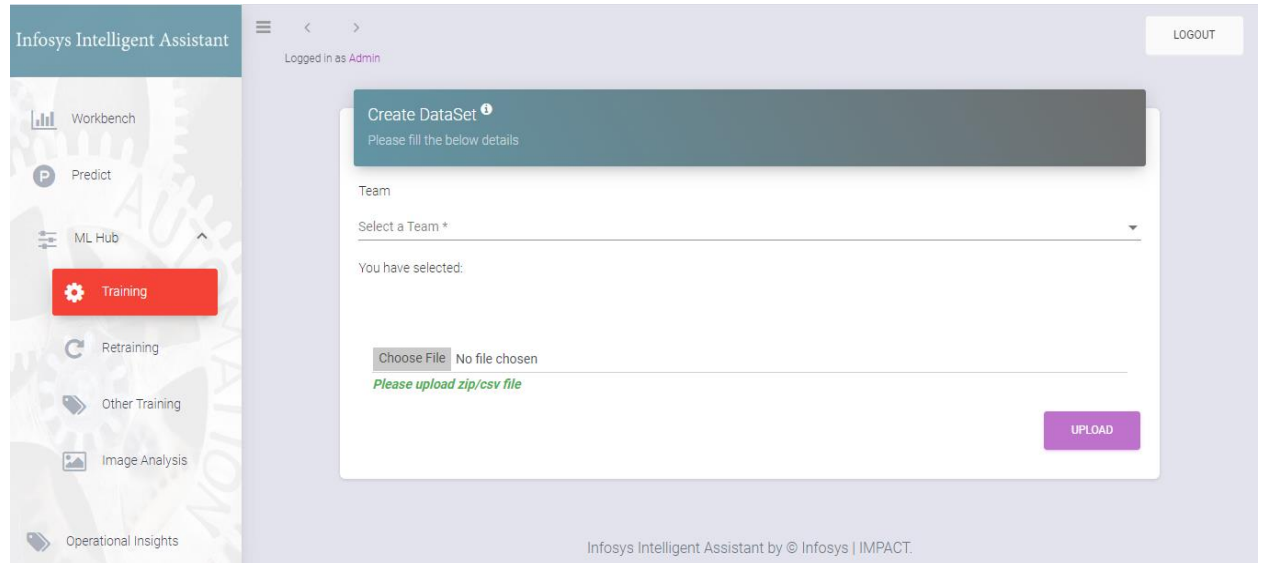
SAVE

Click on Plus Sign. Enter team name and click on Save Button.



## Uploading dataset for training in IIA:

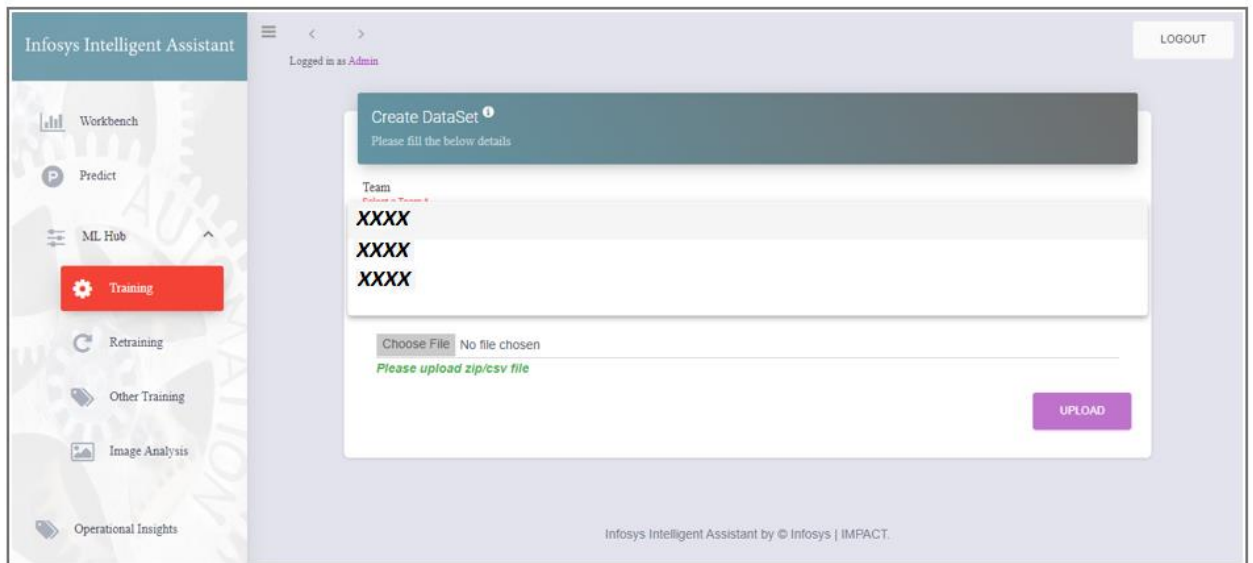
Below is screenshot of Training Module



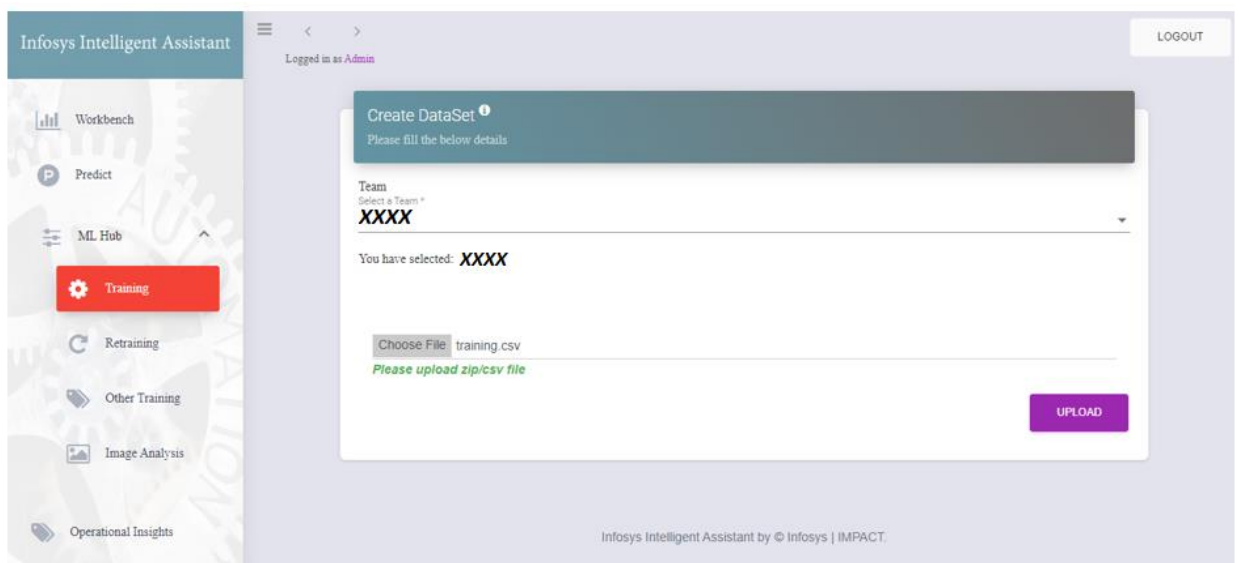
To add records, you will have to choose the team and file(zip/csv) to be uploaded.

## Steps to add Records:

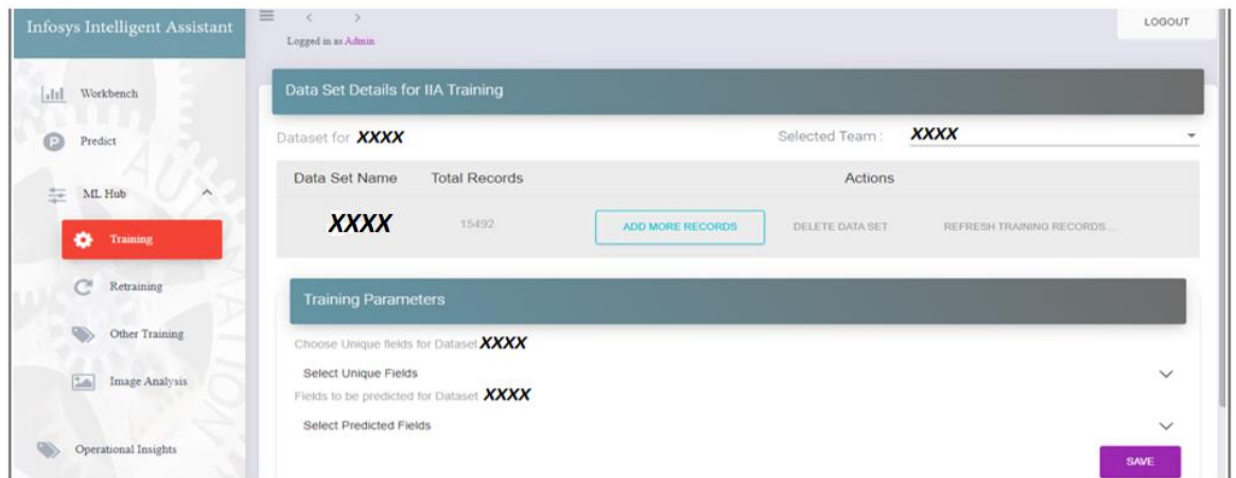
**Step 1:** Hover over the Select a Team option. Select the team you want to add the training data for, from the drop down.



Step 2: After Selecting the Team, choose the CSV/Zip file which you want to upload.



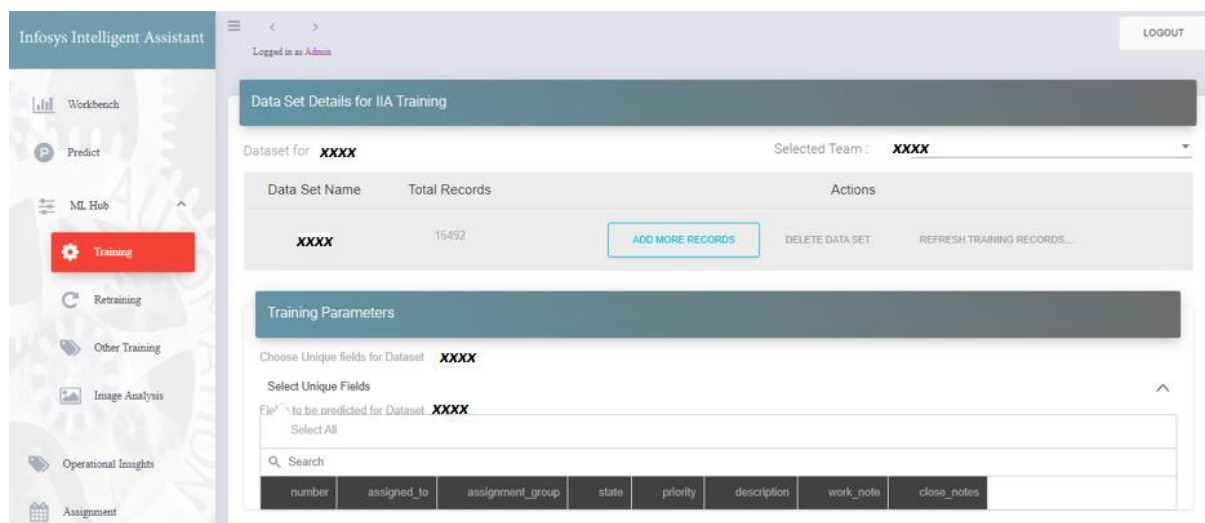
Step 3: Click on upload to upload the csv to IIA database. The tickets which have been uploaded are not trained yet.



After you upload the records for training, you get an option to add more records or delete the dataset or refresh the training records added

### Steps to select the Training Parameters:

Step 1: Click on Select Unique field to select the unique field from the uploaded tickets.



Step 2: Click on Select Predicted Fields to select the various field which you want to predict from IIA.

Step 3: Click on Select Textual Input Fields to choose input field for all the predicted Field.

Step 4: Click on Select Additional Input Fields to choose input field for all the predicted Field. The additional fields are optional.

Data Set Details for IIA Training

Dataset for **XXXX**
Selected Team : **XXXX**

Data Set Name	Total Records	Actions	
<b>XXXX</b>	15492	<a href="#" style="color: #00a0e3; text-decoration: none;">ADD MORE RECORDS</a>	<a href="#" style="color: red; text-decoration: none;">DELETE DATA SET</a> <a href="#" style="color: red; text-decoration: none;">REFRESH TRAINING RECORDS...</a>

### Training Parameters

Choose Unique fields for Dataset **XXXX**

assignment\_group ✕

Fields to be predicted for Dataset **XXXX**

assignment\_group ✕

Choose Textual Input Fields for assignment\_group

description ✕

Choose Additional Input Fields for assignment\_group (Optional) ⓘ

close\_notes ✕

SAVE

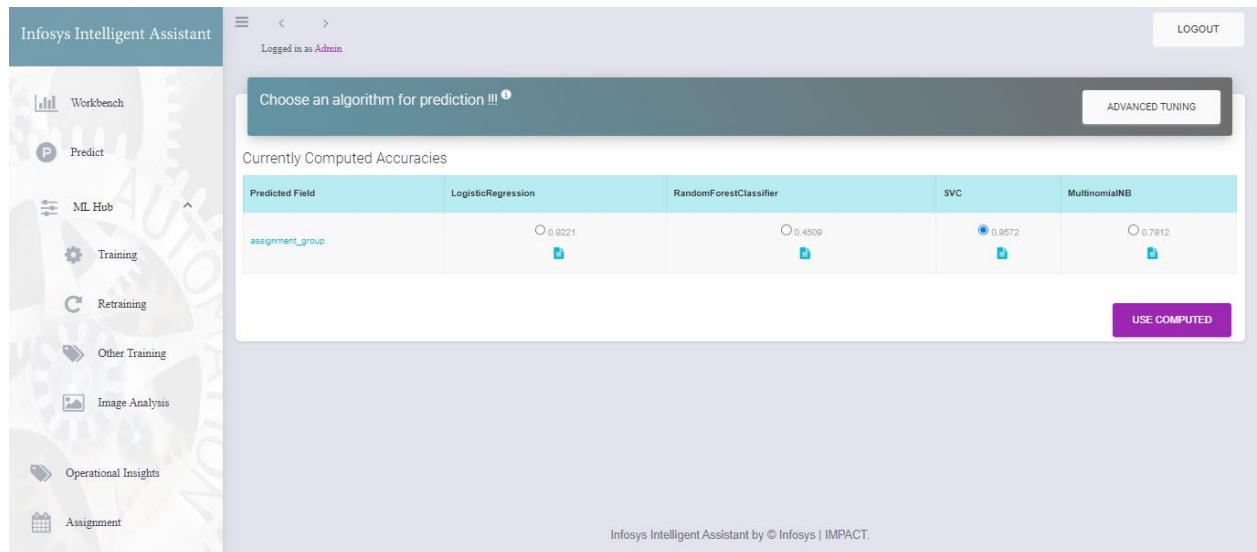
Step 5: Click on Save to save the parameter choices.

Step 6: Click on train to start the machine training on the selected parameters.

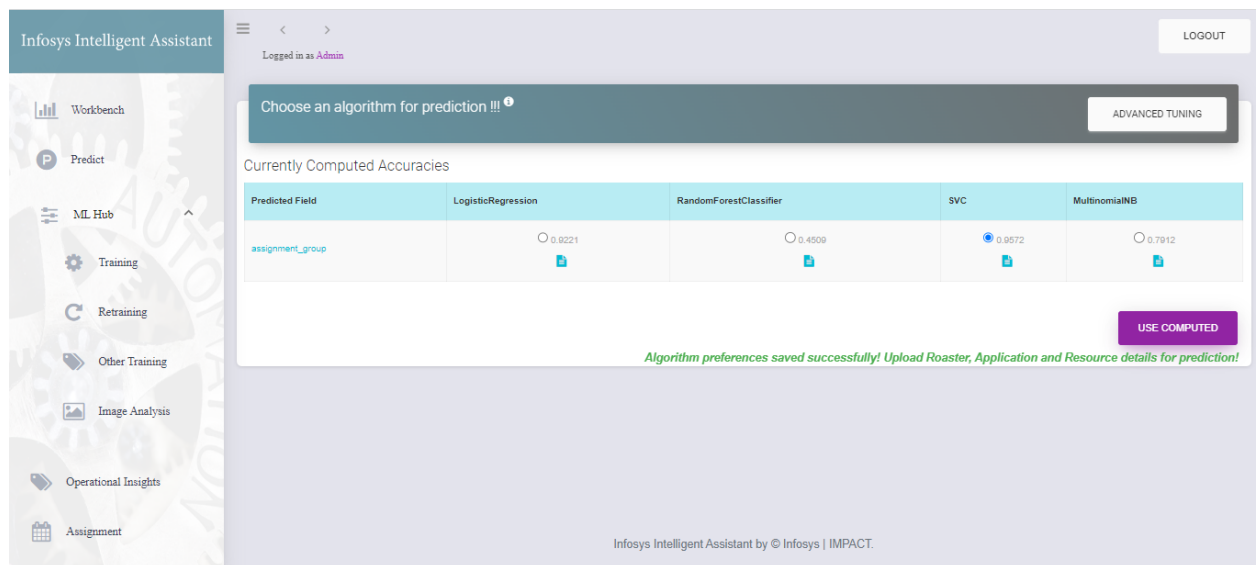
The screenshot displays the 'Infosys Intelligent Assistant' web application. On the left is a vertical navigation menu with icons and labels for 'Workbench', 'Predict', 'ML Hub', 'Training' (highlighted in red), 'Retraining', 'Other Training', 'Image Analysis', 'Operational Insights', and 'Assignment'. The main area has a header bar with 'Dataset for XXXX' and 'Selected Team : XXXX'. Below this is a table with columns 'Data Set Name', 'Total Records', and 'Actions'. A row shows 'XXXX' with '15492' records and three action links: 'ADD MORE RECORDS', 'DELETE DATA SET', and 'REFRESH TRAINING RECORDS...'. A 'Training Parameters' section follows, containing four steps: 1. 'Choose Unique fields for Dataset XXXX' with a dropdown showing 'assignment\_group'; 2. 'Fields to be predicted for Dataset XXXX' with a dropdown showing 'assignment\_group'; 3. 'Choose Textual Input Fields for assignment\_group' with a dropdown showing 'description'; 4. 'Choose Additional Input Fields for assignment\_group (Optional)' with a dropdown showing 'close\_notes'. At the bottom right are 'SAVE' and 'TRAIN' buttons, and a green message states 'Saved successfully! Click on Train to continue!'.

After the machine gets Trained on the chosen training parameter, IIA displays F1-score on the Training data for each Algorithm. By default, the algorithm giving the highest F1-score for that Predicted field is already selected by IIA. However, one can change the algorithm to be used by selecting a different radio button.





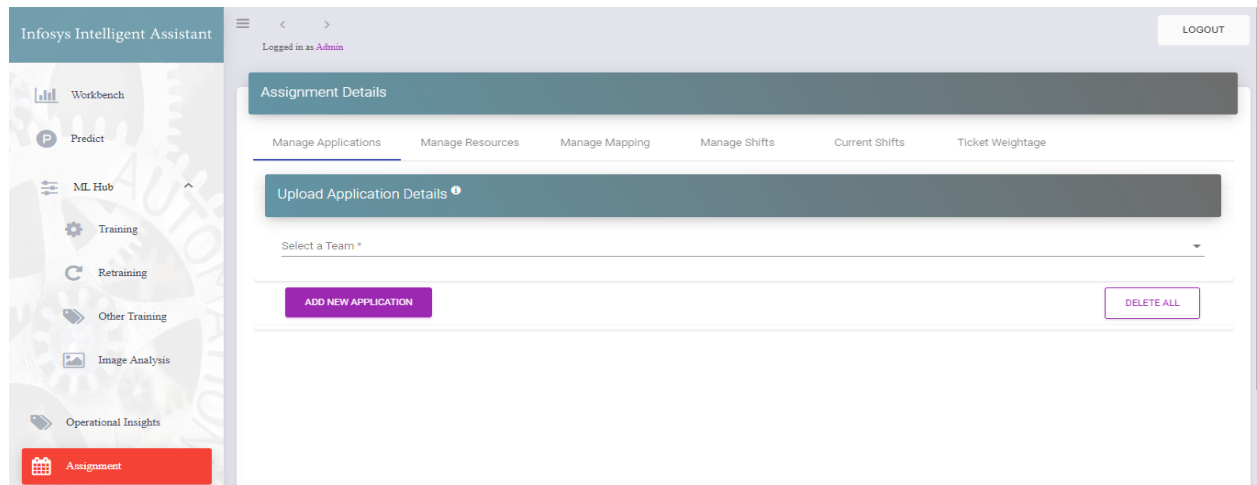
Step 7: After the algorithm to be used is selected the Button of USE COMPUTED must be pressed to save the chosen algorithms for future prediction use.



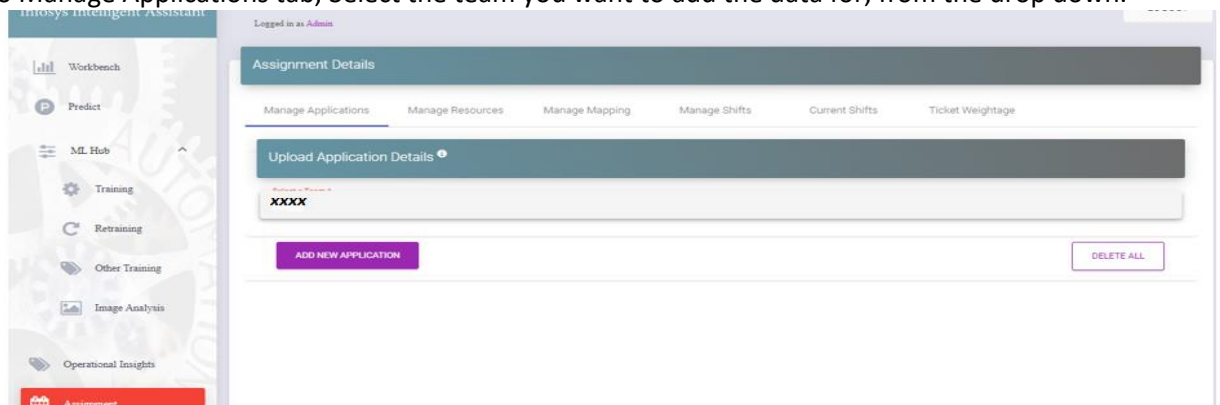
Now you can go ahead and upload supporting documents in Assignment module for prediction.

**Steps to upload supporting documents in Assignment module :**

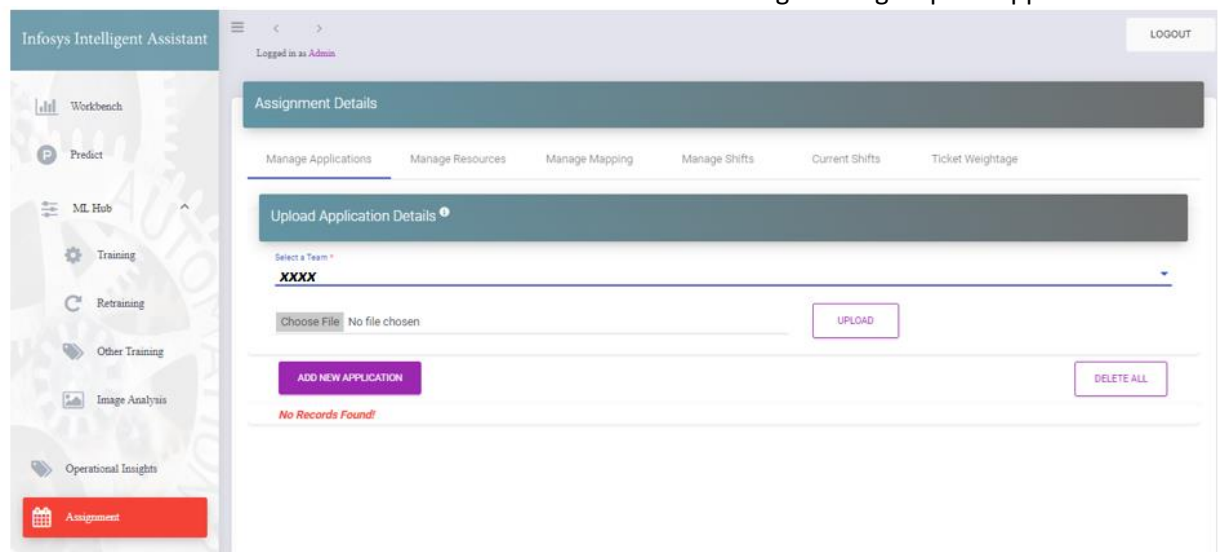
Below is screenshot of Assignment Module



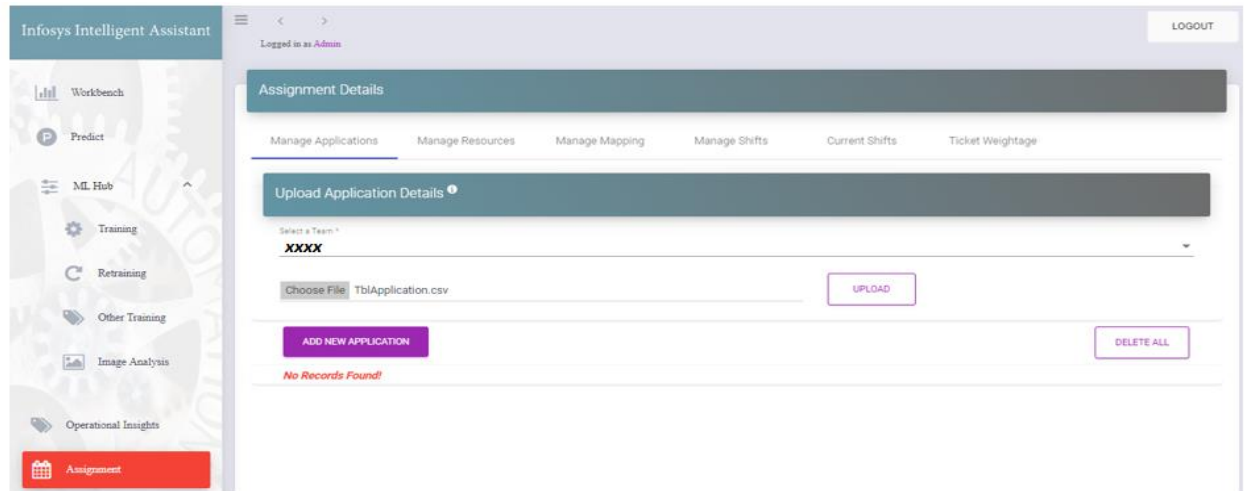
1. Go to Manage Applications tab, Select the team you want to add the data for, from the drop down.



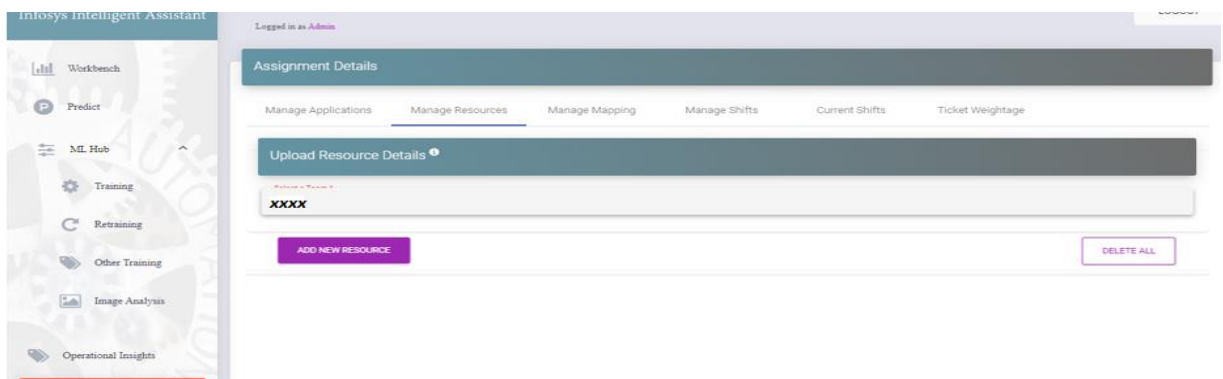
2. Choose the csv file here which has relevant information about the assignment groups or applications.



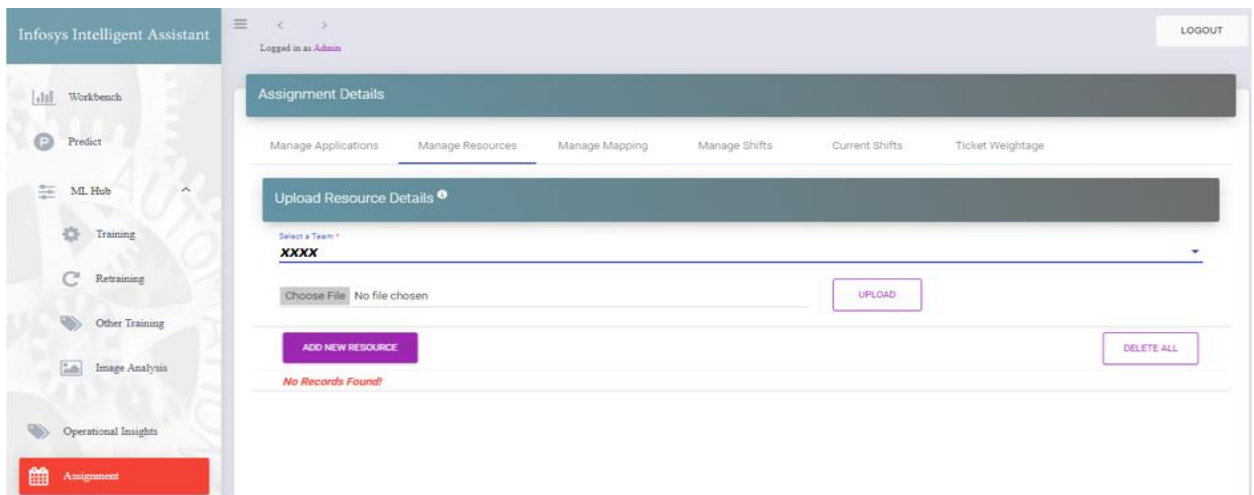
3. Click on Upload to upload csv data.



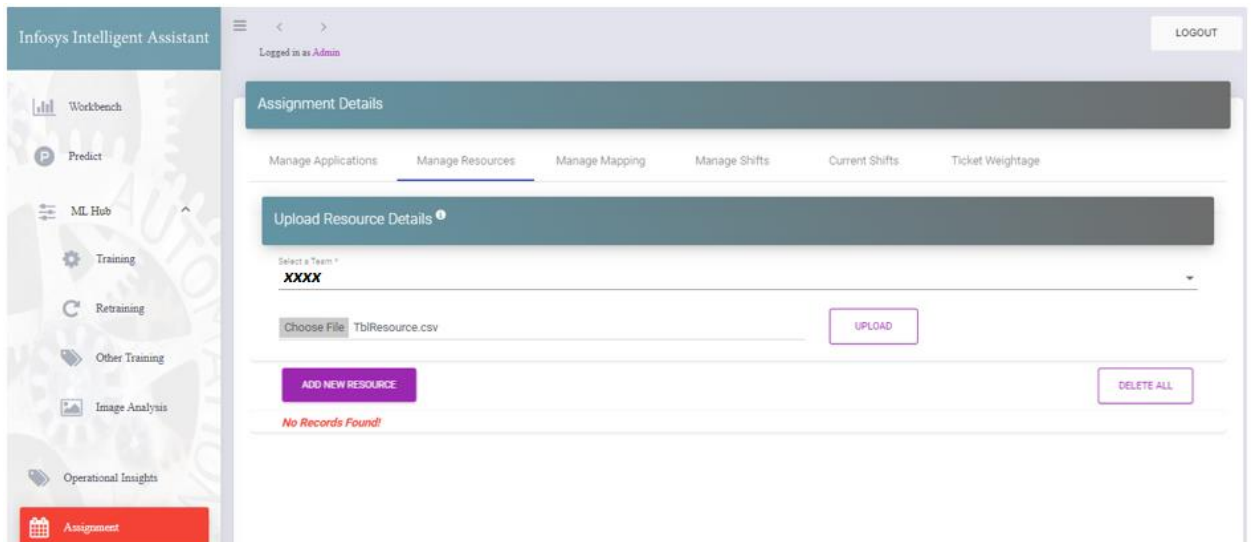
1. Click on Manage Resources tab, Select the team you want to add the data for, from the drop down.



2. After Selecting the Team, choose the csv file which contains the work details about a resource.



3. Click on Upload to upload csv data.



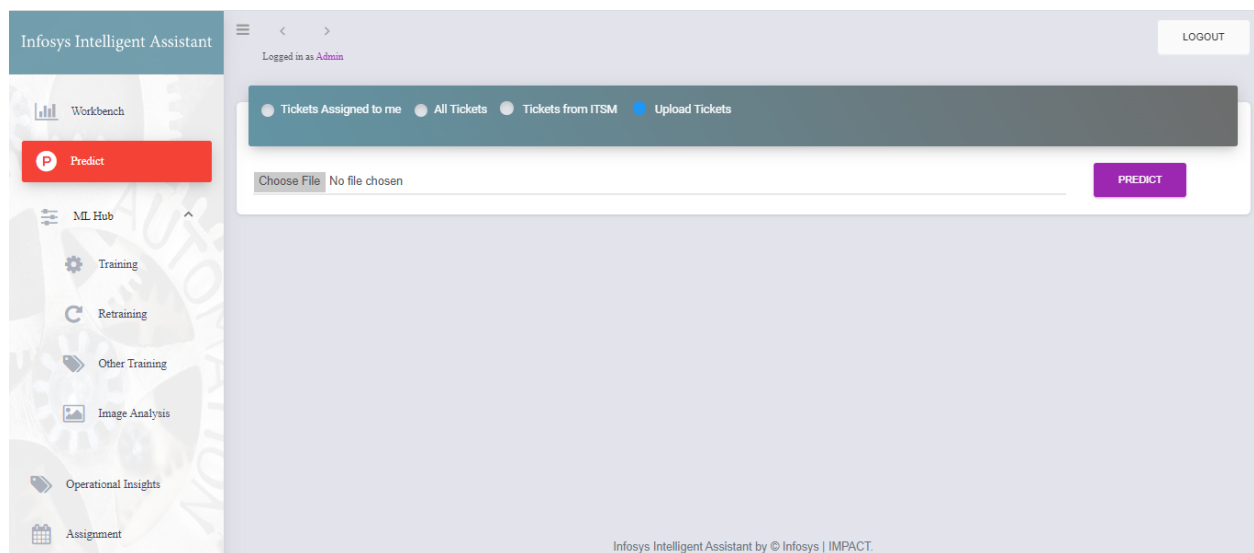
Then go to Manage Shift tab, select the team and upload the excel file which contains the shift details of the resource.

The last component of the module is the Ticket weightage. Here, select the team and upload a ticket details via csv file, such as Ticket type, priority, status, weightage details.

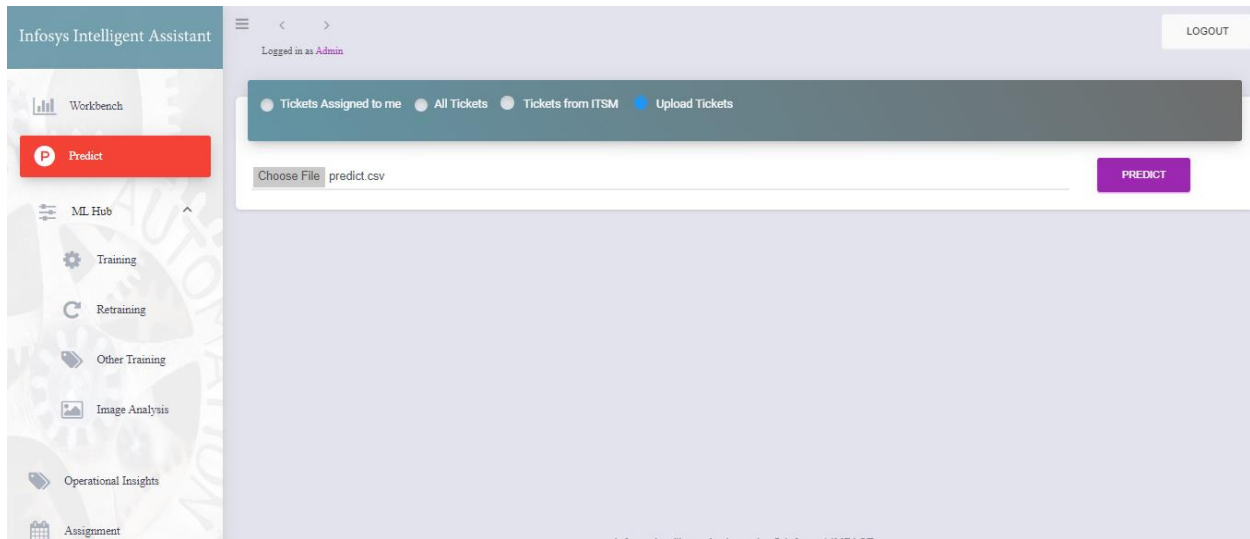
Once we have uploaded all the relevant files here, we can now proceed with the prediction of the assignee for the tickets.

### Uploading data set for Prediction:

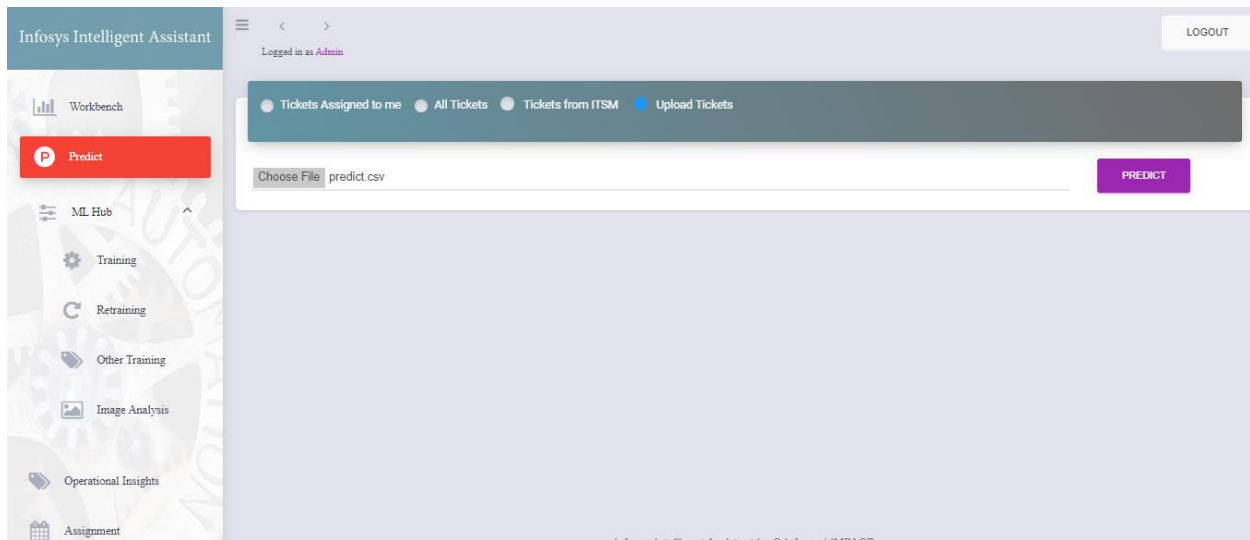
Below is screenshot of Prediction Module



Step 1: Here choose the csv file to upload for prediction.



Step 2: Click on Predict button to start prediction for the tickets.



Once the tickets given for prediction have been Predicted, A Data Comparison & Validation Page Opens. In this page you can see the various ticket details as per uploaded dataset along with Ticket Number, Predicted Assignee, Raw assignment group and Predicted assignent group.

Infosys Intelligent Assistant

Logged in as Admin

LOGOUT

Data Comparison & Validation

Only Approved Tickets

EXPORT TO CSV

Selected Team: XXXX

FILTER RESET

	number	Predicted Assignee	Raw_assignment_group	Predicted_assignment_group	Priority	state	description	work_note	close
<input type="checkbox"/>	INC0019577	XXXXXXXX	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.79	3 - Moderate	New	In sprash when i		
<input type="checkbox"/>	SR007980351	XXXXXXXX   0	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.89	3 - Moderate	New	Can you please		
<input type="checkbox"/>	SR007980321	XXXXXXXX   0	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.76	3 - Moderate	New	Please create a		
<input type="checkbox"/>	INC0000000000029	XXXXXXXXXX   0	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.72	3 - Moderate	New	Unilever Invoice		
<input type="checkbox"/>	INC0000000000026	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.66	3 - Moderate	New	The invoices are		
<input type="checkbox"/>	INC0000000000027	XXXXXXXXXX   0	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.61	3 - Moderate	New	Shipment and di		
<input type="checkbox"/>	INC0000000000026	XXXXXXXXXX   0	XXXXXXXXXX	XXXXXXXX Confidence Score: 0.66	3 - Moderate	New	Shipment not re		
<input type="checkbox"/>	INC0000000000025	XXXXXXXXXX	XXXXXXXXXX	XXXXXXXX	3 - Moderate	New	shipment cost m		

- Service Now Setup

Step 1 : Go to <https://developer.servicenow.com/dev.do>

servicenow

Developer

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Reference

Guides

Connect

Q Sign In

## Build apps that solve business problems faster

Rapidly build, test, and deploy applications that make work better for your organization. Start building on Now Platform with a free account.

Sign up and Start Building

ServiceNow Developer Program

Watch later Share

ServiceNow Developer Program

Watch on YouTube

Step 2 : Click on “**Sign up and start building** “. you will be navigated to sign up page enter all the required details and click on sign up.

## Sign up for a ServiceNow ID

[Sign In to an existing account](#)

First Name

|

Last Name

Email


Country

-- Country --

Password

Confirm Password

☐ I'm not a robot

  
Privacy - Terms

☐ I have read and agree to the [ServiceNow Website Terms of Use](#) and understand that my personal information is processed in accordance with [Privacy Statement](#).

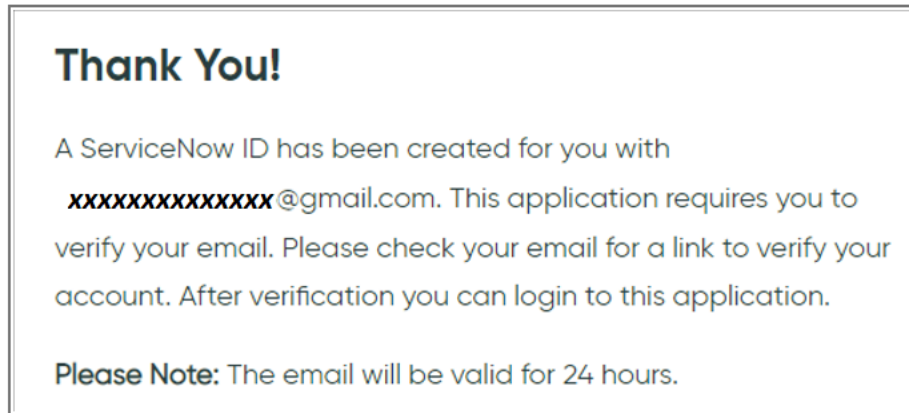
Sign Up

### Need assistance?

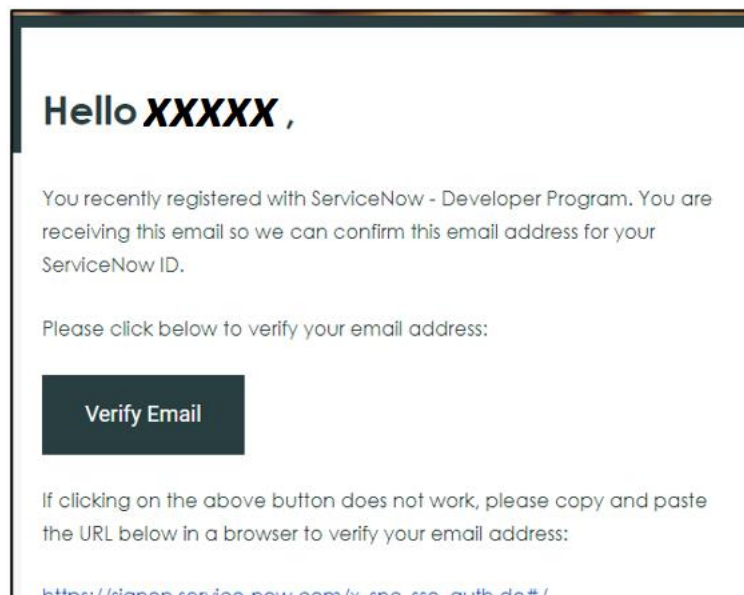
[Get instant help or open support ticket!](#)

For questions about your account or Developer Program, please leave feedback on the [ServiceNow Developer Program](#)

Once it is Done you will get below message



You will receive a mail like shown below click on verify Email.



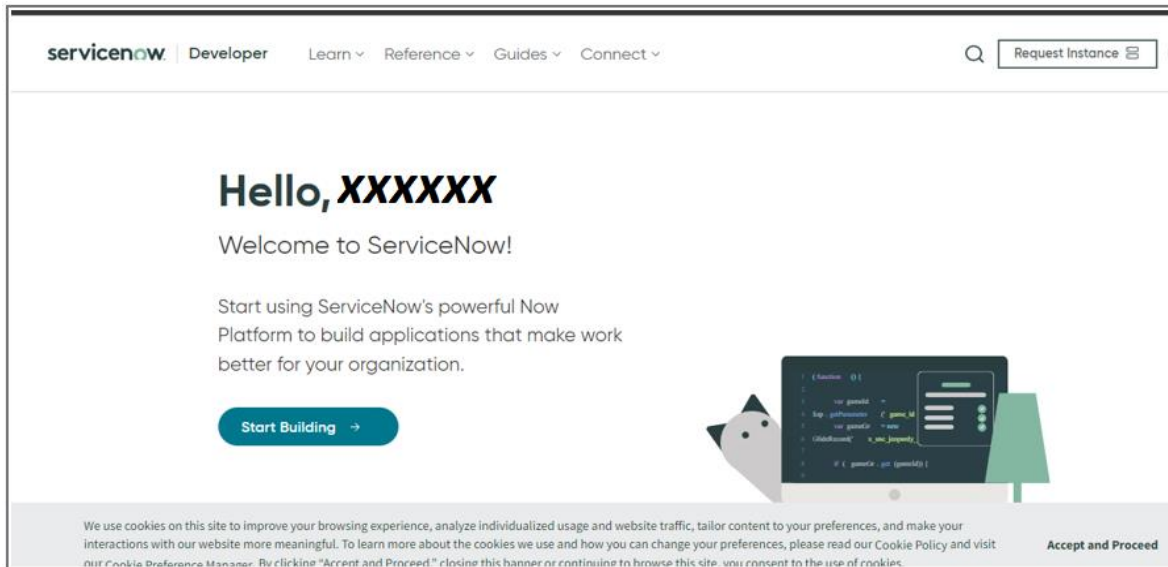
You will get this verification completion mail.

## Thank You!

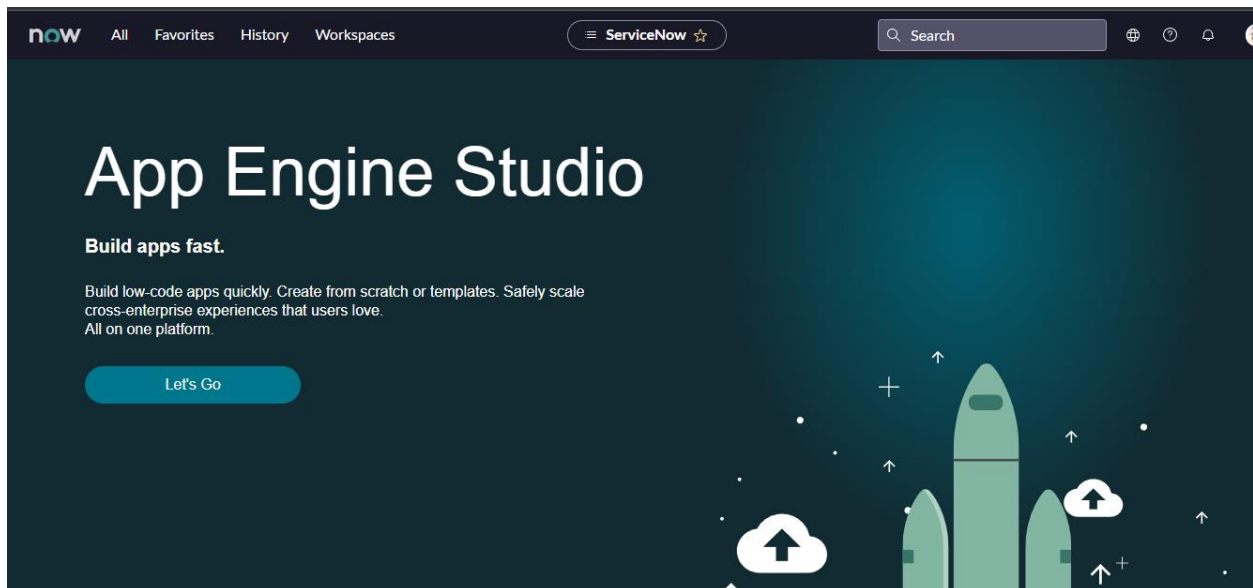
Your email: **XXXXXXXXXX**@gmail.com has been verified. Please click below to login to the application.



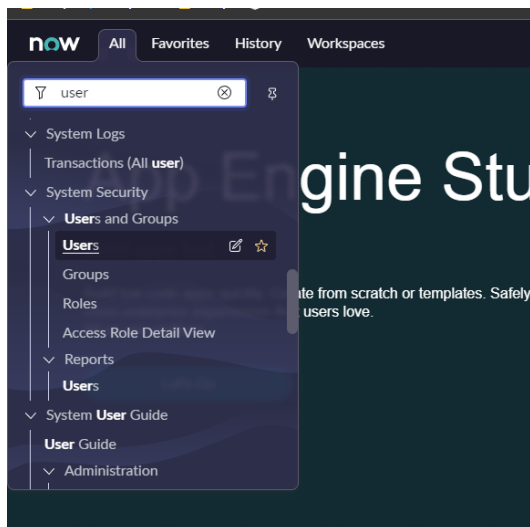
Click on **login** and give the required credentials.



Click on **“request Instance”** once it is completed click on start building this page will be shown.

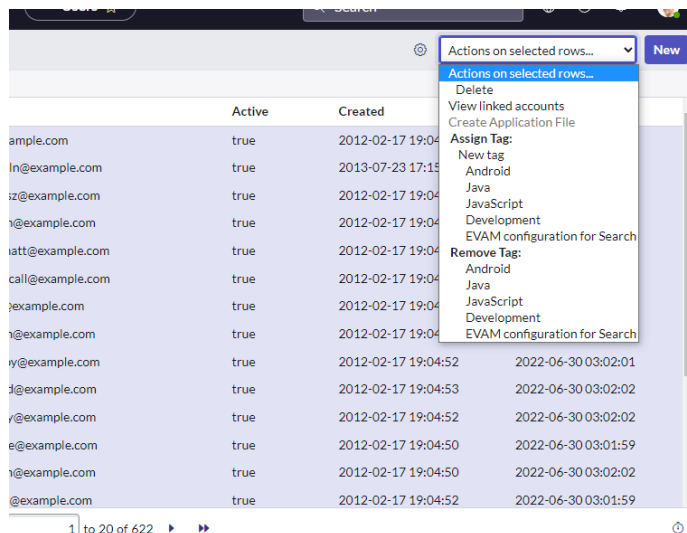


**Step 1 : Click on All :**





## Step 2 : Remove All previous data



	Active	Created
ample.com	true	2012-02-17 19:04
ln@example.com	true	2013-07-23 17:15
iz@example.com	true	2012-02-17 19:04
1@example.com	true	2012-02-17 19:04
iat@example.com	true	2012-02-17 19:04
call@example.com	true	2012-02-17 19:04
j@example.com	true	2012-02-17 19:04
1@example.com	true	2012-02-17 19:04
1y@example.com	true	2012-02-17 19:04:52
l@example.com	true	2012-02-17 19:04:53
1@example.com	true	2012-02-17 19:04:52
e@example.com	true	2012-02-17 19:04:50
1@example.com	true	2012-02-17 19:04:50
@example.com	true	2012-02-17 19:04:52

## Uploading the Data :

### 1. Uploading user details :

for uploading tickets search for user click on the one which is inside system security.  
To upload the new users first prepare the file update these fields email, firstName, lastName , user id , password fields and upload the user in Service Now.  
Right click on user id > click on import > choose the file location > click on upload > click on preview imported data (validate if all got uploaded) > click on complete Import .

### 2. To upload assignment group :

for uploading tickets search for group click on the one which is inside system security.  
To upload the assignment groups first update these fields name and description in sys\_user\_group\_insert file.  
Right click on Name > click on import > choose the file location > click on upload > click on preview imported data (validate if all got uploaded) > click on complete Import .

### 3. To upload tickets in bulk :

for uploading tickets search for incident click on the one which is inside service desk.  
To upload the tickets first update the required fields use the template file.  
Right click on Number > click on import > choose the file location > click on upload > click on preview imported data (validate if all got uploaded) > click on complete Import .

## To integrate it with IIA :

Now go to your profile click on Manage instance password

### Manage instance password

Login credentials for your instance:

Instance name: **XXXXXX**

Instance URL: <https://XXXXXXXXXX.service-now.com/>

Username: **XXXXXX**

Password: **XXXXXX**

Update your credentials in mongodb compass in TblITSMDetails collection.

Key	Value	Type
(1) Objectid("5c90869e22571b30106eca69")	{ 8 fields }	Object
_id	Objectid("5c90869e22571b30106eca69")	Objectid
CustomerID	1	Int32
UserID	XXXXXX	String
password	XXXXXX	String
ITSMToolName	SNOW	String
MEUrl	https://XXXXXXservice-now.com/	String
MeAuthToken		String
ITSMInstance	XXXXXX	String

## • IIA Deployment

### Build Config:

Modify the Version and build as required in build config so that it will reflect in iia wheel package

```

1  -
2      name: XXXXXXXX
3      version: 3.0.0
4      build: 0.0.1
5      author: XXXXXXXX
6      author_email: XXXXXXXXXXXXXXXX@infosys.com
7      description: Infosys Intelligent Assistant
8      long_description: Infosys Intelligent Assistant
9      classifiers: ["Programming Language :: Python :: 3",
10                  "License :: OSI Approved :: MIT License",
11                  "Operating System :: OS Independent",]
12      package_dir: {"": "src"}
13      packages: src
14      python_requires: ['>=3.6']
15
16  -
17      name: XXXXXXXXXXXXXXXX
18      version: 3.0.0
19      build: 0.0.1
20      author: XXXXXXXX
21      author_email: XXXXXXXXXXXXXXXX@infosys.com
22      description: Infosys Intelligent Assistant
23      long_description: Infosys Intelligent Assistant
24      classifiers: ["Programming Language :: Python :: 3",
25                  "License :: OSI Approved :: MIT License",
26                  "Operating System :: OS Independent",]
27      package_dir: {"": "account_specific"}
28      packages: account_specific
29      python_requires: ['>=3.6']

```

Open command prompt and issue **set PYTHONPATH=src & python create\_wheel\_file.py** to create iia wheel file package for deployment. Package will get created inside **dist** folder upon succesful build.

This PC > DATA (D:) > Github > Development > ~~XXXXXXXXXX~~ dist

Name	Date modified	Type	Size
<del>XXXXXXXXXX</del> _build_0.0.1-py3-none-any.whl	7/19/2022 1:51 PM	WHL File	411 KB
<del>XXXXXXXXXX</del> _build-0.0.1.tar.gz	7/19/2022 1:50 PM	GZ File	273 KB

### Deploy build file:

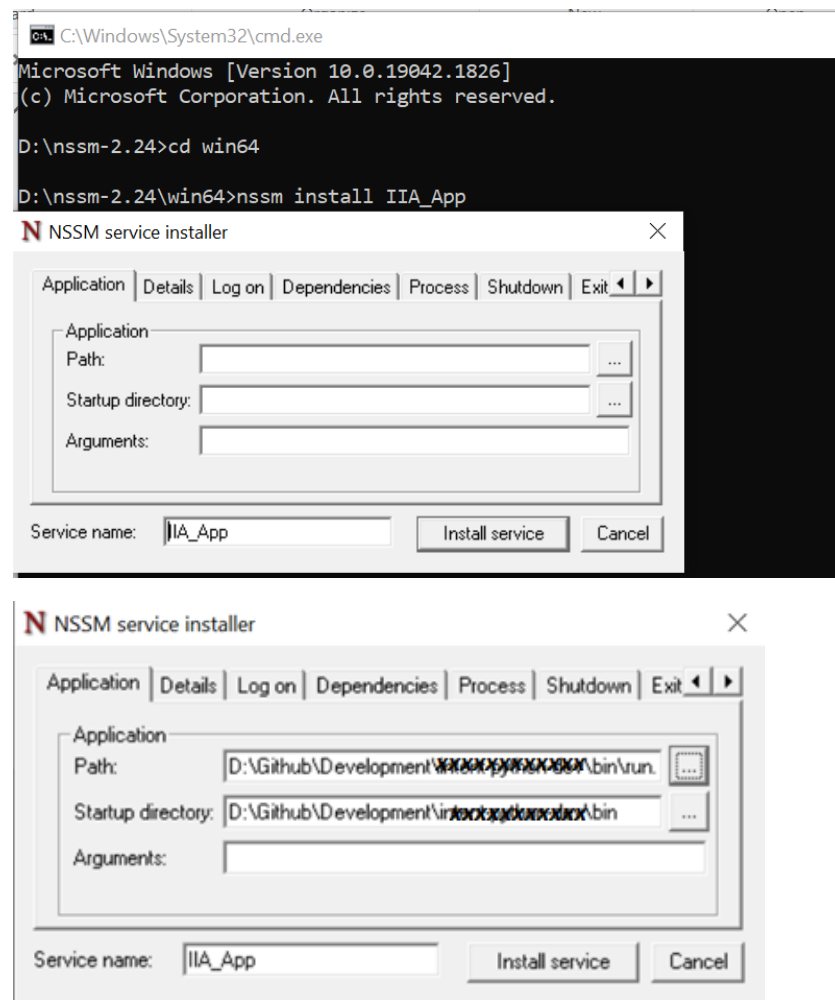
Install the same in client/deployment environment to deploy the code on issuing

**pip install iia-3.0.0\_build\_0.0.1-py3-none-any.whl** in command prompt

- **IIA as Service**

Download **nssm package** and extract the zip. Place it either in C drive or D drive according to the system drive

Open command prompt and follow the steps below:



Click **Install Service** and **start** the service under **services.msc**