Getting Started with PyBIRD AI

## Introduction

We describe the steps below to run PyBIRD AI, they can easily be run in Microsofts Free VSCode editor, or in Github CodeSpaces (VSCode in the cloud) which requires no local install or local execution of code. It is always best to use code from the develop branch of Eclipse Free BIRD Tools.

## Install and run steps

### Step 1

Get the SQLDeveloper files that you want to use to create the BIRD Input Layer or LDM information in PyBIRD AI.

Currently the process is better tested with the Input Layer and so this is the default. We recommend trying the Input Layer first.

If you are using the LDM you should change the variable ldm\_or\_il in the file birds\_nest\pybirdai\context\context.py to equal ‘ldm’ . You can edit the SQLDeveloper model first if you want to play with a locally edited model (PyBIRD AI enable local edits of anything in BIRD) or get from branch that you like. Follow the wiki <https://github.com/eclipse/efbt/wiki/Export-Files-from-SQLDeveloper>

Put these files in the resources director (birds\_nest/resources)

If using the input layer put the files in birds\_nest/resources/il if using the LDM put the files in the folder birds\_nest/resources/ldm

### Step 2

If using the Input Layer, then this step is not required. If using the LDM, get the detailed subtyping information from SQLDeveloper using the script get\_arcs.txt under /birds\_nest/sqldev\_scripts by following the wiki <https://github.com/eclipse/efbt/wiki/Running-the-Get_arcs-script>

Put the result in resources director (birds\_nest/resources)

### Step 3

Get the csv files needed from the BIRD websites technical export , mostly related to output information (e.g. report templates) by following the wiki <https://github.com/eclipse/efbt/wiki/Downloading-Files-from-the-ECB-website>

In addition to files requested in the wiki you will also need cube\_mapping.csv, member\_mapping.csv, variable\_mapping.csv, variable\_mapping\_item.csv,

Put these in the resources director (birds\_nest/resources)

### Step 4

Get or create some configuration information.

Currently there are 4 configuration files, and ready made versions are available at <https://github.com/regcommunity/BIRD_Lite>

Theses files are [in\_scope\_reports\_FINREP\_REF.csv](https://github.com/regcommunity/BIRD_Lite/blob/main/in_scope_reports_FINREP_REF.csv) , [table\_part\_ldm\_definitions\_FINREP\_REF.csv](https://github.com/regcommunity/BIRD_Lite/blob/main/table_part_ldm_definitions_FINREP_REF.csv) ,

And [table\_part\_to\_reference\_category\_FINREP\_REF.c](https://github.com/regcommunity/BIRD_Lite/blob/main/table_part_to_reference_category_FINREP_REF.csv)sv

Documentation on creating these is to follow, basically they list the reports in scope, and show which tables in BIRD input layer or LDM are used for each products used in reports (like debt securities used in Finrep) .

Put these in the resources director (birds\_nest/resources)

### Step 5

Setup environment:

Install Python if not installed

Install an editor (tested with VSCode on windows and Github codespaces which is VSCode on Linux in the cloud in a web-browser)……current paths in the code should work well in Github codespaces Github codespaces but can be a bit slow compared to a good local development machine.

Install prerequisites:

Run these commande in the terminal:

python -m pip install Django

pip install pyecore

pip install unidecode

change to the birds\_nest directory:

cd birds\_nest

setup environment variables:

unix/linux:

PYTHONPATH='.'

export PYTHONPATH

DJANGO\_SETTINGS\_MODULE='birds\_nest.settings'

export DJANGO\_SETTINGS\_MODULE

windows:

$env:DJANGO\_SETTINGS\_MODULE='birds\_nest.settings'

$env:PYTHONPATH='.'

### Step 7

Create the Django file form SQLdevelepor export files:

Delete existing birds\_nest\results\models.py and birds\_nest\results\admin.py if they exist.

Run ‘python pybirdai/entry\_points/create\_django\_models.py’ (note path separator will be different in windows/linux)

You will see a few warning messages like ‘association with cardinality of N does not have an opposite relationship’ which is fine.

Look in birds\_nest\results directory for the results which is a models.py file and an admin.py file.

Copy the content of models.py into birds\_nest\pybirdai\ldm\_models.py

If using the LDM , then delete these 2 lines (which are accidental included twice ) from ldm\_models.py

*from* .ldm\_models *import* NT\_MMBR\_EU

admin.site.register(NT\_MMBR\_EU)

Append the contents of the birds\_nest\results\admin.py file (except for the first line ‘from django.contrib import admin’ to birds\_nest\pybirdai\admin.py

### Step 8:

create the empty sqllite database:

First delete the old db (birds\_nest/db.sqlite3) and any migrations file birds\_nest\pybirdai\migrations\0001\_initial.py if they exist.

Run the Django scripts to create the db

python manage.py makemigrations pybirdai

python manage.py migrate

you will see some warnings like ‘ SQLite does not support comments on columns (db\_comment) ‘ which is fine

### Step 9:

make the admin user:

python manage.py createsuperuser

complete the prompts for user name , email and password

check that you can login to the UI:

python manage.py runserver

go to the website link shown, add /pybirdai to the link

<http://127.0.0.1:8000/pybirdai> (don’t forget the /pybirdai at the end or you will see a 404 page not found error)

### Step 11

Run through the steps on the website in order -except for the last step of ‘View Populated Templates’

### Step 12

Copy all files from birds\_nest\results\generated\_html into birds\_nest\pybirdai\templates\pybirdai

Copy all files from birds\_nest\results\generated\_python into C:\Users\LENOVO\pybirdai\efbt\birds\_nest\pybirdai\process\_steps\filter\_code

### Step 13

Click on ‘View Populated Templates’, choose a report, then choose report cell.

Clicking on the report cell should show the value for that report cell. Note that currently we have some error in this step that we are fixing in issue : <https://github.com/eclipse/efbt/issues/1418>