# Trident Installation Steps

Trident is a tool used to automate the preparation of the Tri-Dimensional Analysis. For the purposes of transparency, the source code for the offline version of Trident has been made available for you. This allows you to review the code to ensure that no code violates any security policies or takes any malicious actions.

However, because the program is running from the source code, you will be required to set up the environment needed to run the program. This involves a few simple steps:

1. Installing Python 3.10.1
2. Downloading the source code repository
3. Installing required Python packages
4. Using the Trident program
5. Creating the Tri-Dimensional Graphs

## Installing Python 3.10.1

The required version can be installed here:

<https://www.python.org/downloads/release/python-3101/>

Select the download option appropriate to your system. Run the installer. On the first screen, there will be an option that says Add Python 3.10 to PATH. **MAKE SURE THIS OPTION IS CHECKED**, otherwise you will have to supply the full path to your python installation when running the program.

A screen shot of a computer

Description automatically generated

Select “Install Now” and close the installer when finished.

**If you already have Python 3.10.1 or newer installed**, create a new virtual environment in the Trident-offline directory by opening a terminal in that directory and executing the following command:

python -m venv .venv

Then activate the virtual environment with the following command:

(Windows): .venv\Scripts\activate

(Mac): source .venv/bin/activate

To turn off this virtual environment, execute the following command:

deactivate

## Installing required Python packages

The Trident program can be found in the same repository as you found these instructions. Navigate to the Trident-offline directory. Open up a terminal window in that directory and run the following command:

pip install -r requirements.txt

This will install all packages required to run python. The packages can be reviewed by reading the requirements.txt

## Using the Trident Program

Open up a terminal window in the Trident-offline directory and run the following command:

python tri\_d.py

This will run the Trident program and bring up the user interface.

Running the Trident tool takes a few easy steps

1. Press the browse button in the section labeled “Input Folder”. This will open up a file browser. Navigate to and select the directory containing the output of the tri-d scripts for the system you’d like to analyze. Note: on Windows, you may not be able to see the contents of the directory in this browser, so it may be helpful to identify the correct directory using a different file explorer.
2. Press the browse button in the section labeled “Output Folder”. This will open up a file browser. Navigate to and select the directory where you would like Trident to save its outputs. It should be somewhere you can easily access later, **and should not contain outputs from a different run as they will be overwritten.**
3. Adjust the Top User Percentage to narrow down how many users you’d like to include in the user level analysis. By default it’s set to 90%, meaning that the user level analysis will include users that make up the top 90% of either query volume, queue time, or runtime. Decreasing the number will include less users.
4. Click the run button. The text window will display messages about your run, stating if any stages of the analysis were skipped due to missing input files.
5. When the run completes, navigate to the directory you designated as the output. This is where you will be navigating to using the macros in the Excel templates provided with the source code.

## Creating the Tri-Dimensional Graphs

To create the graphs used to visualize your data warehousing workloads, you will use the automated excel templates provided with the Trident program. The process is generally the same for each template:

1. Open the template
2. SAVE THE TEMPLATE AS A NEW FILE. This prevents your template from being overwritten and keeps them blank for future use
3. Click the big grey “Import Data” button
4. Navigate to the directory containing the output generated from Trident and select the file corresponding to the template. They correspond as follows:
   1. Level 1 Template: L1.xslx
   2. User Level Template: User\_Level.xlsx
   3. Disk Burn: Burn.xlsx

You now should have everything you need to create the visualizations used in the Tri-dimensional analysis. Please reach out to your IBM contacts for any further guidance/support.