Feb 22

CAMBRIDGE SPARK

IT & Software

Requirements and Installation Guide

IMPORTANT - ORGANISATION SYSTEM RESTRICTIONS

Depending on your organisation's systems there may be restrictions in place for certain software or tools. We have where possible provided a selection of options and solutions for each tool required to ensure you have full access to the range of software required.

You may need to check with your employer if there are any specific steps you need to take to access these tools or if there are suitable alternatives they can provide.

Contents

Now please navigate to the relevant section depending on your apprenticeship programme:

All programmes

CAMBRIDGE SPARK

Required Tools used for all programmes

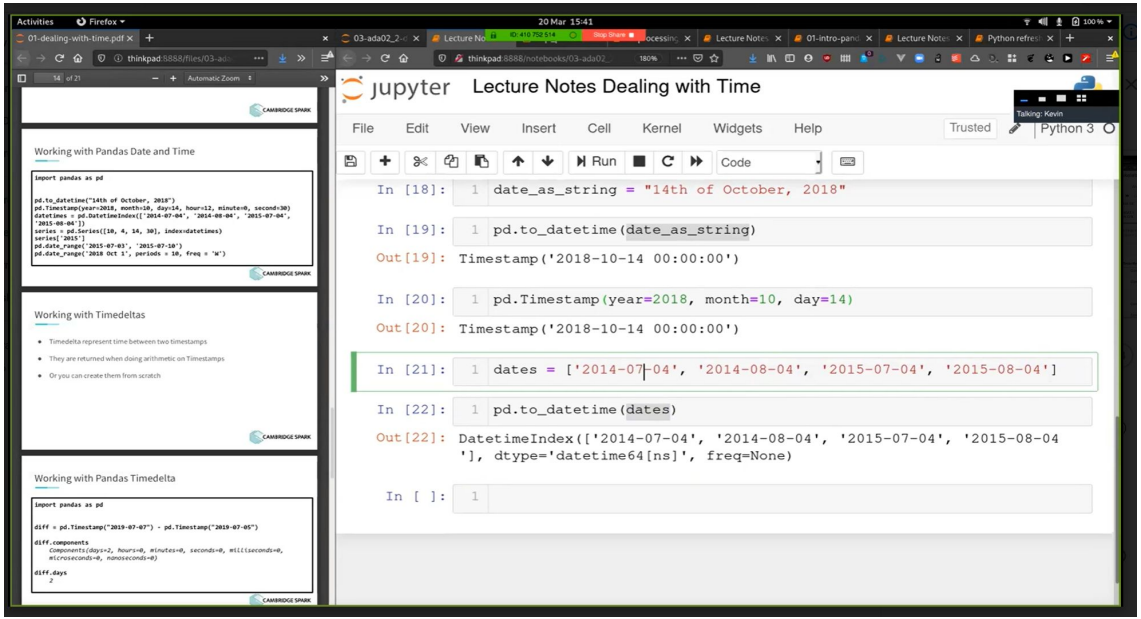
This is the complete checklist of tools you will need to use. Instructions for each tool are provided in the following pages.

1. **Microsoft Teams**
2. **EDUKATE.AI**
3. **Aptem**
4. **Archive Files**

Microsoft Teams (MS Teams)

MS Teams

Microsoft Teams is a unified communication and collaboration platform that combines persistent workplace chat, video meetings, file storage (including collaboration on files), and application integration.



MS Teams - Setup

Before a videoconference

- You will need a computer, tablet, or smartphone with speaker or headphones. You will have the opportunity to check your audio immediately upon joining a meeting.

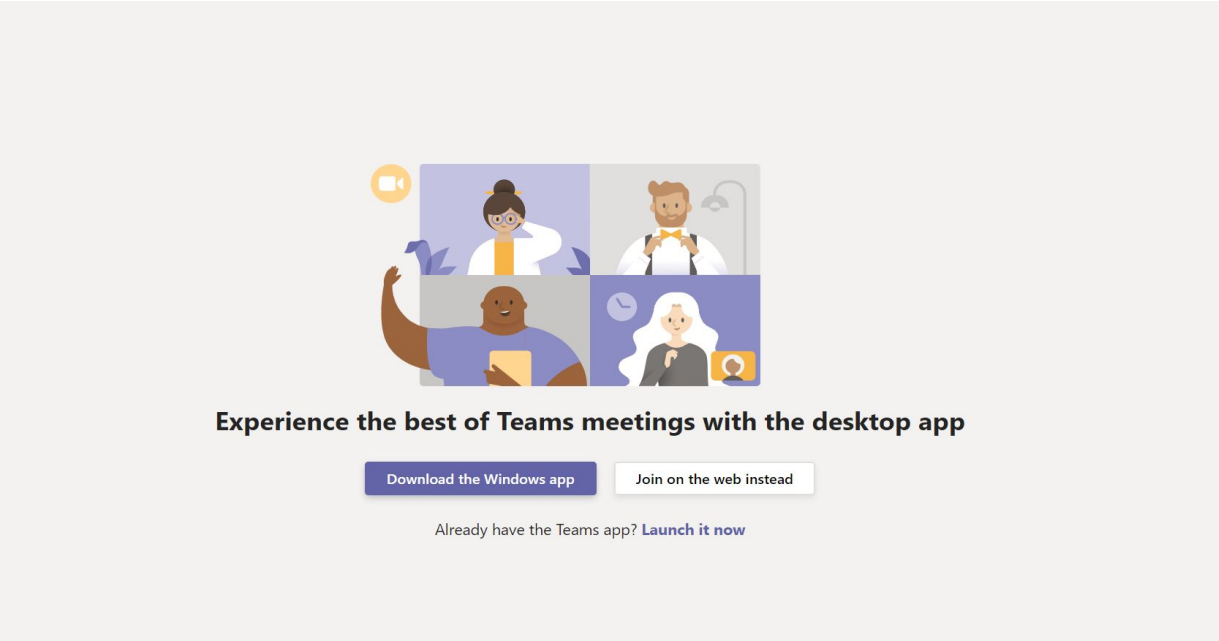
- You will receive an official calendar invite for the live event from Cambridge Spark a few days prior to your first live session .

To join the videoconference

- At the start time of your meeting, click on the link *'Join Microsoft Teams Meeting'* in the invitation. The following screen will appear:

MS Teams - Setup

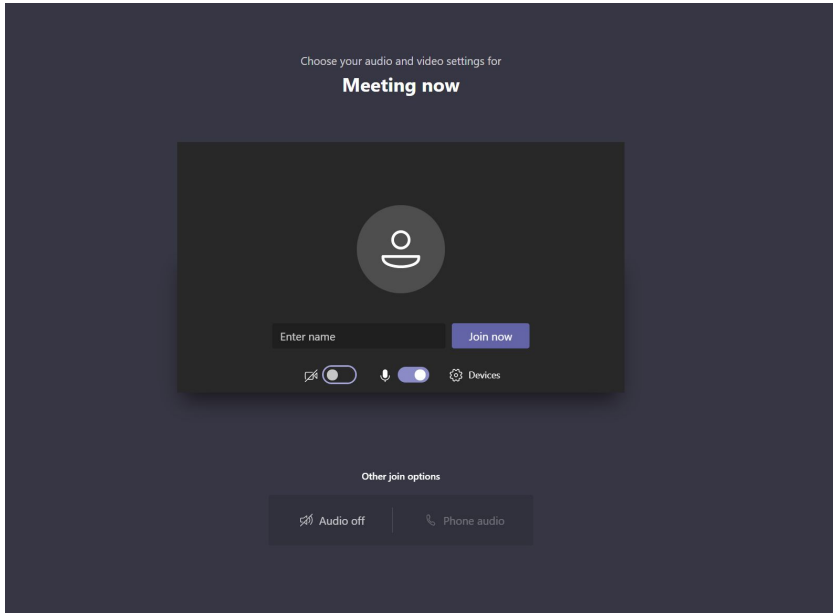
To access a live meeting, you can either use the **web browser** (if you don't have a personal or work Microsoft 365 account) or **download the Windows app** (if you have a personal or work Microsoft 365 account).



MS Teams - Setup

Web Browser

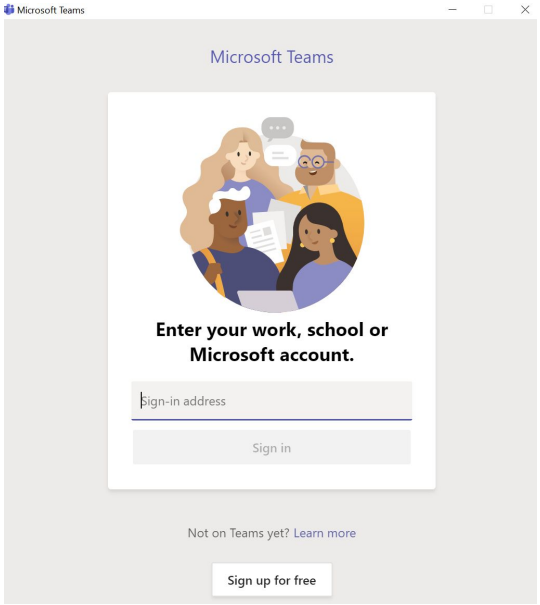
- Click the ‘web browser’ option, it will take you directly to the meeting, you will be asked to enter your name, after that you can join the session.

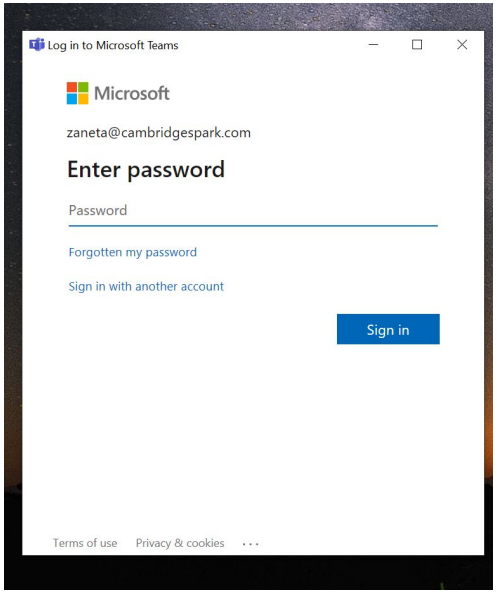


MS Teams - Setup

Download the Windows App

- Click the ‘download the Windows app’ option, once the software has been downloaded, please install it.
- Open the app and sign in with your Microsoft 365 username and password.
- You will then able to join the meeting.





MS Teams - Setup

Additional functions

Using the icons in the middle of the MS Teams screen, you can:

- Mute/Unmute your microphone
- Turn on/off camera
- View Participant list – opens a pop-out screen where you can see all participants and access the **meeting's chat**
- Share your screen

MS Teams - Instructions for the live remote session

During the session

- When you enter the broadcasting, immediately **mute your microphone** whilst the teacher is speaking. This is very important for sound quality! But we encourage you to put your camera on during sessions, especially at the start and whilst raising questions in session.

How to ask questions during the session

- Use the dedicated live session to ask questions, tutors will be answering them as they pop up. You can use it for 1:1 questions as well (e.g. screen share, call) during the session. If one question is trending the tutors might leave it for the teacher to answer. The tutor's support on teams is available only during the live remote session.
- For any Assignment and follow-up questions - can you please use KATE support functionality or the dedicated knowledge base.

EDUKATE.AI

EDUKATE.AI

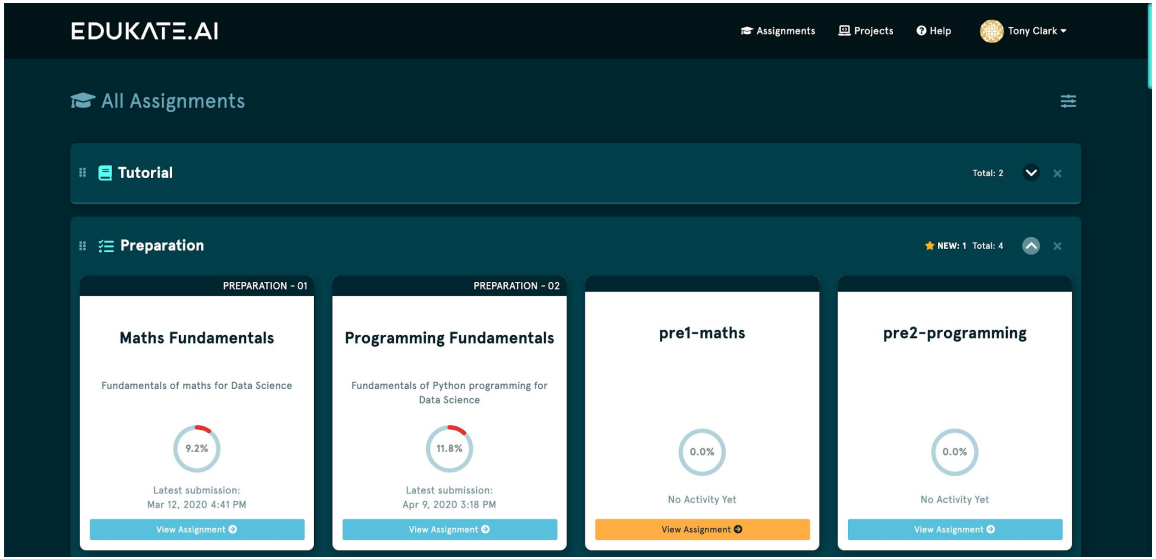
EDUKATE.AI is our proprietary tool for hands-on practical coding projects where learners can apply their new skills and receive immediate and personalised feedback.

It is browser based so learners will need to access it via their web browser (Chrome is recommended).

Learners need access to:
https://app.edukate.ai/

Please ensure there are no firewall restrictions on that URL.

Your user account will be created by Cambridge Spark separately.

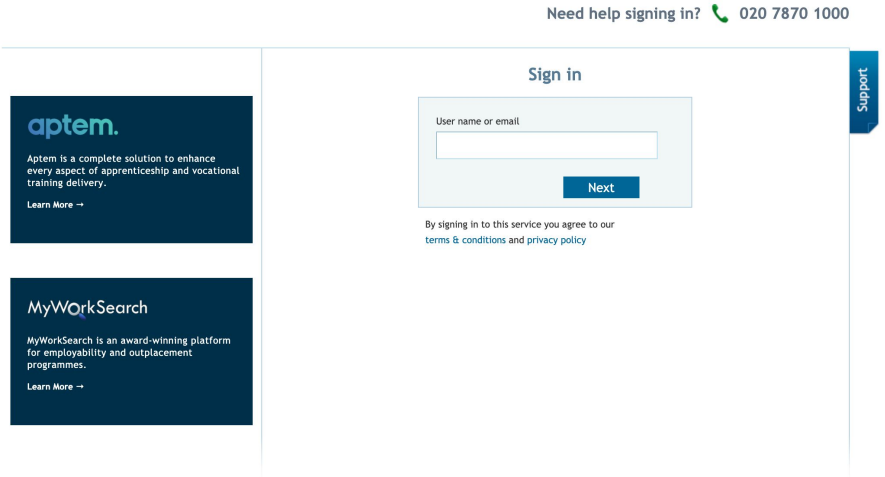


Aptem

Aptem

Aptem is a complete end-to-end apprenticeship and vocational training delivery platform. It is where learners a can access all information relating to their programme and learning and is also where they will build their portfolios and track the number of hours they are learning (off the job training)

Learners need access to:
https://cambridgespark.aptem.co.uk/Users/Account/LogOn



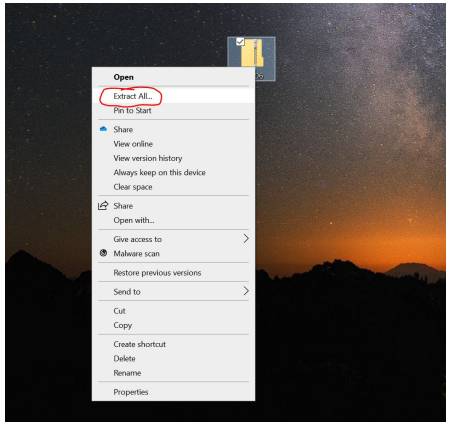
Archive Files

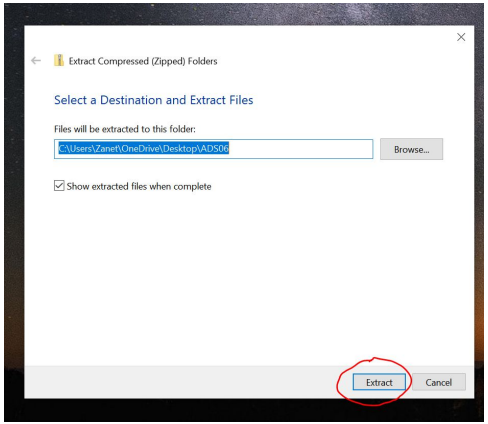
Archive Files

An **archive file** is a file that is composed of one or more computer files along with metadata. Archive files are used to collect multiple data files together into a single file for easier portability and storage, or simply to compress files to use less storage space. Filename extensions used to distinguish different types of archives include zip, rar, 7z, and tar. Our study materials are available in archive files.

How to open an archive file (windows):

1. Download the zip file to your machine
2. Right click the file, select ‘Extract All’ and then click ‘Extract’
3. A new folder will be automatically created in the location of your file. You can now open the content in the folder.





L3 Apprenticeship
Data Citizen
Data Driven
Journalism

CAMBRIDGE SPARK

This is a guide to installing our recommended set of programs that you will need on your computer during:

1. **The L3 Data Citizen Certificate**
2. **The L3 Data-Driven Journalism Certificate**

Computer

- A suitable computer with enough RAM and space Memory (GB) to run Microsoft Office Suite

Large or extra screen

- You will need a large screen during workshops, or if using a laptop a second screen is highly recommended

Hardware Specifications

Hardware Specifications

Your computer will need to be able to run Microsoft Office suite. Microsoft Excel's minimum system requirements are as follows:

Computer and processor
Windows OS: 1.6 GHz or faster, 2-core
macOS: Intel processor

Memory
Windows OS: 4 GB RAM; 2 GB RAM (32-bit)
macOS: 4 GB RAM

Hard disk
Windows OS: 4 GB of available disk space
macOS: 10 GB of available disk space; HFS+ hard disk format (also known as Mac OS Extended) or APFS
Updates may require additional storage over time.

Tools Specifications

Required Tools

This is the complete checklist of tools you will need to use. Instructions for each tool are provided in the following pages.

1. **Microsoft Teams** (for cohorts starting from September 2021)
2. **EDUKATE.AI**
3. **Aptem**
4. **Archive Files**
5. **Power BI or Tableau**
6. **Microsoft Office**

Power BI & Tableau

Power BI & Tableau

NOTE: You do not need both of these tools but should use the one that is accessible to you or your organisation.

Power BI

- You must have a computer with Windows as an operating system as Power BI Desktop is only available through Windows
- download and install Power BI here
- To use the Power BI Pro (Web) service a work or school email address is required to sign up, i.e. outlook or Gmail email address domains will not suffice

Tableau

- download and install Tableau Desktop or Tableau Public (it is recommended to use Tableau 2019.2 or higher)

Tableau Desktop - a licensed version of the product, obtain a 14-day free trial licence by downloading the application from here and registering it via the form that pops up when you first open Tableau Desktop. If you do not have a licence assigned to you and have already used your free trial, follow the instructions for Tableau Public below.
Tableau Public - a free version of Tableau Desktop. You can download Tableau Public here. Note that you cannot save workbooks locally in the Tableau Public desktop application, but you can publish them to Tableau Public on the web to preserve them.

Additional - if your 'My Tableau Repository' is located on a network drive, you may experience slower performance. You can find out where your repository is located by clicking 'File -> Repository Location'. If this is on a network drive, it is recommended to copy this folder to a local drive (e.g. C:\) and re-point Tableau to this repository location (via File -> Repository Location'

Microsoft Office

Microsoft Office

Please make sure you have the latest versions for your required operating systems.

Microsoft Office:

- Word
- Excel desktop app
- Powerpoint

L4 Apprenticeship
Data Analyst

CAMBRIDGE SPARK

This is a guide to installing our recommended set of programs that you will need on your computer during your L4 Data Analyst apprenticeship.

Computer

- A suitable computer with enough RAM (16GB or more)

Large or extra screen

- You will need a large screen during workshops, or if using a laptop a second screen is highly recommended

Hardware Specifications

Hardware Specifications

There are very few hardware specifications that we recommend for apprenticeships

We recommend that you have

- a hard drive capacity of at least 100GB +
- CORES, RAM as below

	IDEAL	ADEQUATE	MINIMUM
CORES	4	2	2
RAM	16 GB	16 GB	8 GB

Tools Specifications

Required Tools

This is the complete checklist of tools you will need to use. Instructions for each tool are provided in the following pages.

1. **Microsoft Teams** (for cohorts starting from September 2021)
2. **EDUKATE.AI**
3. **Aptem**
4. **Archive Files**
5. **Anaconda Python 3.x**
6. **Power BI / Tableau**
7. **Additional Software and Tools**

Anaconda Python 3.x

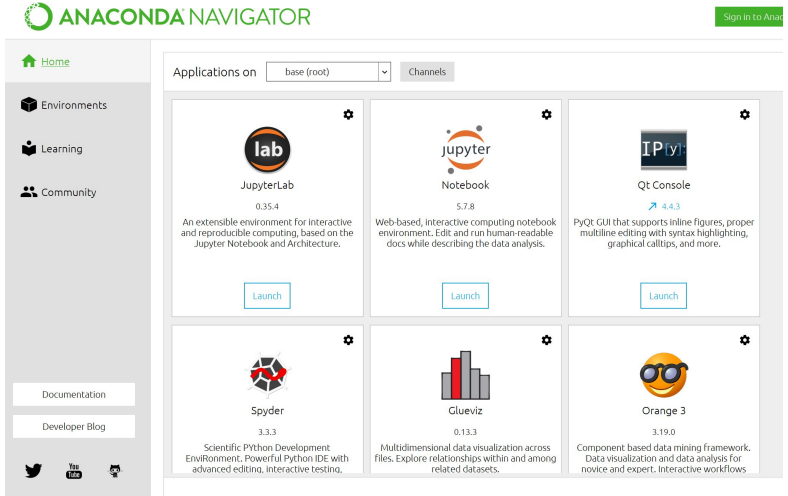
Anaconda

During the duration of your programme, you will need an interactive data science environment/IDE where you can run Python for work-based projects*. For this purpose, we suggest using **Anaconda** platform - please see setup instructions in the following slides.

If you cannot access/download Anaconda, please contact your Apprenticeship or IT team to find out what tools you can access within your organisation.

Anaconda provides the tools needed to easily:

- Collect data from files, databases, and data lakes
- Manage environments with Conda
- Share, collaborate on, and reproduce projects
- Deploy projects into production with the single click of a button

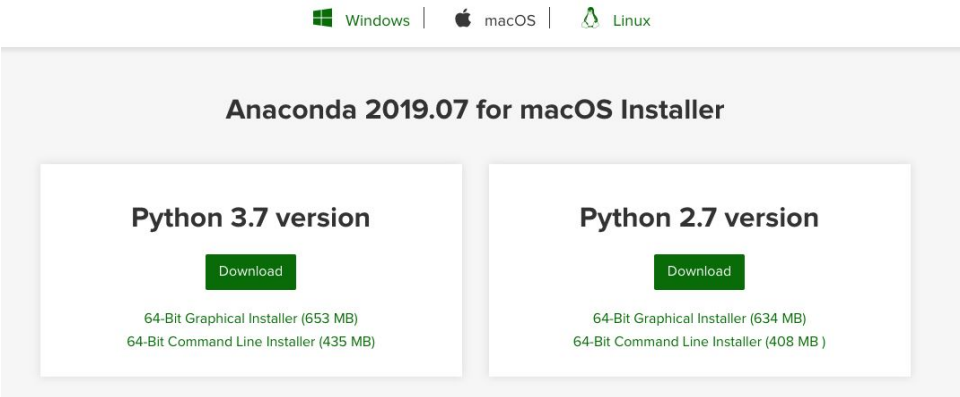


*learning materials and assignments can be accessed via KLOUD on EDUKATE.ai

Anaconda Python 3.x - Installation

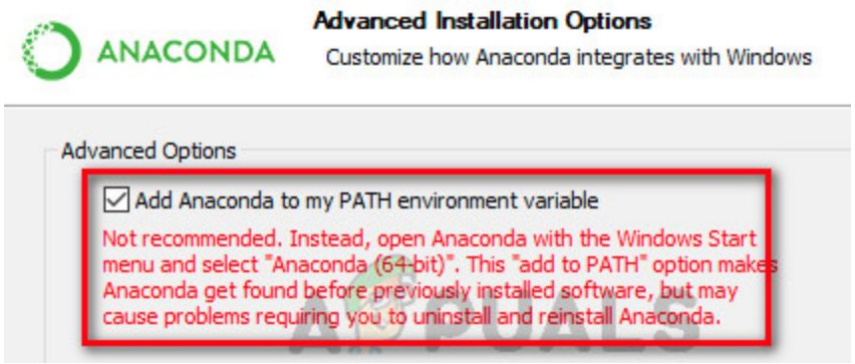
Installation of **Anaconda Distribution** will ensure your computer has access to **Python** and many of the **packages** commonly used for data science, analysis and visualisation.

Download the **Python 3.x version** for your operating system.



Anaconda Python 3.x - Installation

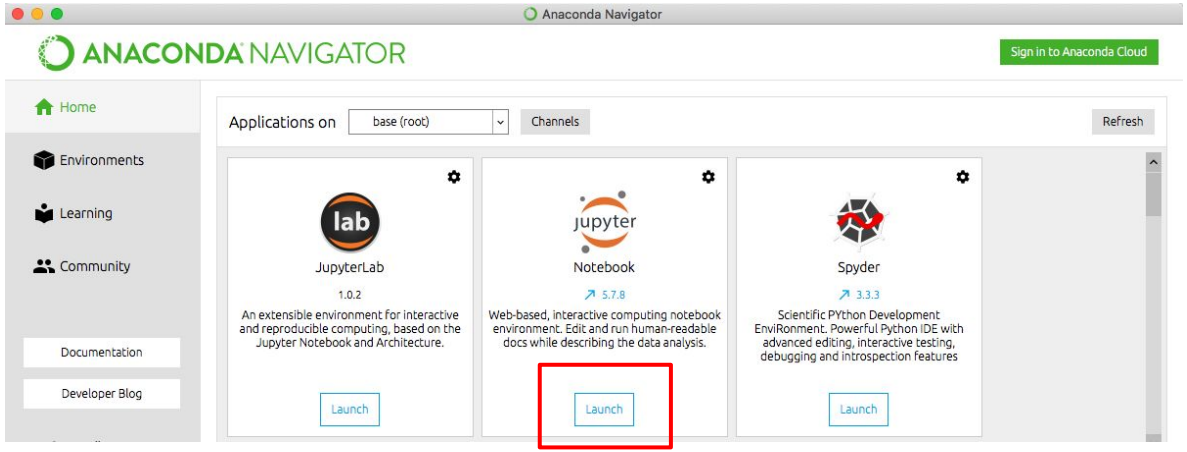
Windows users: During installation, we recommend that the "**Add Anaconda to my PATH environment variable**" checkbox is ticked (ignore the warning).



Anaconda Python 3.x - Installation

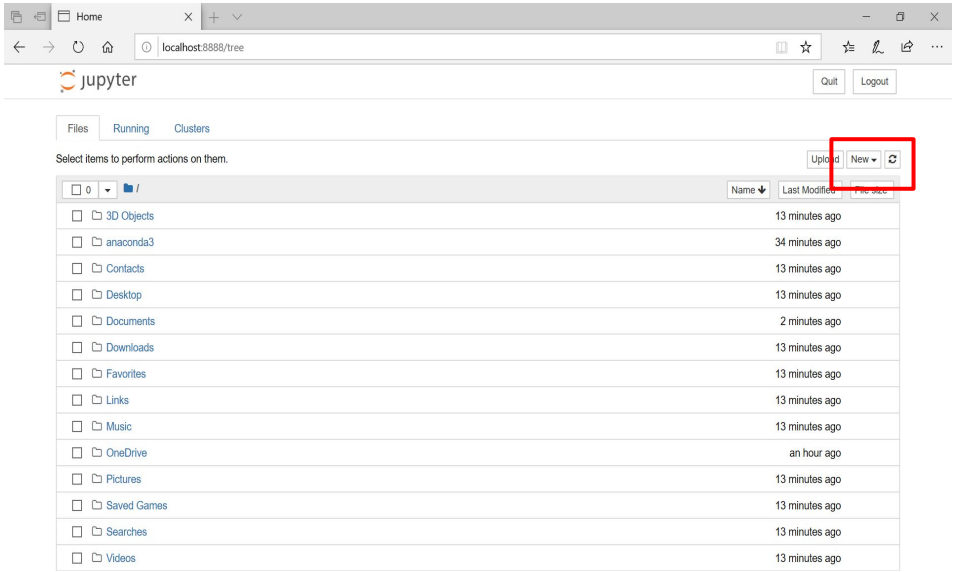
This is dealt with automatically for installations on other operating systems. The defaults are fine for the remaining settings.

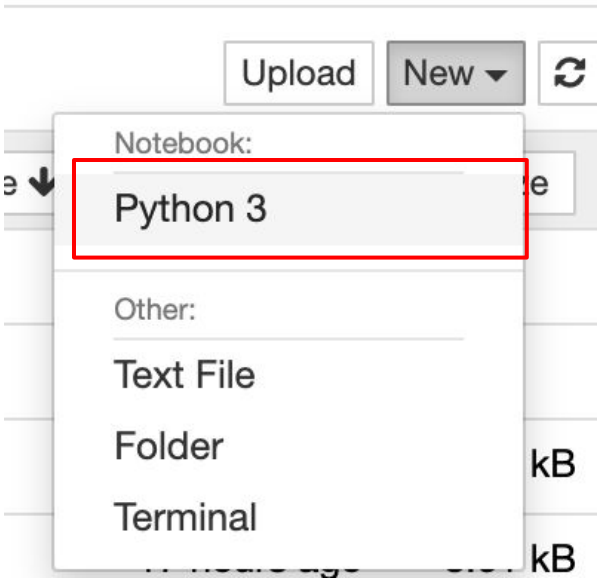
You should then be able to access Anaconda Navigator, from which you will be able to launch **Jupyter Notebook**.
Click on the **Launch** button in Jupyter Notebook. This will start a new tab in your default browser.



Anaconda Python 3.x - Installation

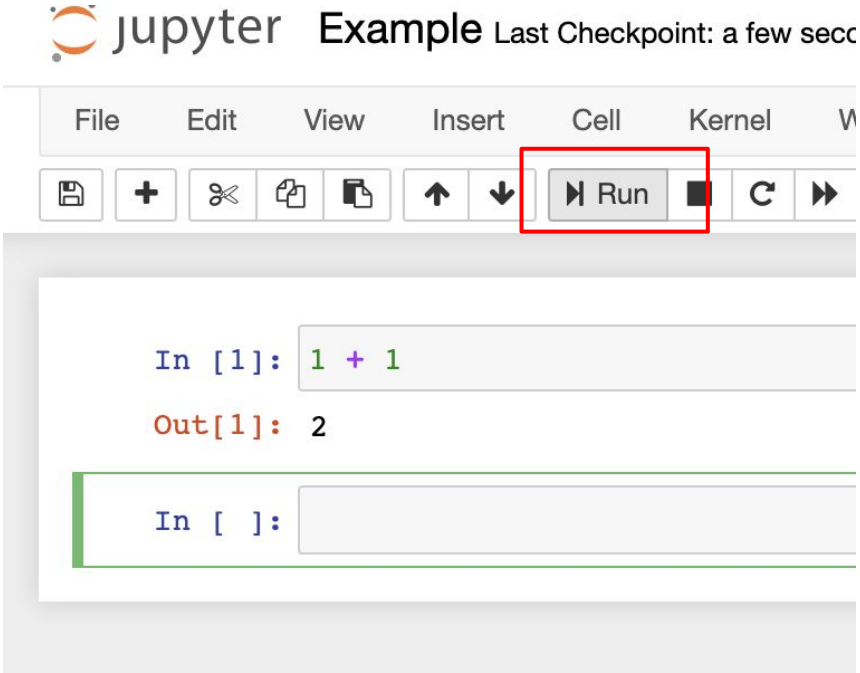
After clicking on the Launch button in Jupyter Notebook. This will start a new tab in your default browser.
You can then navigate to where you stored your notebooks, data, or where you want to create new ones.
Make sure Chrome is your default browser, this tends not to work with Internet Explorer.





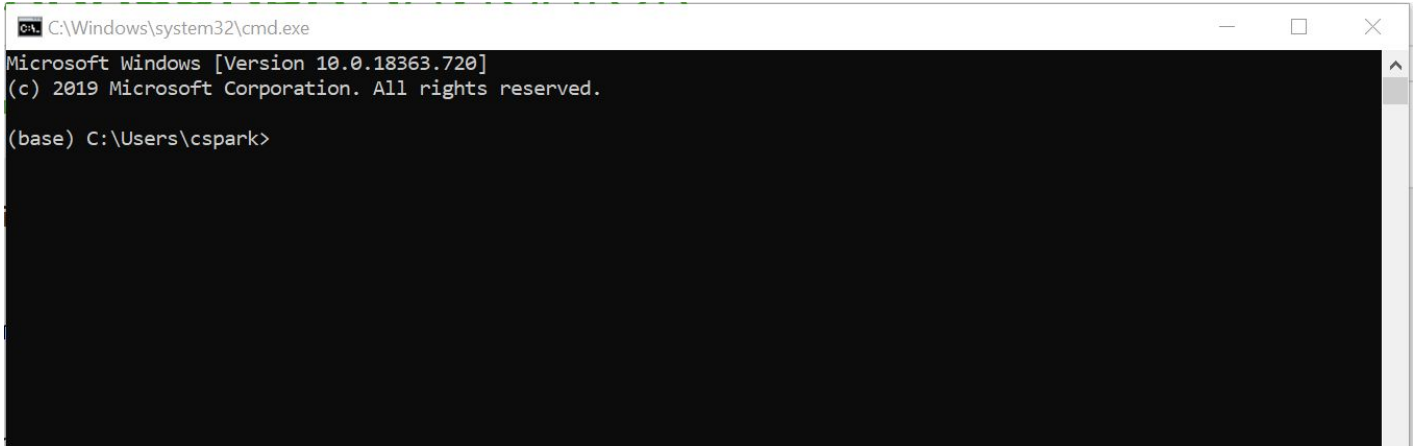
Anaconda Python 3.x - Installation

When you click on the new button, you will be able to create a new notebook. Type `1 + 1` in a cell and execute it by clicking on the run button.



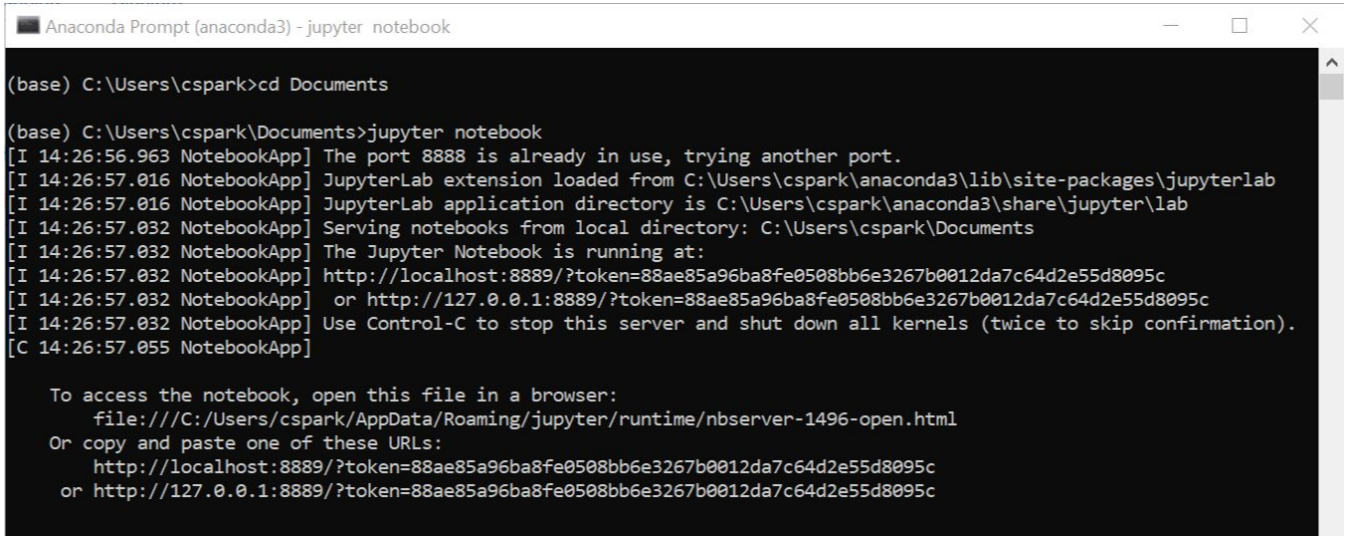
Anaconda Python 3.x - Installation (Advanced Notes)

With Jupyter, you will only be able to see files that are on your main disk - external hardrives or virtual drives such as OneDrive will not show by default. In order to access those, you will need to start Jupyter from the command prompt. To do so, click on Launch for the CMD.exe Prompt (or find "Anaconda Prompt" in your applications):



Anaconda Python 3.x - Installation (Advanced Notes)

Use `cd path/to/your/folder/` to navigate to the folder of your choice. Then run `jupyter notebook` to start Jupyter from this folder. Your notebooks will be connected to this prompt, so make sure to keep it open.

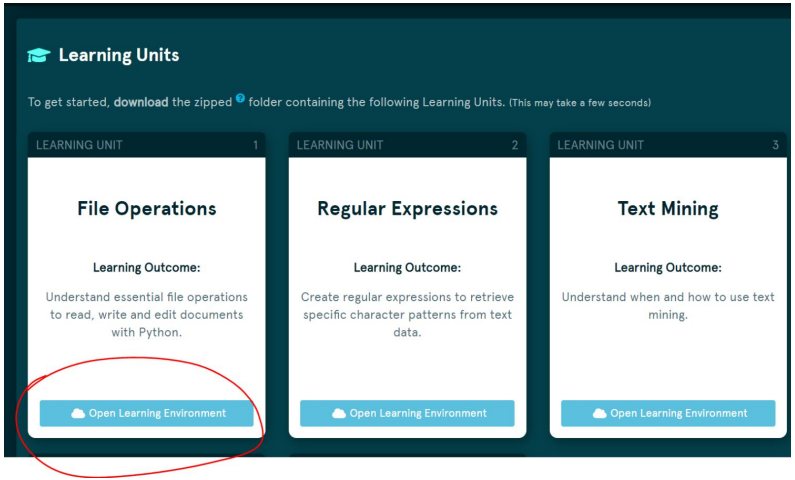


EDUKATE.AI

EDUKATE.AI

We have developed a cloud-based learning environment for our EDUKATE.AI platform called KLOUD.

On EDUKATE. AI, via the Open Learning Environment button, you will be able to access all learning units and assignments. Clicking on the button will spin a new Jupyter environment, hosted on our servers and pre-loaded with all the libraries you will need. This means that you can go through the materials directly in the browser, without local setup needed.



Power BI & Tableau

Power BI & Tableau

NOTE: You do not need both of these tools but should use the one that is accessible to you or your organisation.

Power BI

- You must have a computer with Windows as an operating system as Power BI Desktop is only available through Windows
- download and install Power BI here
- To use the Power BI Pro (Web) service a work or school email address is required to sign up, i.e. outlook or Gmail email address domains will not suffice

Tableau

- download and install Tableau Desktop or Tableau Public (it is recommended to use Tableau 2019.2 or higher)

Tableau Desktop - a licensed version of the product, obtain a 14-day free trial licence by downloading the application from here and registering it via the form that pops up when you first open Tableau Desktop. If you do not have a licence assigned to you and have already used your free trial, follow the instructions for Tableau Public below.
Tableau Public - a free version of Tableau Desktop. You can download Tableau Public here. Note that you cannot save workbooks locally in the Tableau Public desktop application, but you can publish them to Tableau Public on the web to preserve them.

Additional - if your 'My Tableau Repository' is located on a network drive, you may experience slower performance. You can find out where your repository is located by clicking 'File -> Repository Location'. If this is on a network drive, it is recommended to copy this folder to a local drive (e.g. C:\) and re-point Tableau to this repository location (via File -> Repository Location'

Additional Software & Tools

Additional Software and Tools (L4/Foundations)

The following list includes the libraries and tools that are needed for the Level 4 and Foundational Modules - M01-M13. Please go to each of these websites and download the latest versions for your required operating systems.

Please note there may be additional download requirements and this list is subject to change.

Python Libraries:

python=3.8 (Windows download info) (Mac Download info)
bokeh==2.2.2 (Download info)
pandas==1.1.3 (Download info)
pandas-bokeh==0.5 (Download info)
matplotlib==3.3.2 (Download info)
seaborn==0.11.0 (Download info)
panel==0.10.1 (Download info)
Neo4js (Download info)
Java 11 (Download info)
postgresql-12 (Download info)
ipython-sql (Download info)
psycopg2 (Download info)

py2neo (Download info)
holidays=0.10.1 (Download info)
python-graphviz=0.13.2 (Download info)
pandas-datareader=0.8.1 (Download info)
xlrd=1.2.0 (Download info)
plotly=4.9.0 (Download info)
numpy==1.19.1 (Download info)
sympy==1.6.2 (Download info)
scipy==1.5.0 (Download info)
scikit-learn>=0.20.0 (Download info)
ipython==7.15.0 (Download info)
ipywidgets==7.5.1 (Download info)
tqdm==4.50.0 (Download info)

L4 Digital Business Analyst (Digital Business Lead) Apprenticeship

CAMBRIDGE SPARK

This is a guide to installing our recommended set of programs that you will need on your computer during:

1. **Digital Business Lead**
2. **Digital Development**
3. **Digital Business Analyst**

<u>Computer</u>

- A suitable computer with enough RAM and space Memory (GB) to run Microsoft Office Suite

<u>Large or extra screen</u>

- You will need a large screen during workshops, or if using a laptop a second screen is highly recommended

Hardware Specifications

Hardware Specifications

Your computer will need to be able to run Microsoft Office suite. Microsoft Excel's minimum system requirements are as follows:

Computer and processor
Windows OS: 1.6 GHz or faster, 2-core
macOS: Intel processor

Memory
Windows OS: 4 GB RAM; 2 GB RAM (32-bit)
macOS: 4 GB RAM

Hard disk
Windows OS: 4 GB of available disk space
macOS: 10 GB of available disk space; HFS+ hard disk format (also known as Mac OS Extended) or APFS
Updates may require additional storage over time.

Tools Specifications

Required Tools

This is the complete checklist of tools you will need to use. Instructions for each tool are provided in the following pages.

1. **Microsoft Teams** (for cohorts starting from September 2021)
2. **EDUKATE.AI**
3. **Aptem**
4. **Archive Files**
5. **Microsoft Office**
6. **Process mapping tools e.g. Microsoft Visio**
7. **Miro**
8. **Access to video sharing platforms e.g. YouTube and TedTalks**

Microsoft Office

Microsoft Office

Please make sure you have the latest versions for your required operating systems.

Microsoft Office:

- Word
- Excel
- Powerpoint

Process Mapping Tools

Process Mapping Tools

Some modules will require you to use process mapping tools to develop visual representations of current and future business processes. The modules don’t favour a particular tool and you can use the one used by your organisation however if you don't currently use one any of the following will be sufficient:

- Microsoft Visio
- Signavio
- Lucidchart (free version)
- Draw.io (free version)

Miro

Miro

Some modules will require you to access a miro board during the live workshop to complete interactive activities.

A miro board is an interactive digital whiteboard that will allow you to draw, upload files and add notes to a shared space as you complete activities as a class or in breakout sessions. If you don’t already have a miro profile you can set one up for free

https://help.miro.com/hc/en-us

L7 Apprenticeships
AI (all pathways)

CAMBRIDGE SPARK

This is a guide to installing our recommended set of programs that you will need on your computer during your L7 AI & Data Specialist apprenticeship.

Computer

- A suitable computer with enough RAM (16GB or more)

Large or extra screen

- You will need a large screen during workshops, or if using a laptop a second screen is highly recommended

Hardware Specifications

Hardware Specifications

There are very few hardware specifications that we recommend for apprenticeships

We recommend that you have

- a hard drive capacity of at least 100GB +
- CORES, RAM as below

	IDEAL	ADEQUATE	MINIMUM
CORES	4	2	2
RAM	16 GB	16 GB	8 GB

Tools Specifications

Required Tools

This is the complete checklist of tools you will need to use. Instructions for each tool are provided in the following pages.

1. **Microsoft Teams** (for cohorts starting from September 2021)
2. **EDUKATE.AI**
3. **Aptem**
4. **Archive Files**
5. **Anaconda Python 3.x**
6. **Microsoft VS Code & Git**
7. **Additional Software and Tools**

Anaconda Python 3.x

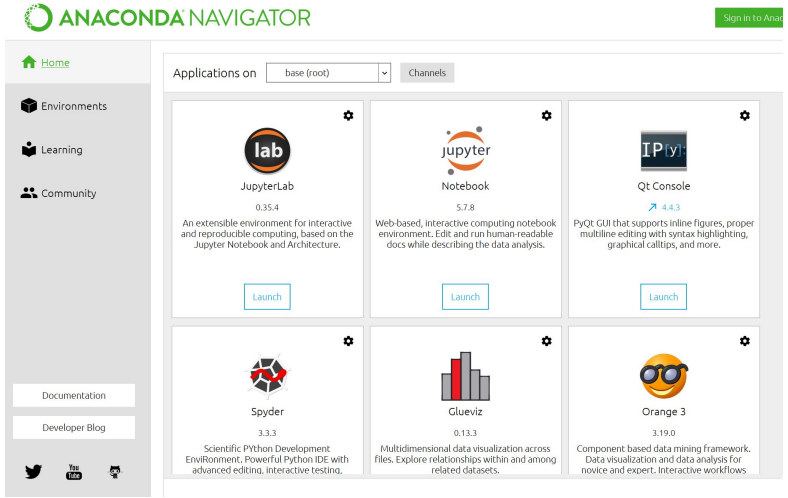
Anaconda

During the duration of your programme, you will need an interactive data science environment/IDE where you can run Python for work-based projects*. For this purpose, we suggest using **Anaconda** platform - please see setup instructions in the following slides.

If you cannot access/download Anaconda, please contact your Apprenticeship or IT team to find out what tools you can access within your organisation.

Anaconda provides the tools needed to easily:

- Collect data from files, databases, and data lakes
- Manage environments with Conda
- Share, collaborate on, and reproduce projects
- Deploy projects into production with the single click of a button

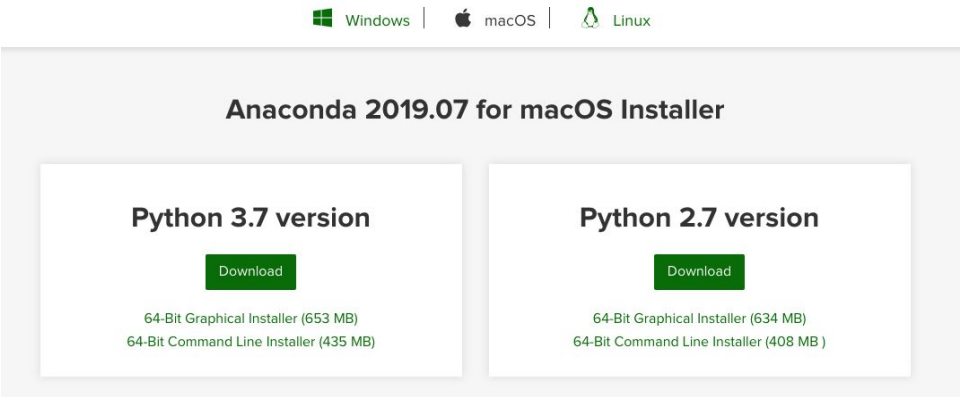


*learning materials and assignments can be accessed via KLOUD on EDUKATE.ai

Anaconda Python 3.x - Installation

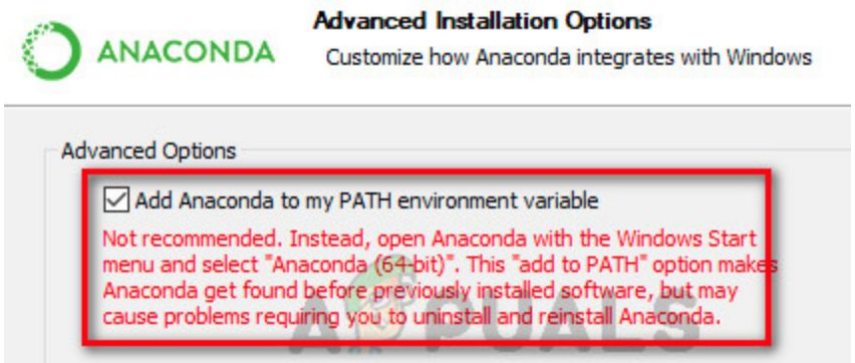
Installation of **Anaconda Distribution** will ensure your computer has access to **Python** and many of the **packages** commonly used for data science, analysis and visualisation.

Download the **Python 3.x version** for your operating system.



Anaconda Python 3.x - Installation

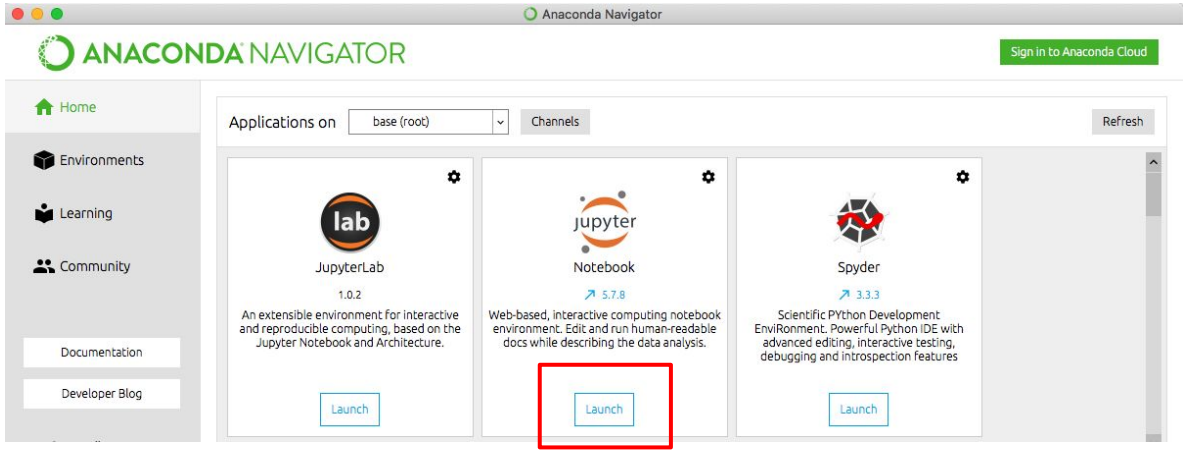
Windows users: During installation, we recommend that the "**Add Anaconda to my PATH environment variable**" checkbox is ticked (ignore the warning).



Anaconda Python 3.x - Installation

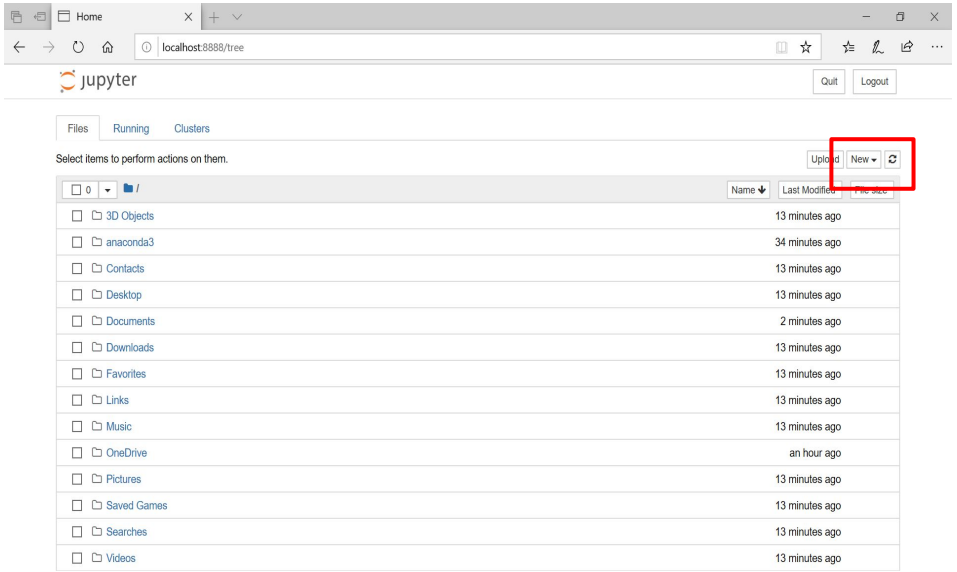
This is dealt with automatically for installations on other operating systems. The defaults are fine for the remaining settings.

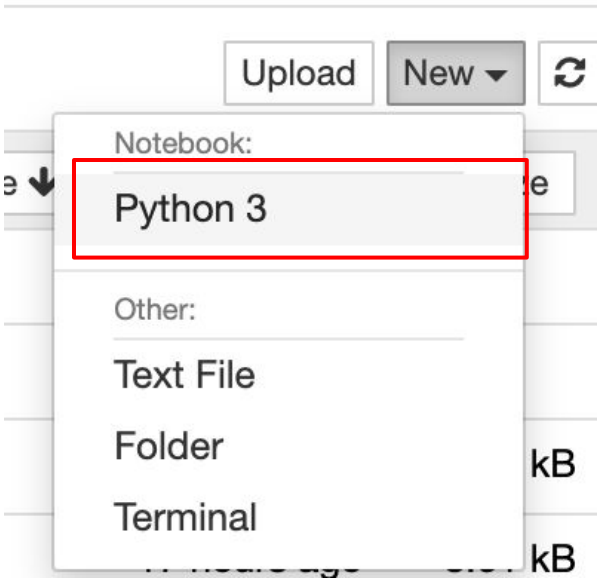
You should then be able to access Anaconda Navigator, from which you will be able to launch **Jupyter Notebook**.
Click on the **Launch** button in Jupyter Notebook. This will start a new tab in your default browser.



Anaconda Python 3.x - Installation

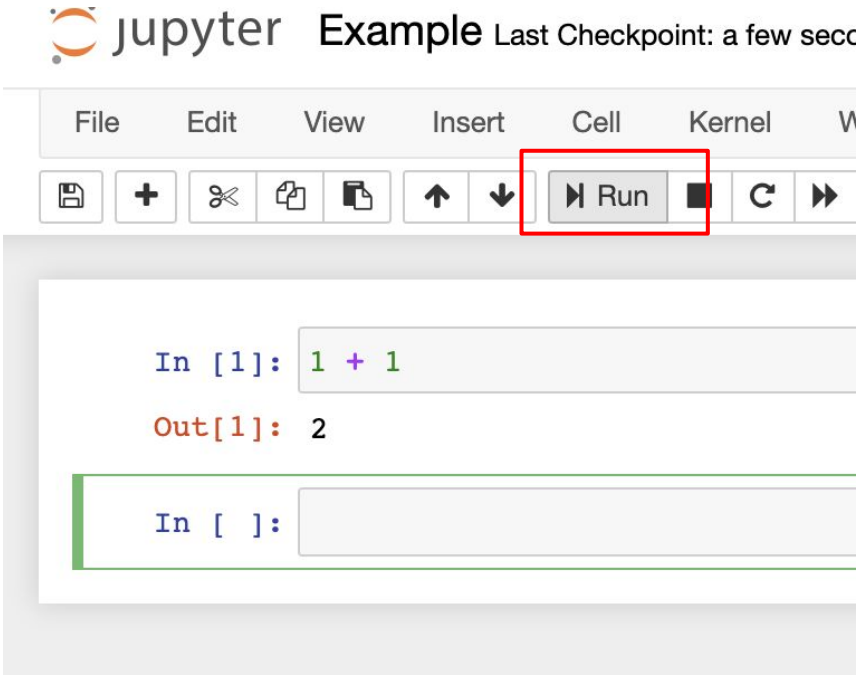
After clicking on the Launch button in Jupyter Notebook. This will start a new tab in your default browser.
You can then navigate to where you stored your notebooks, data, or where you want to create new ones.
Make sure Chrome is your default browser, this tends not to work with Internet Explorer.





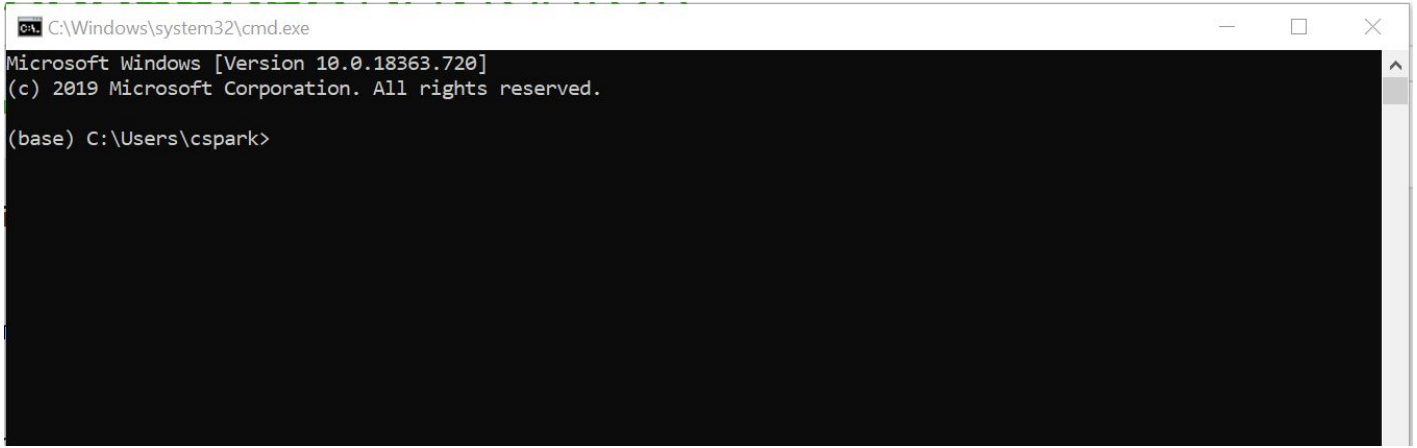
Anaconda Python 3.x - Installation

When you click on the new button, you will be able to create a new notebook. Type `1 + 1` in a cell and execute it by clicking on the run button.



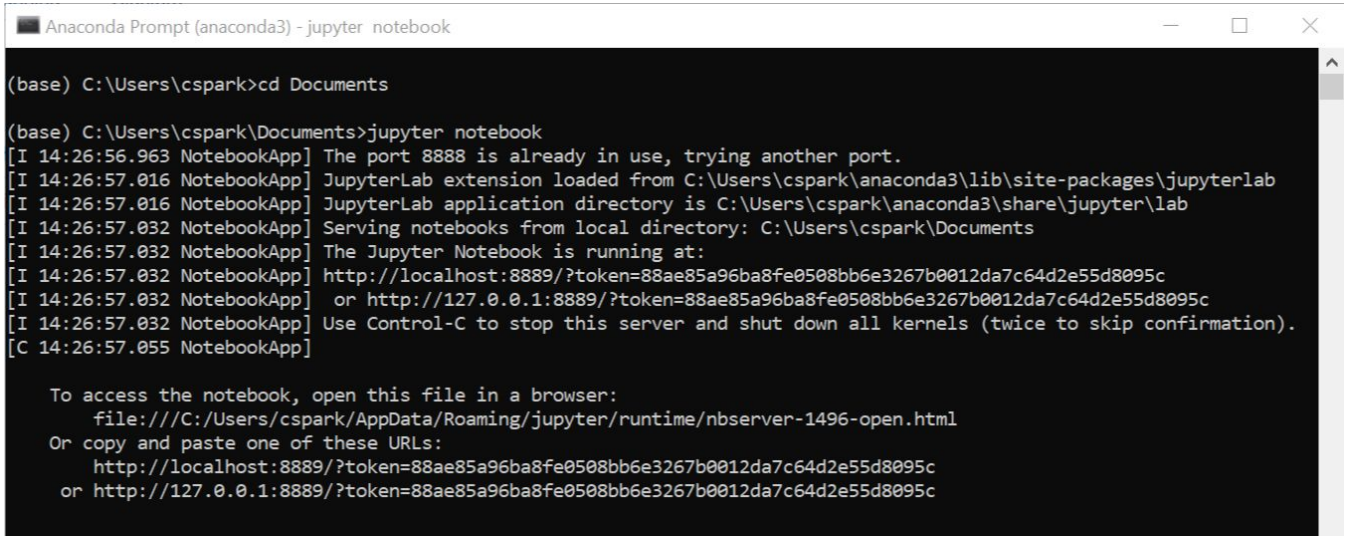
Anaconda Python 3.x - Installation (Advanced Notes)

With Jupyter, you will only be able to see files that are on your main disk - external hard drives or virtual drives such as OneDrive will not show by default. In order to access those, you will need to start Jupyter from the command prompt. To do so, click on Launch for the CMD.exe Prompt (or find "Anaconda Prompt" in your applications):



Anaconda Python 3.x - Installation (Advanced Notes)

Use `cd path/to/your/folder/` to navigate to the folder of your choice. Then run `jupyter notebook` to start Jupyter from this folder. Your notebooks will be connected to this prompt, so make sure to keep it open.

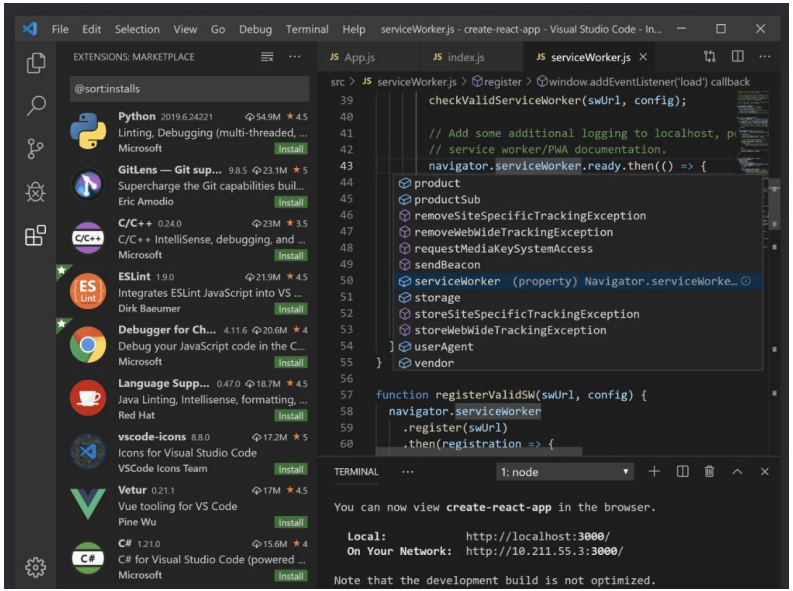


Microsoft VS Code

Microsoft VS Code

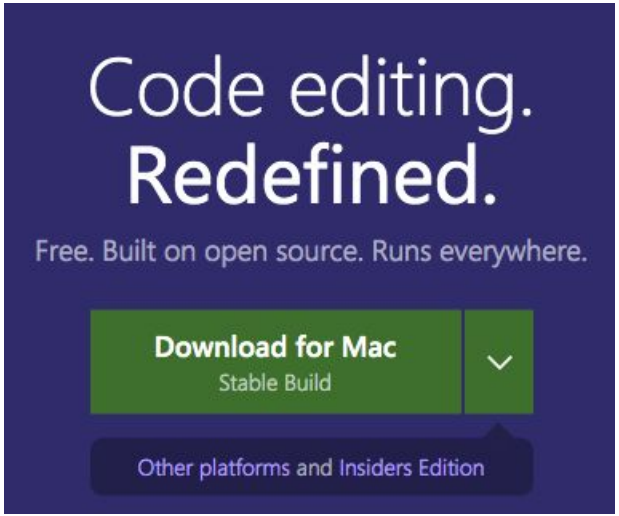
Visual Studio Code

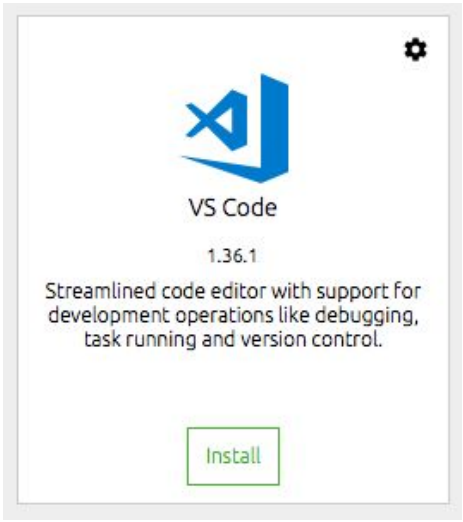
Visual Studio Code is a source-code editor developed by Microsoft for Windows, Linux and macOS. It includes support for debugging, embedded Git control and GitHub, syntax highlighting, intelligent code completion, snippets, and code refactoring.



Microsoft VS Code

Microsoft VS Code is a free, cross-platform code editor. It's available here (choose the **Stable** version for your operating system), or in **Anaconda Navigator**.



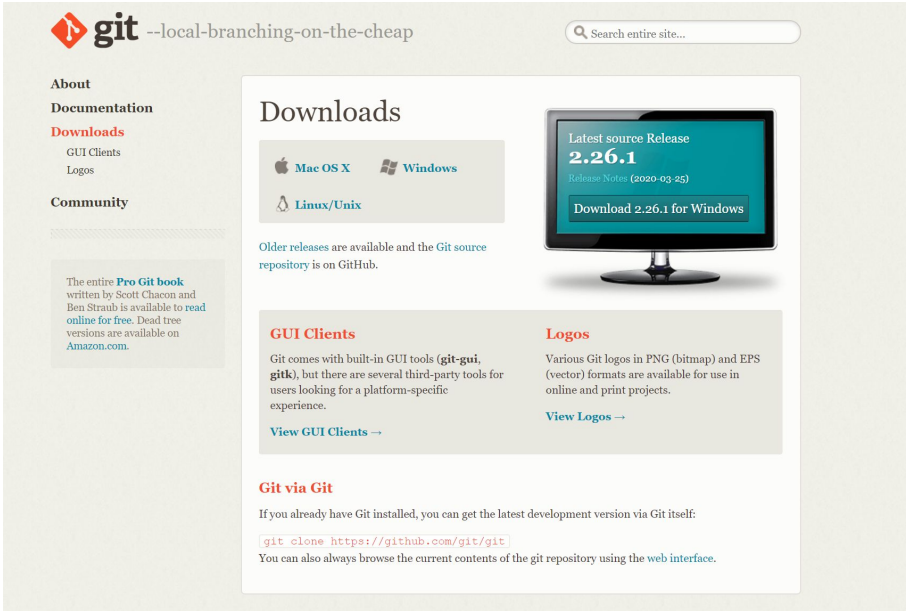


Git

Git

Git is a **version control system** used by many systems for **software development and collaboration**.

Download Git for your operating system, then follow the installation instructions.

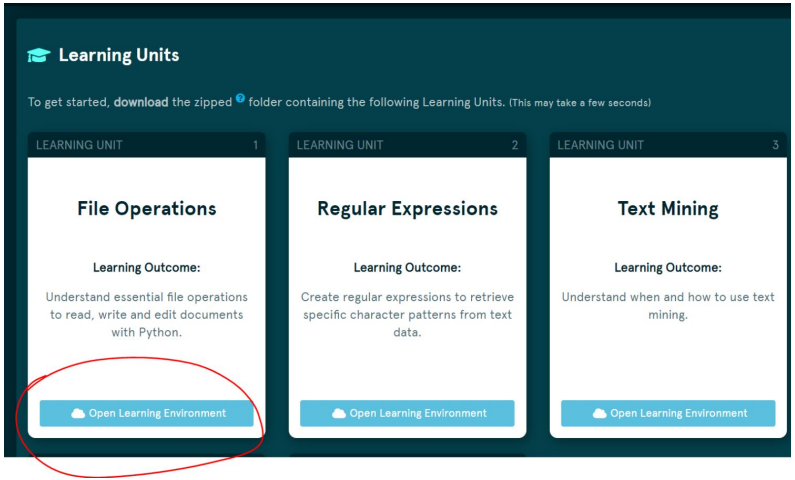


EDUKATE.AI

EDUKATE.AI

We have developed a cloud-based learning environment for our EDUKATE.AI platform called KLOUD.

On EDUKATE. AI, via the Open Learning Environment button, you will be able to access all learning units and assignments. Clicking on the button will spin a new Jupyter environment, hosted on our servers and pre-loaded with all the libraries you will need. This means that you can go through the materials directly in the browser, without local setup needed.



Additional Software & Tools

Additional Software and Tools (L7/Advanced)

The following list includes all the libraries and tools that are needed for the Level 7 Modules (some of which you may already have installed). Please ensure you have downloaded the latest versions of each for your required operating systems.

Please note there may be additional download requirements and this list is subject to change.

python=3.8 (Windows download info) (Mac Download info)
bokeh==2.2.2 (Download info)
pandas==1.1.3 (Download info)
pandas-bokeh==0.5 (Download info)
matplotlib==3.3.2 (Download info)
seaborn==0.11.0 (Download info)
panel==0.10.1 (Download info)
git version 2.21.0 (Mac Download)
git version 2.28.0.msysgit.0 (Windows)
Neo4js (Download info)
Java 11 (Download info)
postgresql-12 (Download info)
ipython-sql (Download info)
psycopg2 (Download info)
Sqlalchemy (Download info)
py2neo (Download info)

numpy==1.19.1 (Download info)
sympy==1.6.2 (Download info)
scipy==1.5.0 (Download info)
scikit-learn>=0.20.0 (Download info)
ipython==7.15.0 (Download info)
ipywidgets==7.5.1 (Download info)
tqdm==4.50.0 (Download info)
holidays=0.10.1 (Download info)
fbprophet=0.6 (Download info)
python-graphviz=0.13.2 (Download info)
pandas-datareader=0.8.1 (Download info)
xlrd=1.2.0 (Download info)
plotly=4.9.0 (Download info)
hypothesis (Download info)
spacy (Download info)
mock (Download info)

Solutions for Data Science

Development | Assessment | Attraction

cambridgespark.com