Detailed Step by Step Installation guide for Floraguard

This document was created as part of the project Harnessing Technology to End the Illegal Trade in Succulent Plants, conducted by Royal Botanic Gardens, Kew and the University of Southampton between 2022 and 2025, funded by the UK Government through the Illegal Wildlife Trade Challenge Fund.

Contents

1 Pre-Installation

This is an optional step. This step is used to make sure all files are within same directory and is organised.

Create a folder <<your-choice-of-name>> under a preferred directory. Make sure the directory is **easy to access and remember.**

RECOMMENDED DIRECTORY: Desktop or Windows C

Create a sub-folder under main folder named downloads.

We will be downloading the following prerequisite's installers here before proceeding to downloading. Once the prerequisites are installed, we will set up the anaconda environment for the crawler.

- **Git**
  `https://github.com/git-guides/install-git`
- **Java SE Development Kit 18**
  `https://www.oracle.com/java/technologies/javase/jdk18-archive-downloads.html`
- **Apache Ant 1.10.14**
  `https://ant.apache.org/bindownload.cgi`
- **Anaconda**
  `https://www.anaconda.com/download`
- **Python - Latest stable version**
  `https://www.python.org/downloads/`

Detailed installations guide for each prerequisite are explained below (with inclusions of pictures where needed). Where possible, windows powershell shortcuts are provided.

2 Git

General download URL: `https://github.com/git-guides/install-git`
Windows URL: `https://gitforwindows.org/`

2.1 Intro

Git is a version control system used for tracking changes in computer files and for source code management during software development.

2.2 Installation Steps

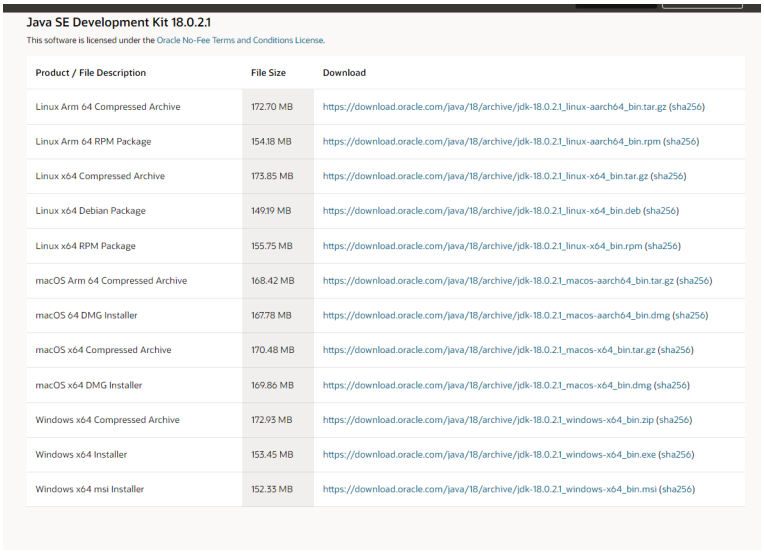
1. Go to **Windows URL**
2. Click on Download (save it in created downloads sub-folder)
3. Once downloaded, open the downloaded file and follow instructions until git is installed.
4. To verify, open powershell and type “git version” or “git –version”.
5. If you get the installed Git version as output you have successfully installed Git

3 Java SE Development Kit 18

URL: `https://www.oracle.com/java/technologies/javase/jdk18-archive-downloads.html`

3.1 Installation Steps

1. Go to **URL**



Java SE Development Kit 18.0.2.1

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Product / File Description	File Size	Download
Linux Arm 64 Compressed Archive	172.70 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_linux-aarch64_bin.tar.gz (sha256)
Linux Arm 64 RPM Package	154.18 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_linux-aarch64_bin.rpm (sha256)
Linux x64 Compressed Archive	173.85 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_linux-x64_bin.tar.gz (sha256)
Linux x64 Debian Package	149.19 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_linux-x64_bin.deb (sha256)
Linux x64 RPM Package	155.75 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_linux-x64_bin.rpm (sha256)
macOS Arm 64 Compressed Archive	168.42 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_macos-aarch64_bin.tar.gz (sha256)
macOS 64 DMG Installer	167.78 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_macos-aarch64_bin.dmg (sha256)
macOS x64 Compressed Archive	170.48 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_macos-x64_bin.tar.gz (sha256)
macOS x64 DMG Installer	169.86 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_macos-x64_bin.dmg (sha256)
Windows x64 Compressed Archive	172.93 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_windows-x64_bin.zip (sha256)
Windows x64 Installer	153.45 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_windows-x64_bin.exe (sha256)
Windows x64 msi Installer	152.33 MB	https://download.oracle.com/java/18/archive/jdk-18.0.2.1_windows-x64_bin.msi (sha256)

2. Click on the link for "Windows x64 msi Installer" (save it in created downloads sub-folder)
3. Once downloaded open the downloaded the file and you will get the following pop up

4. Follow instructions and click "Yes" when a pop up appears
5. Java SE 18 should now be installed on your system

4 Apache Ant 1.10.14

URL: `https://ant.apache.org/bindownload.cgi`

4.1 Intro

Apache Ant is a Java library and command-line tool whose mission is to drive processes described in build files as targets and extension points dependent upon each other. The main known usage of Ant is the build of Java applications. Ant supplies a number of built-in tasks allowing to compile, assemble, test and run Java applications. Ant can also be used effectively to build non Java applications, for instance C or C++ applications. More generally, Ant can be used to pilot any type of process which can be described in terms of targets and tasks.
(**Source:** `https://ant.apache.org/bindownload.cgi`

4.2 Installation Steps

1. Go to URL and download .zip file under 1.10.14 (version of choice) release and save it under downloads
2. Find the downloaded file and extract the .zip file to get "apache-ant-1.10.14-bin" folder (where the version number changes depending on version installed)
3. Under the extracted folder you would find the "apache-ant-1.10.14" folder.
4. Move this folder to `"C:\Program Files"` directory and copy path to folder
   Example: `"C:\Program Files\apache-ant-1.10.14"`

4.3 Set environment variable

The next step is to let the computer know where **Apache Ant** is located on the system. You can either use the following windows powershell command or follow the steps listed below for manual setting.

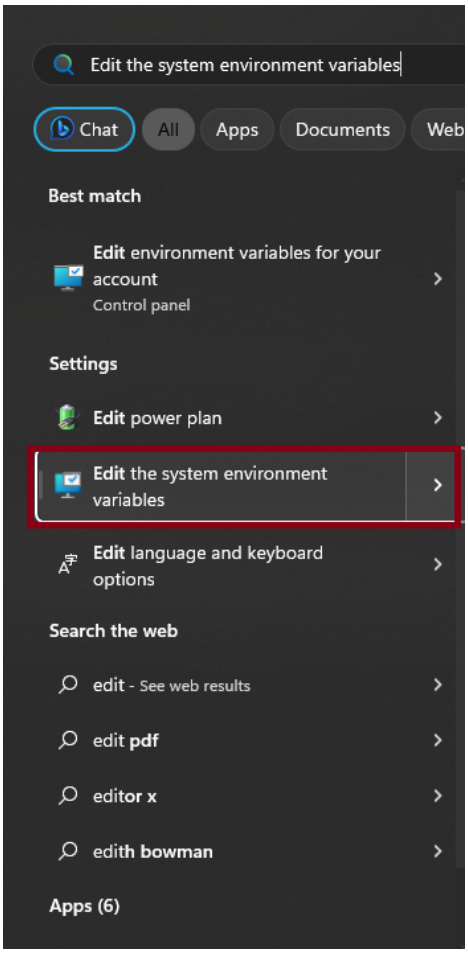
Powershell Command:

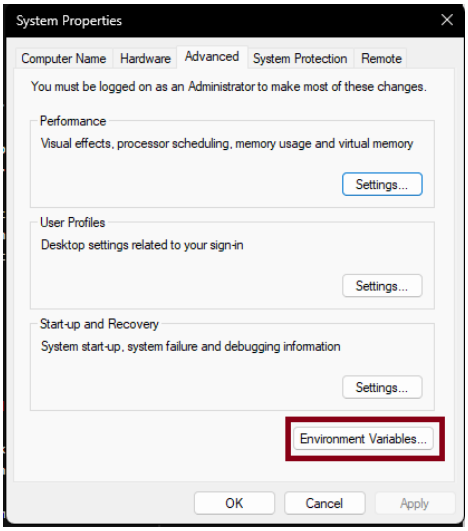
```
[Environment]::SetEnvironmentVariable('PATH',
'<<PATH_TO_APACHE_ANT_LOCATION>>\bin', 'User')
```

where `<<PATH_TO_APACHE_ANT_LOCATION>>` is the previously copied path of Apache Ant location.

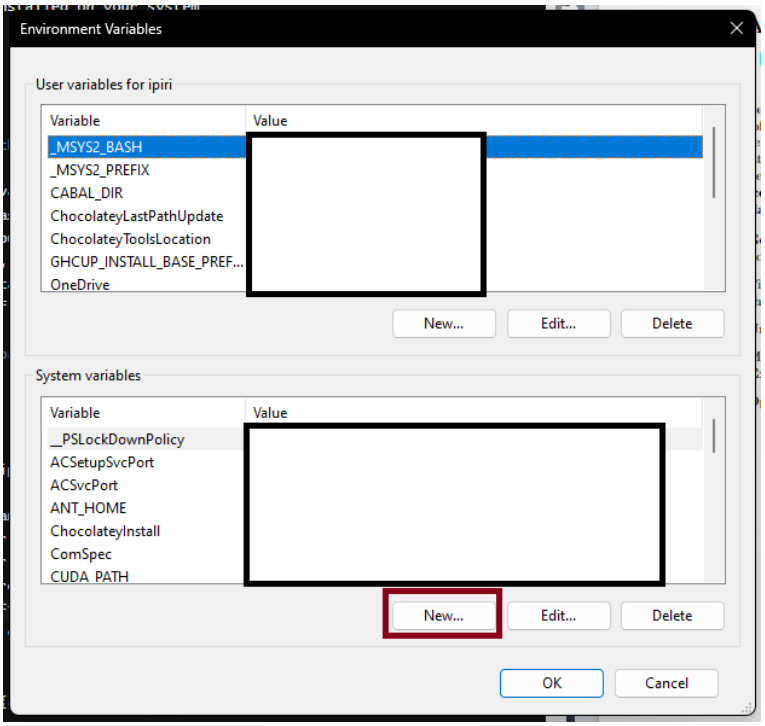
4.3.1 Steps

1. Open environment variable editor from start and click on “Environment Variables”

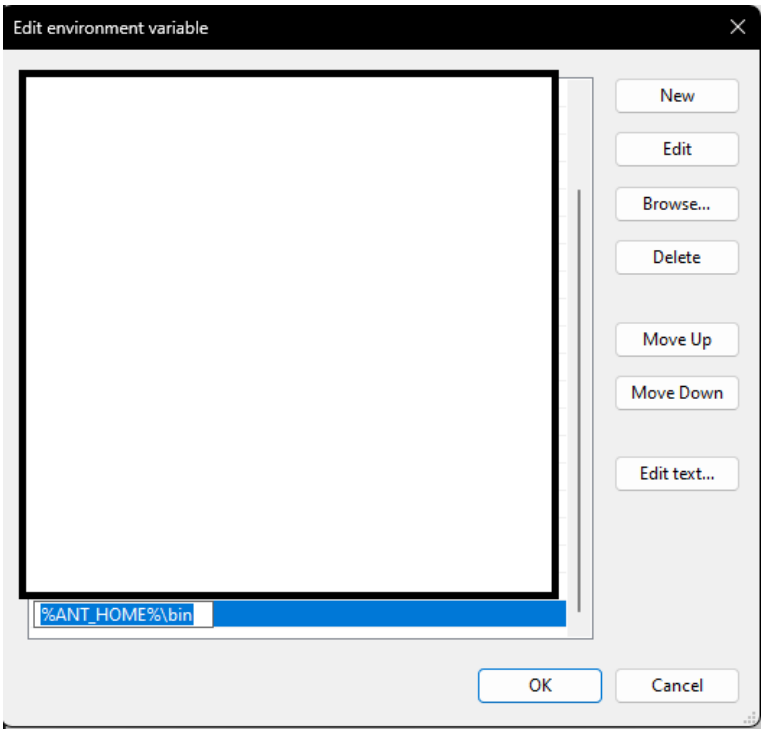




2. You should get the following screen and as shown below, click “New” button under system variables



3. Given the pop up, set variable name to `ANT_HOME` and set variable value to previously copied path of "apache-ant-1.10.14" folder. Click OK.
4. Now scroll down under system variables until you find a variable named "Path" and open it.



5. As shown in the above image, click new and type in the following `"%ANT_HOME%\bin"`
6. Click OK and exit environment variable editor
7. To verify Apache ant installation, open powershell and enter the following "ant –version". Upon successful installation should output the version number installed.

5 Anaconda

URL: `https://www.anaconda.com/download`

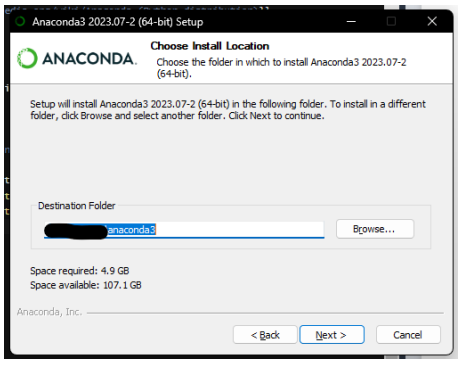
5.1 Intro

Anaconda is a distribution of the Python and R programming languages for scientific computing (data science, machine learning applications, large-scale data processing, predictive analytics, etc.), that aims to **simplify package management and deployment**. The distribution includes data-science packages suitable for Windows, Linux, and macOS.
(**Source: Wikipedia** `https://en.wikipedia.org/wiki/Anaconda_(Python_distribution)`

5.2 Installation Steps

1. Go to **URL** and click download it (save it in created downloads sub-folder)
2. Open the installed file

3. Now click **Next** and then read through agreement and click **I Agree**
4. Choose the option needed (Just me or All users) and click **Next**
5. Use the recommended folder (**MAKE NOTE OF THE PATH**) and click **Next**



6. Click on **Install**
7. Once Installed, click on **Next** until you get to **Finish**.
8. Upon which click Finish
   (OPTIONAL) Choose if tutorial is needed upon opening Anaconda

IMPORTANT:
NEVER install any packages under this environment as this may lead to version issues hence leading to a reinstall of Anaconda.

5.3 Set Environment Variable

Anaconda provides its own anaconda command prompt and powershell. In order for the original windows command prompt and powershell to get access to conda, we need to let the system know where Anaconda is installed.

You can set this up either using the following powershell command or the steps listed for manual setting.

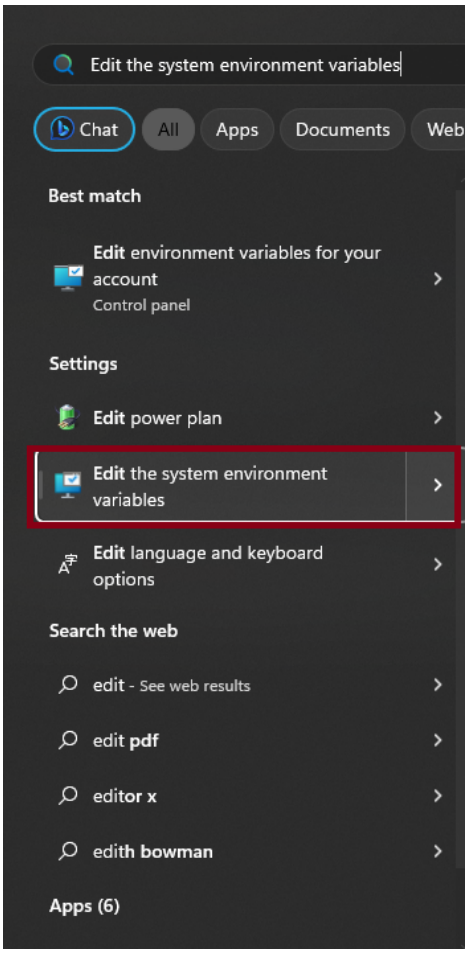
Powershell Command:

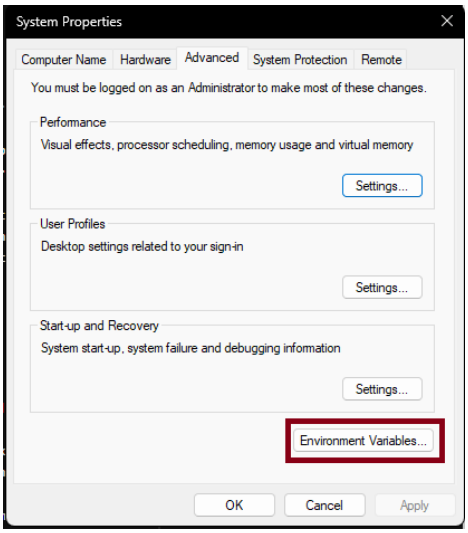
```
[Environment]::SetEnvironmentVariable('PATH',
'<<PATH_TO_ANACONDA_LOCATION>>\bin', 'User')
```

where `<<PATH_TO_ANACONDA_LOCATION>>` is the previously copied path of Anaconda install location from the installer.

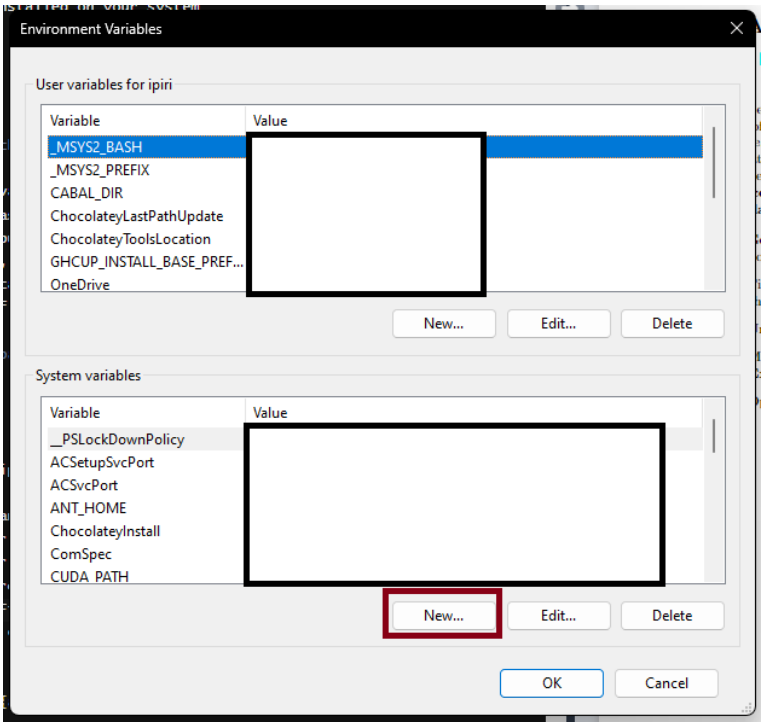
5.3.1 Steps

1. Open environment variable editor from start and click on "Environment Variables"





2. You should get the following screen and as shown below



3. Now scroll down under system variables until you find a variable named "Path" and open it.

4. Like in Apache Ant environment variable setup, click new and type in the following `<<PATH_TO_ANACONDA_LOCATION>>\bin` where `<<PATH_TO_ANACONDA_LOCATION>>` is the previously copied path from the Anaconda installer.

5. Click OK and exit environment variable editor

6. To verify Anaconda installation, open powershell and enter the following "conda –version". Upon successful installation should output the version number installed.

6 Python

All downloads URL: `https://www.python.org/downloads/`

6.1 Recommended Version

Although we install python in the Anaconda environment which directly affects our crawler, it is imperative that we have a local python interpreter such that the python code can be run.

Although the version of the local python does not matter, it is recommend to install the latest stable version of python to reduce any compatibility issues.

If in doubt, we recommend Version **3.11**

6.2 Installation Steps

1. Go to **All downloads URL**
2. Under **"Looking for a specific Version"**, download the installer for your choice of version
3. Once downloaded, open the downloaded file and follow instructions until python is installed.
4. To verify, open powershell and type "python -version".
5. If you get the version of Python download as output you have successfully installed Python