# Creating Extensions

## Tools you will need

> **⚠ Warning**
>
> This guide assumes you to be a **Windows** user.

- ☑ App Inventor Sources
- ☑ Java JDK
- ☑ Apache Ant
- ☑ Git (or GitHub Desktop)
- ☑ Java IDE/Text Editor (VS Code, IntelliJ IDEA, Notepad++, Atom are recommended)

## Step 1: Setting up Java JDK

- Install JDK

> **⚠ Warning**
>
> *Be sure not to install it in a directory whose path contains spaces*

- Set the Environmental Variables:
  - Set `JAVA_HOME` to where you installed Java JDK.

For example: `C:\Program Files\Java\jdk1.8.0_131`

- Edit `PATH` and add those:

`%JAVA_HOME%/bin`, `%JAVA_HOME%/jre/bin`, `C:\ProgramData\Oracle\Java\javapath`

- **Check Java installation:**

```
$ java -version
java version "1.8.0_131"
Java(TM) SE Runtime Environment (build 1.8.0_131-b11)
Java HotSpot(TM) 64-Bit Server VM (build 25.131-b11, mixed
mode)
```

## Step 2: Setting up Apache Ant

- Unzip the folder and move it to a place where it is safe. For example: `C:\apache-ant-1.10.1`

> ⚠ **Warning**
>
> *Be sure not to install it in a directory whose path contains spaces*

- Set the Environmental Variables:
  - **Set** `ANT_HOME` to where you have the Ant folder placed. For example: `C:\Ant\apache-ant-1.10.1`
  - **Edit** `Path` and add `%ANT_HOME%\bin`
  - **Edit** `ClassPath` and add `%ANT_HOME%\bin`
- **Check Ant installation**:

```
$ ant -version
Apache Ant(TM) version 1.10.1 compiled on February 2 2017
```

## Step 3: Setting up Git

- Set it up as written in this tutorial

- **Check Git installation**:

```
$ git version
git version 2.11.0.windows.3
```

## Step 4: App Inventor Sources

- Unzip the folder and move it to a place where it is safe

> ⚠ **Warning**
>
> *Be sure not to place it in a directory whose path contains spaces*

## Step 5: Building an Extension

- Save the above code to `appinventor-sources/appinventor/components/src/io/kodular/` as `SimpleMaths.java`
- Go back to the `appinventor` folder.
- Open Command Prompt on that directory.
- Type `ant extensions` and click on enter.

*Wait for the extension to build...*

> ✓ **Success**
>
> If it says: `BUILD SUCCESSFUL`, then you just created an extension. :-)

> ⚡ **Danger**
>
> But if it says: `BUILD FAILED`, then you did something wrong and have to look over again. :-(

## Step 6: Sharing Extensions

Your extension file (.aix file) should appear in the directory:

`appinventor-sources/appinventor/components/build/extensions`

Now, you can easily share the aix files with anyone and can import it into Kodular seemlessly.

- For more information about extensions, read here

- Keep making more and more and more extensions and help our community to build the best app.

- Share your extensions with our community and become an "Extension Developer".

If you want more help, feel free to ask us on Kodular Community.

Last update: January 24, 2020