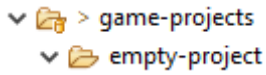
000 - Create a new game project

This tutorial describes the ***level 0*** of game creation with the ***wide-dot Thomson TO8 game engine***.
The generated binary will boot to a main program that will run an awesome infinite loop.

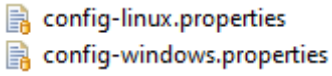
File structure

Enter the game-projects directory and create a directory named : **empty-project**



Main configuration file

Create two properties files in the **empty-project** directory:



Edit the files and set the following values :

config-windows.properties

```
# ******************************************************************************
# BuildDisk - Configuration file
# ------------------------------------------------------------------------------
#
# ******************************************************************************

# Engine ASM source code
# ******************************************************************************

# Engine loader
engine.asm.boot.fd=../../Engine/Boot/BootFd.asm
engine.asm.RAMLoaderManager.fd=../../Engine/Ram/RAMLoaderManagerFd.asm
engine.asm.RAMLoader.fd=../../Engine/Ram/RAMLoaderFd.asm

engine.asm.boot.t2=../../Engine/Boot/BootT2.asm
engine.asm.RAMLoaderManager.t2=../../Engine/Ram/RAMLoaderManagerT2.asm
engine.asm.RAMLoader.t2=../../Engine/Ram/RAMLoaderT2.asm

# T2 Loader for SDDRIVE
engine.asm.boot.t2Loader=../../Engine/Boot/BootT2Loader.asm
engine.asm.t2Loader=../../Engine/T2/T2Loader.asm

# Game definition
# ******************************************************************************

gameModeBoot=infiniteloop
gameMode.infiniteloop=./game-mode/infinite-loop/infinite-loop.properties

# Build parameters
# ******************************************************************************
#
# Compilated image converter
# --------------------------
#
# builder.compilatedsprite.useCache:
#    param: N: No cache, Y: use already generated asm, bin and lst files
#
```

```
# builder.compilatedsprite.maxTries
#    param: number of maximum random tries for generated code optimization
#           (default value 500000)
#
# ------------------------------------------------------------------------------
builder.lwasm=../../tools/win/lwasm.exe
builder.lwasm.pragma=undefextern
builder.lwasm.includeDirs=../..
builder.exobin=../../tools/win/exomizer.exe
builder.debug=Y
builder.logToConsole=Y
builder.diskName=./dist/empty-project
builder.generatedCode=./generated-code
builder.constAnim=./Engine/Graphics/ConstantsAnimation.asm
builder.to8.memoryExtension=Y
builder.compilatedSprite.useCache=Y
builder.compilatedSprite.maxTries=500000
```

config-linux.properties

Use the same content but replace :

`../../tools/win/lwasm.exe` **with** `../../tools/linux/lwasm`

`../../tools/win/exomizer.exe` **with** `../../tools/linux/exomizer`

This configuration file will be used by the java builder to produce your Thomson TO8 binaries. These binaries will be produced with the template name defined by the **builder.diskName** property value.

The builder will generate a TO8 program that will be able to boot from a 3½ Disk or from a Mégarom T.2. The program itself will be able to load different sub programs from Disk/Cardtridge to RAM. The sub programs are called **game modes.** All games modes have their own property file referenced in the builder main config property file.

As we want to create a simple project, only one game mode needs to be defined. The following line will tell the builder to process this game mode definition :

```
gameMode.infiniteloop=./game-mode/infinite-loop/infinite-loop.properties
```

To tell the builder which game mode to load at boot, simply set the gameModeBoot property :

```
gameModeBoot=infiniteloop
```

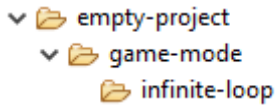
The game mode name will be referenced in asm with the prefix “GmID_”, so remember to use only allowed characters for asm labels when setting a game mode name.

Ex: infiniteloop game mode will be referenced by label GmID_infiniteloop in asm.

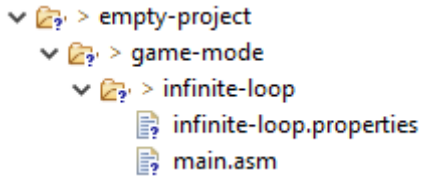
Try to use the name infinite-loop and lwasm will throw an error during assembly processing.

Game Mode definition

In the game-mode directory, add a new sub directory with the name : **infinite-loop**



Now you have to create 2 files :



Game Mode source code

The binary that will be generated from the **main.asm** file will be loaded in the resident memory of the TO8 ($6100-$9FFF). This memory location cannot be recovered by any other page, the only way to change the content at runtime is to load another game mode. This is the place where the main loop will run. Boot code will run the main.asm of the default game mode at $6100.

This is the level 0 tutorial, I promised an awesome infinite loop, here it is …

Put this code into **main.asm** :

```
        org   $6100
        bra   *
```

infinite-loop.properties

The only required information to define a game mode is to tell the builder what is the main code to be loaded.

Put this configuration into **infinite-loop.properties** :

```
engine.asm.mainEngine=./game-mode/infinite-loop/main.asm
```

Build your Thomson TO8 program

To build your TO8 program, you will need first to install Java and Maven and configure your path.

Next, go to (or set your working directory to) your project directory : game-projects/empty-project

Under Windows, run this command :

mvn.cmd -f ../../java-generator exec:java -Dexec.args="config-windows.properties"

Under Linux, run this command :

mvn -f ../../java-generator exec:java -Dexec.args="config-linux.properties"

Run your program

In the **empty-project/dist** directory, you will find those files:

- **empty-project.fd** - 3½ disk (emulator or hardware)
- **empty-project.sd** – SDDRIVE file (hardware)

- **empty-project _T2Loader.sd** - SDDRIVE file (hardware) to program a Mégarom T.2
- **empty-project.rom** – Mégarom T.2 image (custom wide-dot theodore emulator)