Live document Link: Match 3 Puzzle Garden Documentation



Document Version

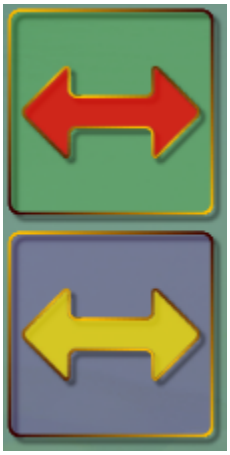
1	19 July 2023	Initial Version

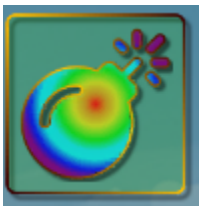
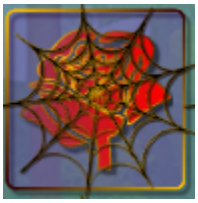
Contact

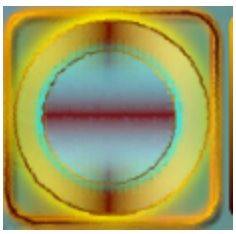
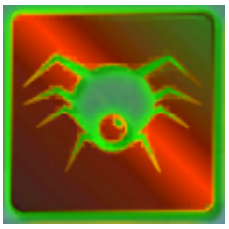
Please email v5studio2022@gmail.com with any questions

Features

Action	Match	Result

Match 3 tiles to destroy		Destroy the matched tiles
Match 4 tiles to form a row or column clear special tile		
All special tiles can be matched with each other		Destroy row and column
All special tiles can be matched with each other		Clean 3 rows and 3 columns

Match 6 tiles on a 90 degree angle to for a 3x3 tile blast special tile		
Match 5 tiles in a t to form a 3x3 tile blast special tile		
Match 5 tiles in a row to form a color bomb special tile		
Sticky type, that can be destroyed by matching the tile underneath		After removing sticky, tile can be moved
Glass type, that can be destroyed by matching the tile nearby		After removing glass, tile can be moved

Layered Breakable, that can be destroyed by matching the tile nearby (each match will destroy a layer)		The entire tile can be destroyed by matching something next to it 4 times
Block, that cannot be moved or destroyed		
Bug, if any one of the type is not destroyed, it will replace a tile nearby to grow itself		Destroys itself if there is an adjacent match

Game Play Demo

https://youtu.be/EGtSGbgfc-M

Level Editor

A level editor where levels can be created/designed. There is no limit to the number of levels that can be created.

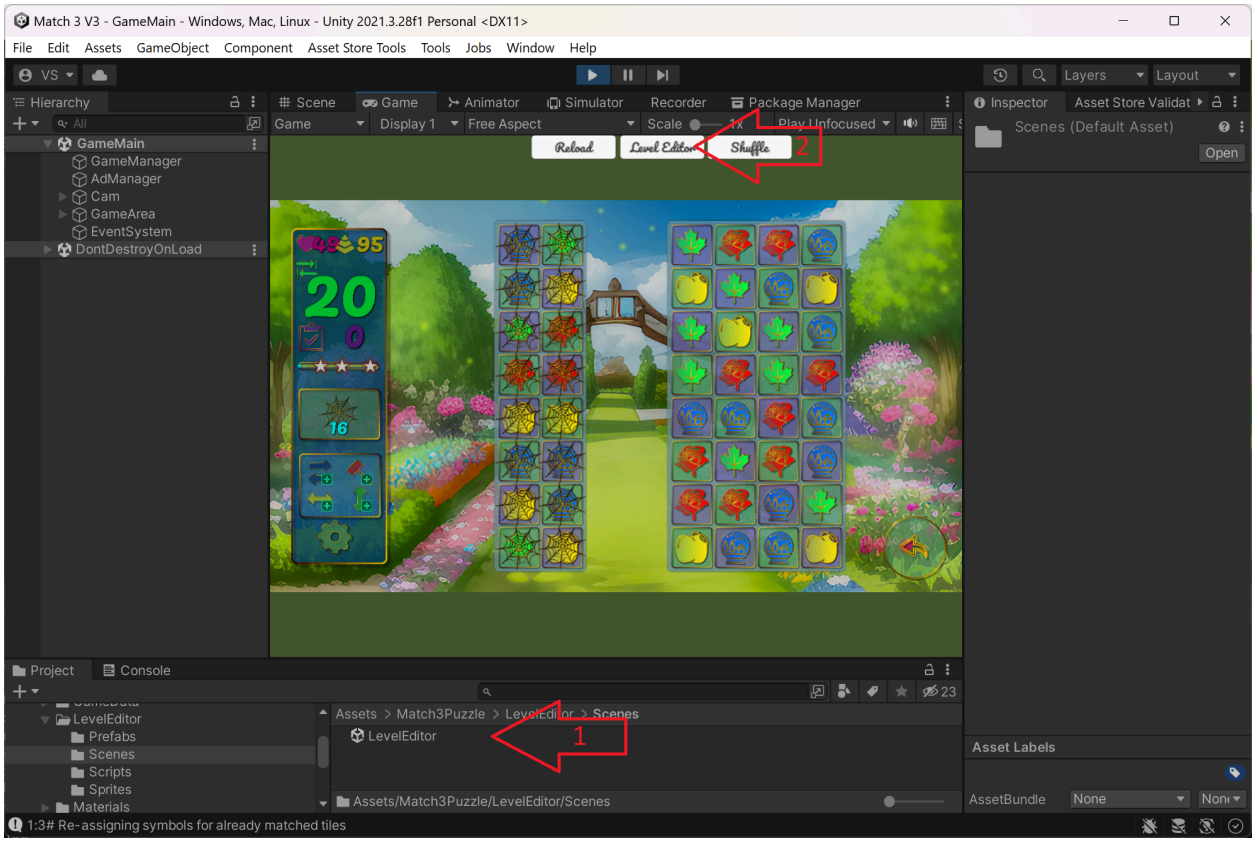
Demo

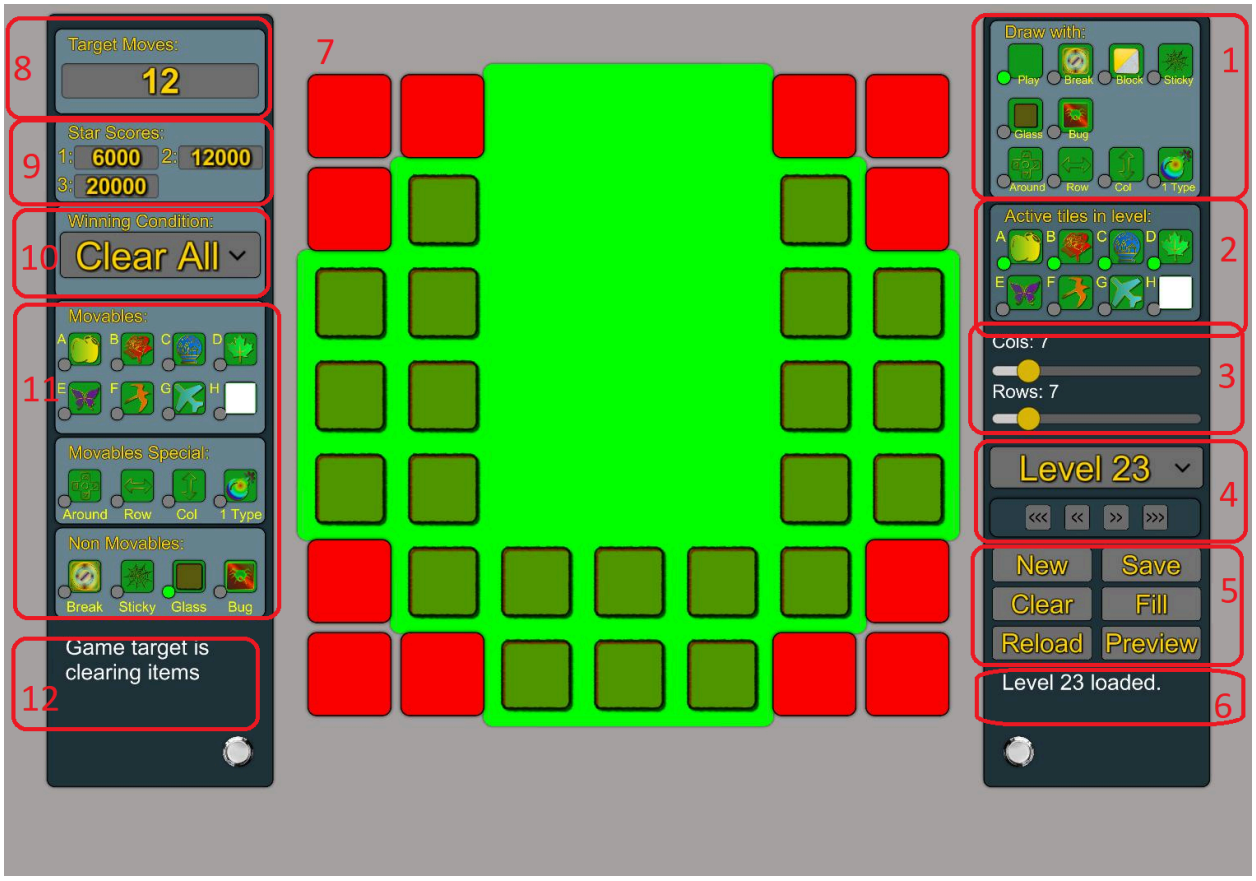
A quick demo of the level editor can be seen here
https://youtu.be/0oc3PZjkQHQ

Running

1. Level Editor can only be started via the unity editor. It can be found at the below path Assets/Match3Puzzle/LevelEditor/Scenes/LevelEditor.unity
2. It can also be started from the main game, via the “Level Editor” button. These buttons will be visible only on the editor.

Please see below for a screenshot of these two options


Match 3 V3 - GameMain - Windows, Mac, Linux - Unity 2021.3.28f1 Personal <DX11>
File Edit Assets GameObject Component Asset Store Tools Tools Jobs Window Help
Hierarchy
GameMain
GameManager
AdManager
Cam
GameArea
EventSystem
DontDestroyOnLoad
Scene Game Animator Simulator Recorder Package Manager
Reload
Level Editor
Shuffle
2
Inspector
Scenes (Default Asset)
Open
Project Console
LevelEditor
Prefabs
Scenes
Scripts
Sprites
Materials
Assets > Match3Puzzle > LevelEditor > Scenes
LevelEditor
1
Assets/Match3Puzzle/LevelEditor/Scenes
Asset Labels
AssetBundle
None
1:3# Re-assigning symbols for already matched tiles



1. Draw on 7 using these buttons
2. In the level, these tiles will be playable
3. Change the grid size
4. Pick the level to edit using the drop down. You can also navigate using the buttons below
5. Button details:
    a. New: Create a new level as the last level in the list
    b. Save the current loaded level
    c. Clear the full level
    d. Fill the level with playable items
    e. Reload with the saved version
    f. Preview level in play mode
6. Hint/message when a operation is selected on the right panel
7. Main editor window
8. Number of moves in this level
9. Point targets for awarding the stars
10. The target for winning the game. It can be

a. Score 

   i. On selecting this, you can enter the target score value below

b. Collect 

   i. On selecting this, the tils are shown with a number. To win, player need to collect each of the items, and in the count show

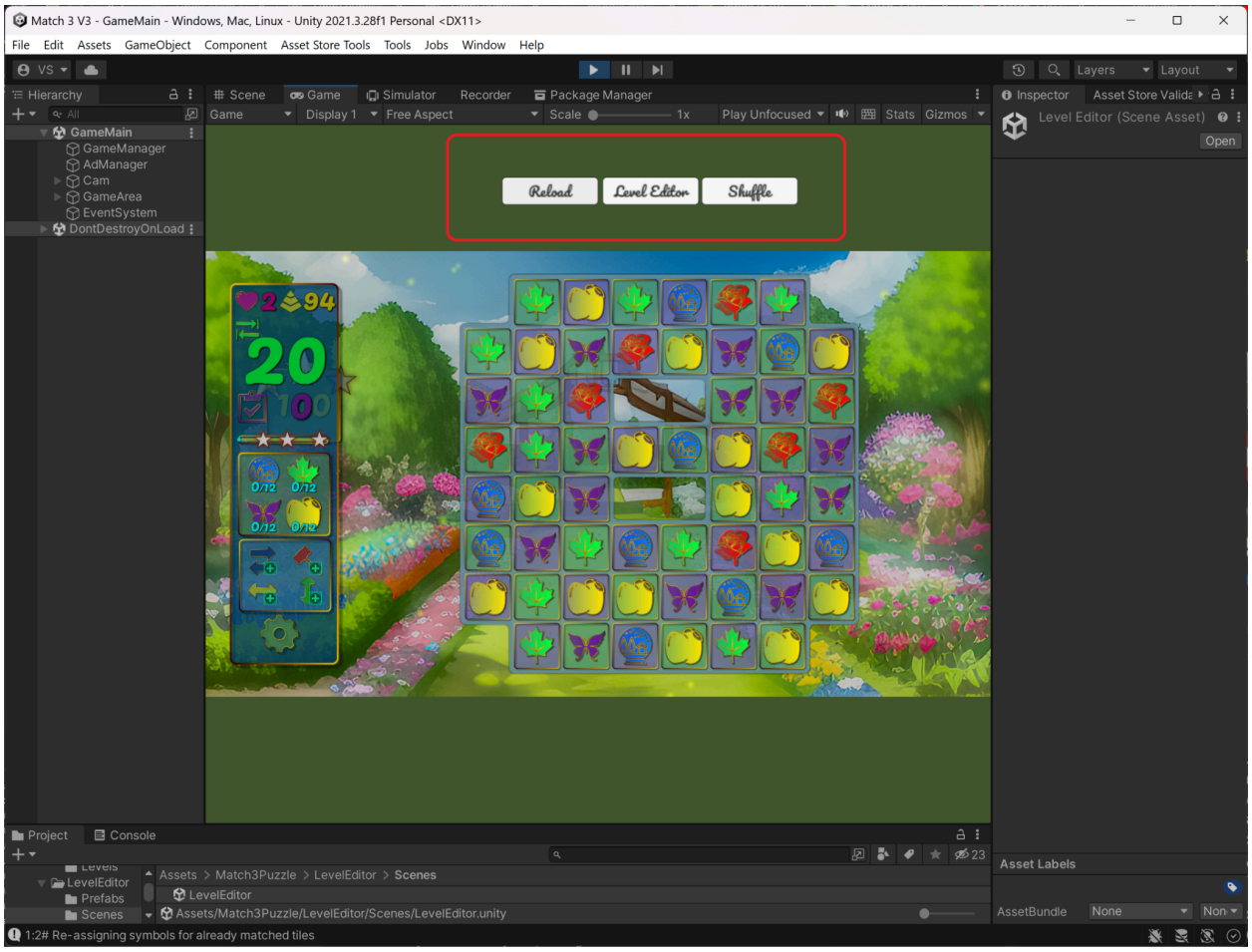
c. Clear All (selected on screenshot on top). To win, players need to clear all the tiles selected. Note: Only the bug type will grow (increase count) as you play. The count for the rest of the items will not increase after initial calculation.

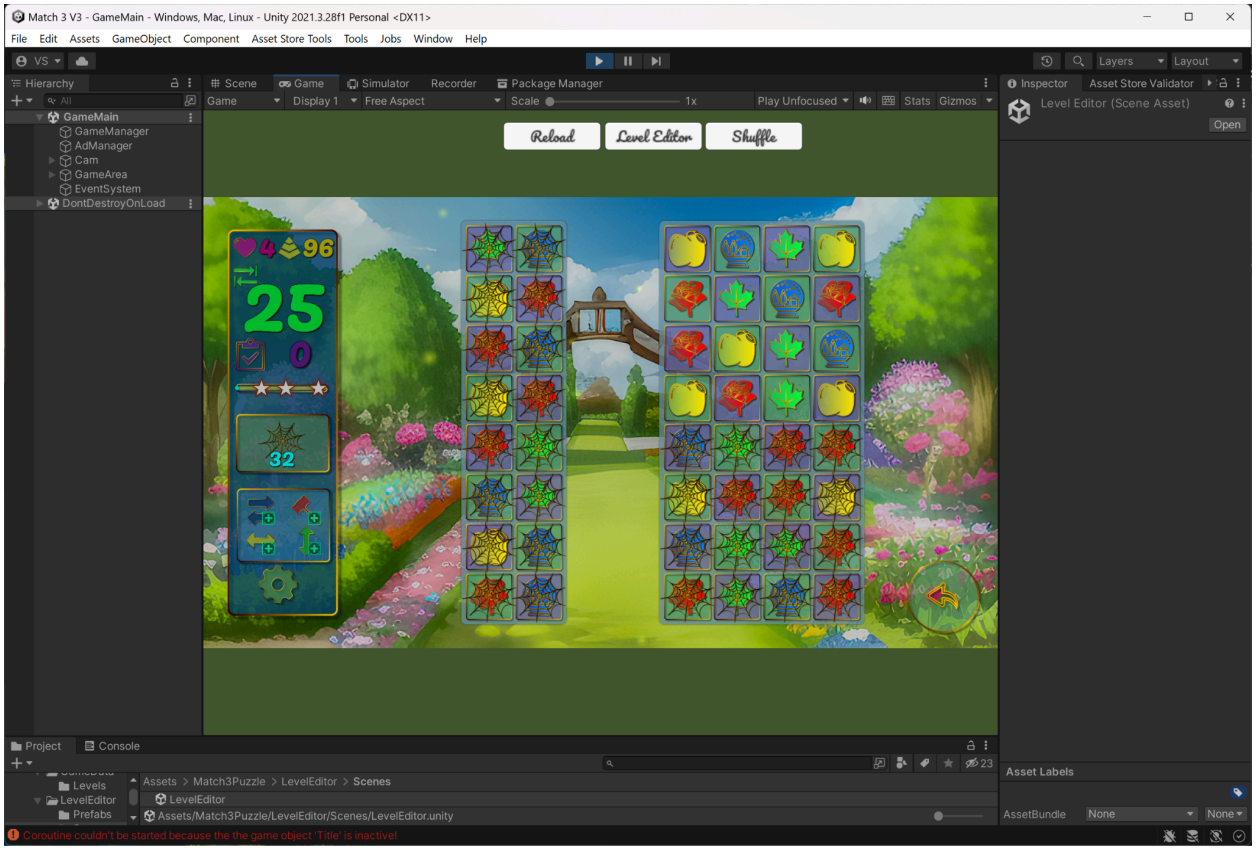
11. Changes based on win condition dropdown selection. See above for the options possible
12. Hint for left panel selections

Editor Help Buttons

While playing in the editor, on top of the game, 3 helper buttons are available

1. Reload - This reloads the current level
2. Level Editor - This will load the editor for the current level
3. Shuffle - Shuffle the playable tiles. Note: this won't shuffle Special or non movable tiles





Boosters

Boosters are available via a Daily Spinner or after watching ads.

Daily spinner

This is available in the home screen



Once, clicked, it looks like below



Once the booster is used, the Spin button is grayed out as shown below. A countdown timer is also shown as to when the booster is available next!



Play Panel Boosters

You can enable the booster by clicking on the boosters available. The count will show how many boosters you have. If you do not have any, a plus icon will be shown. Clicking on it will show a rewarded ad (see Ads section). Once the booster is enabled, it will be added at the start of the level.
Note: Boosters are timed (one awarded every x minutes - configured in Game data)



Game Area Boosters

Similar to the play panel, you can activate/deactivate a booster at play time by clicking on it. A green plus means you do not have any boosters at this time. It may be possible to watch an ad to earn a booster.



Settings

This button is available in all screens, and will bring up the settings screen





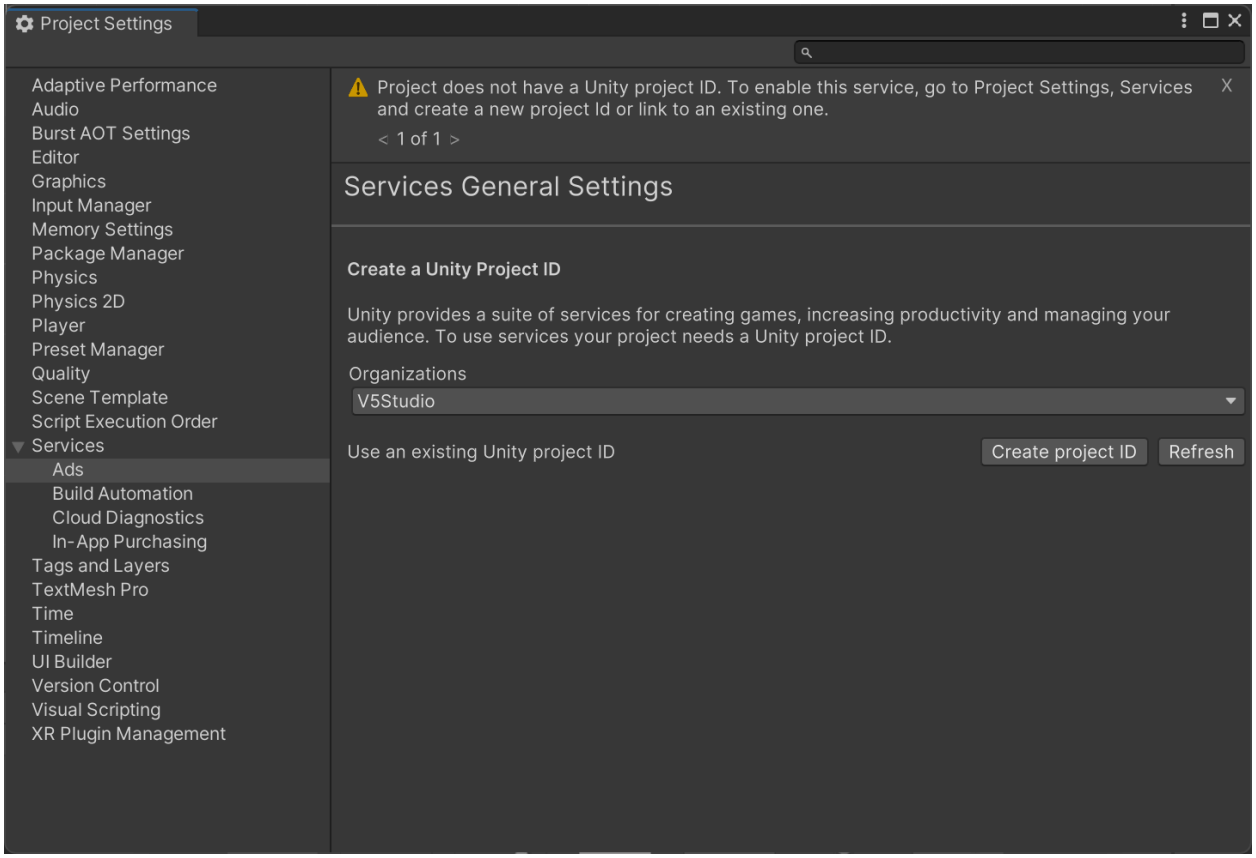
Ads

The project is integrated with the Unity ad system so users can earn reward boosters.

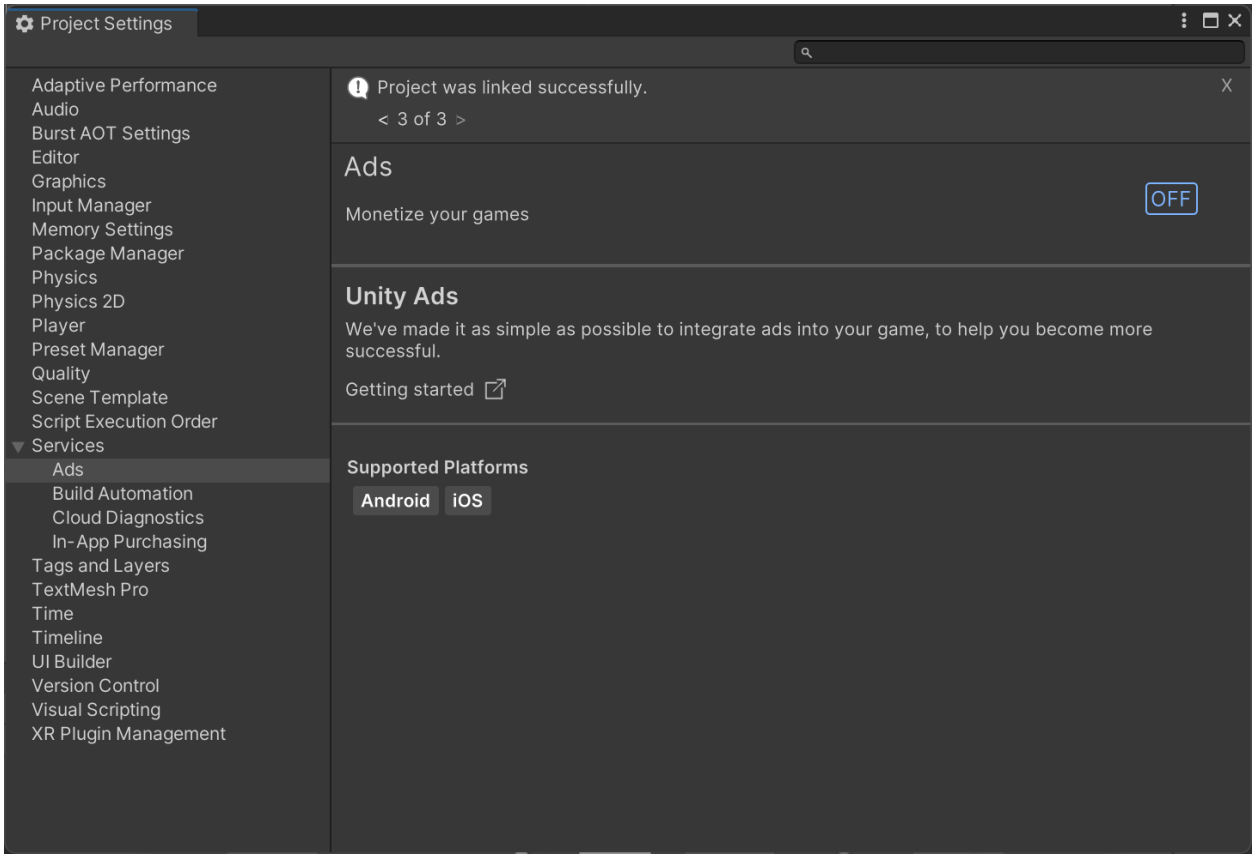
Enabling Ads

To enable Ads on your project, Go to Edit -> Project Settings

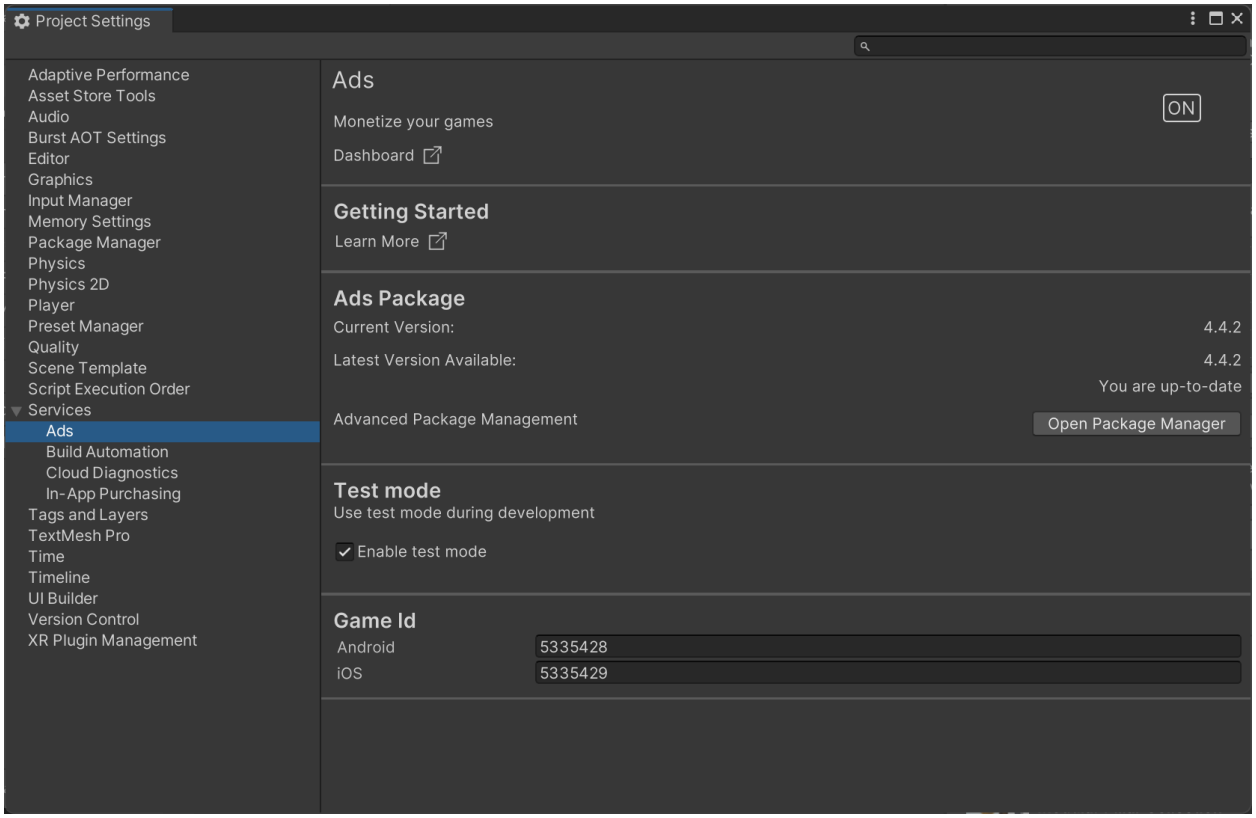
1. Create a project ID



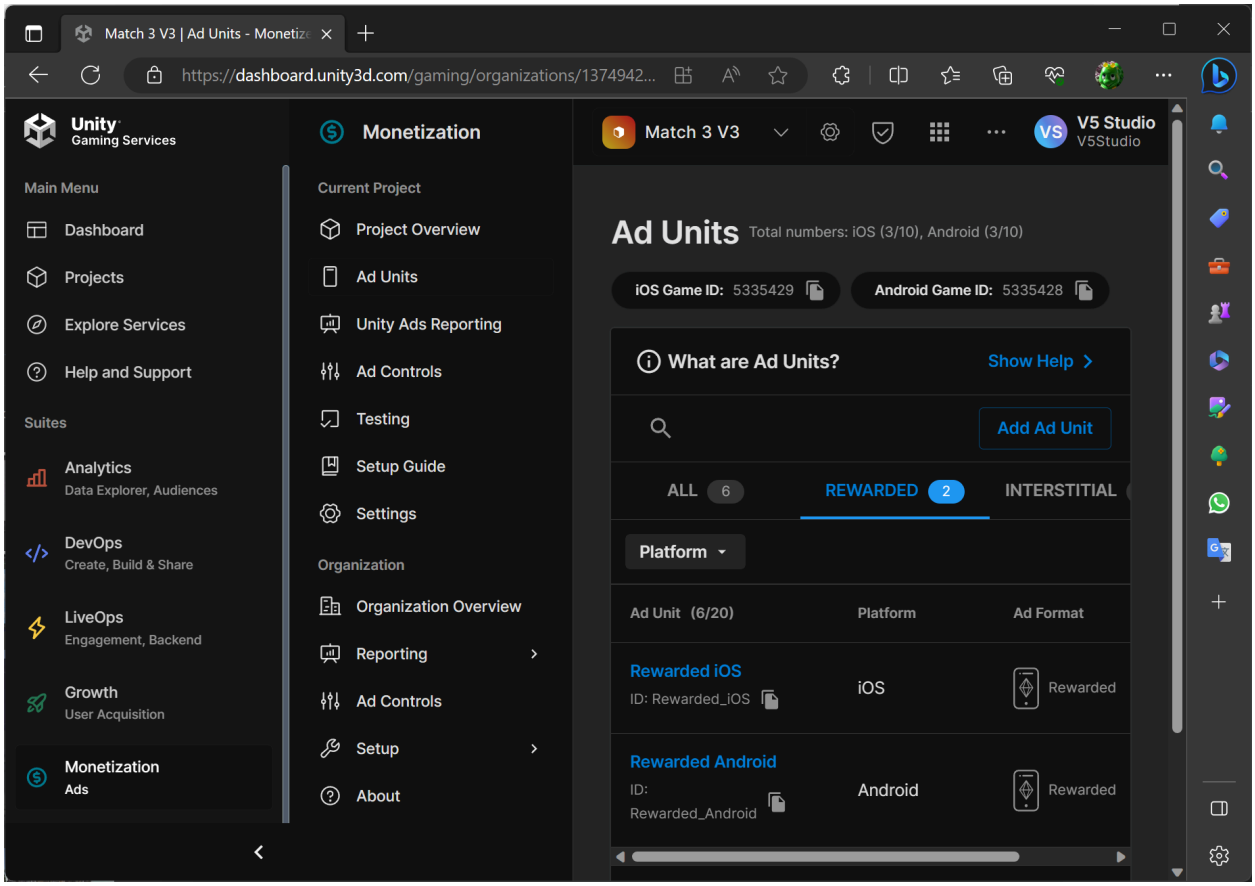
2. Turn on Ads (Unity will installing ads packages if missing)



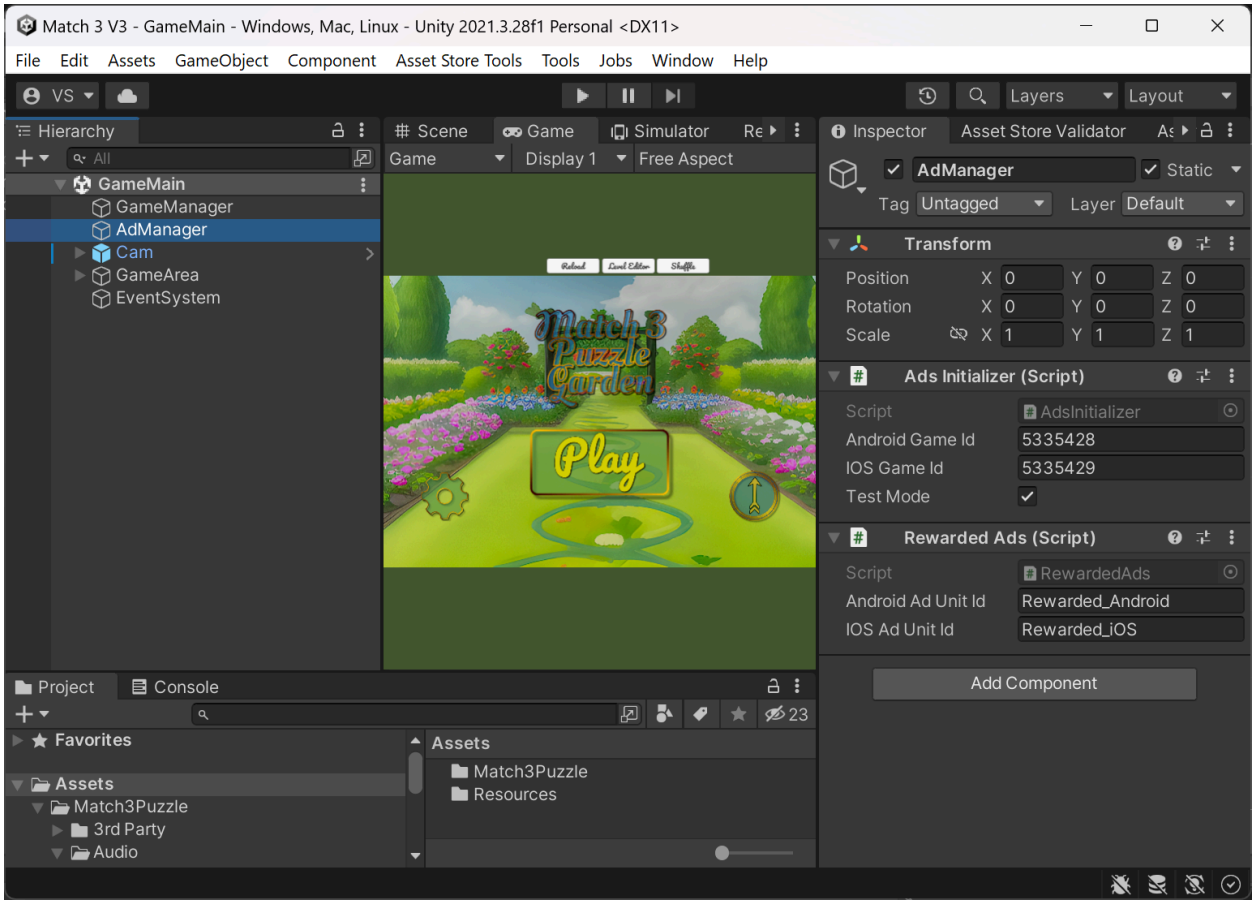
3. Note down the Game Id’s shown



4. Click on Dashboard (Just under Ads)
5. Make sure to create some rewarded ad units, and make note of the ID’s



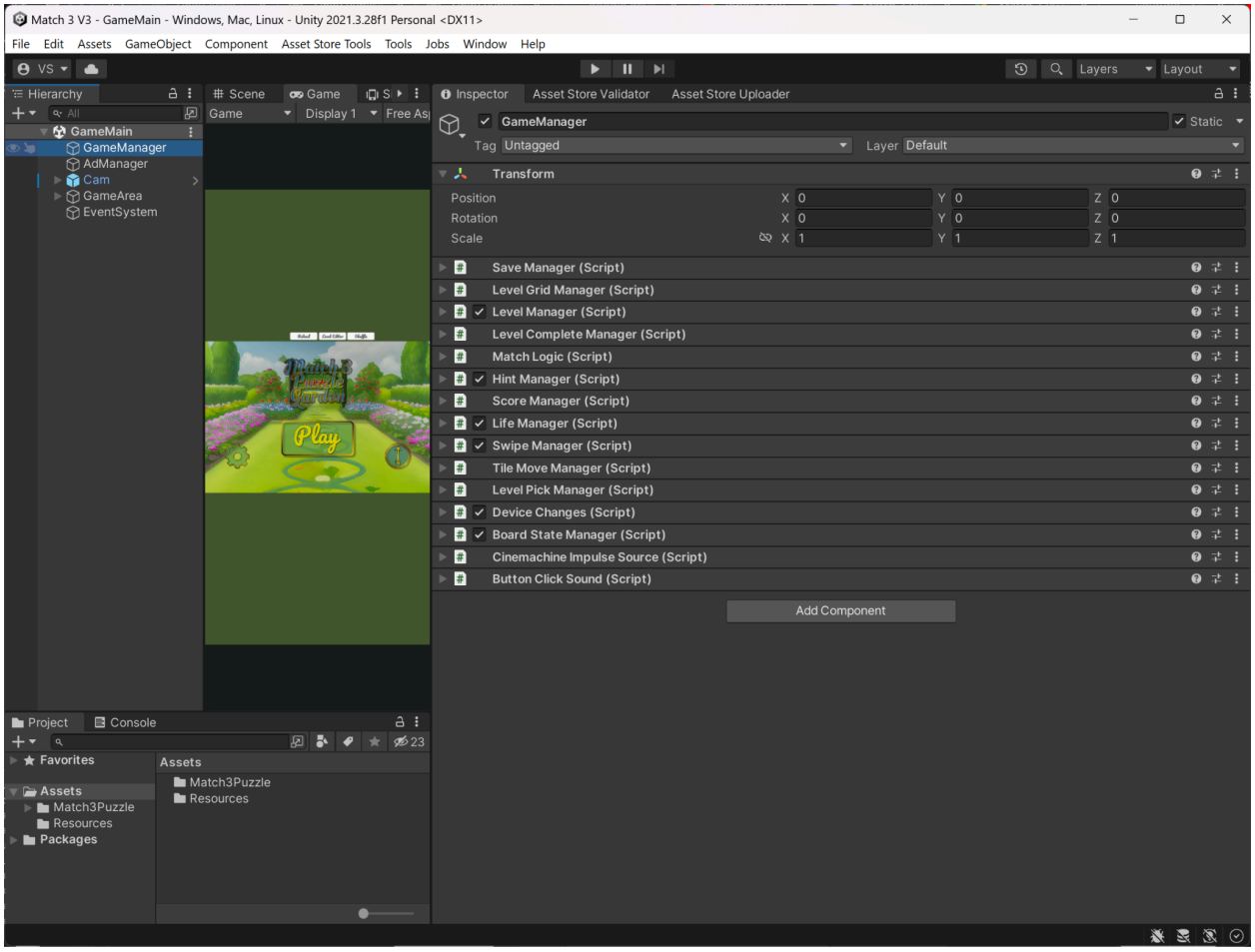
6. Update All the the ID’s as shown below (Game ID and Ad Unit id)



Game Manager

Gamemanager has most of the scripts used by the game attached. Hopefully, these should be easy to understand looking at each of them

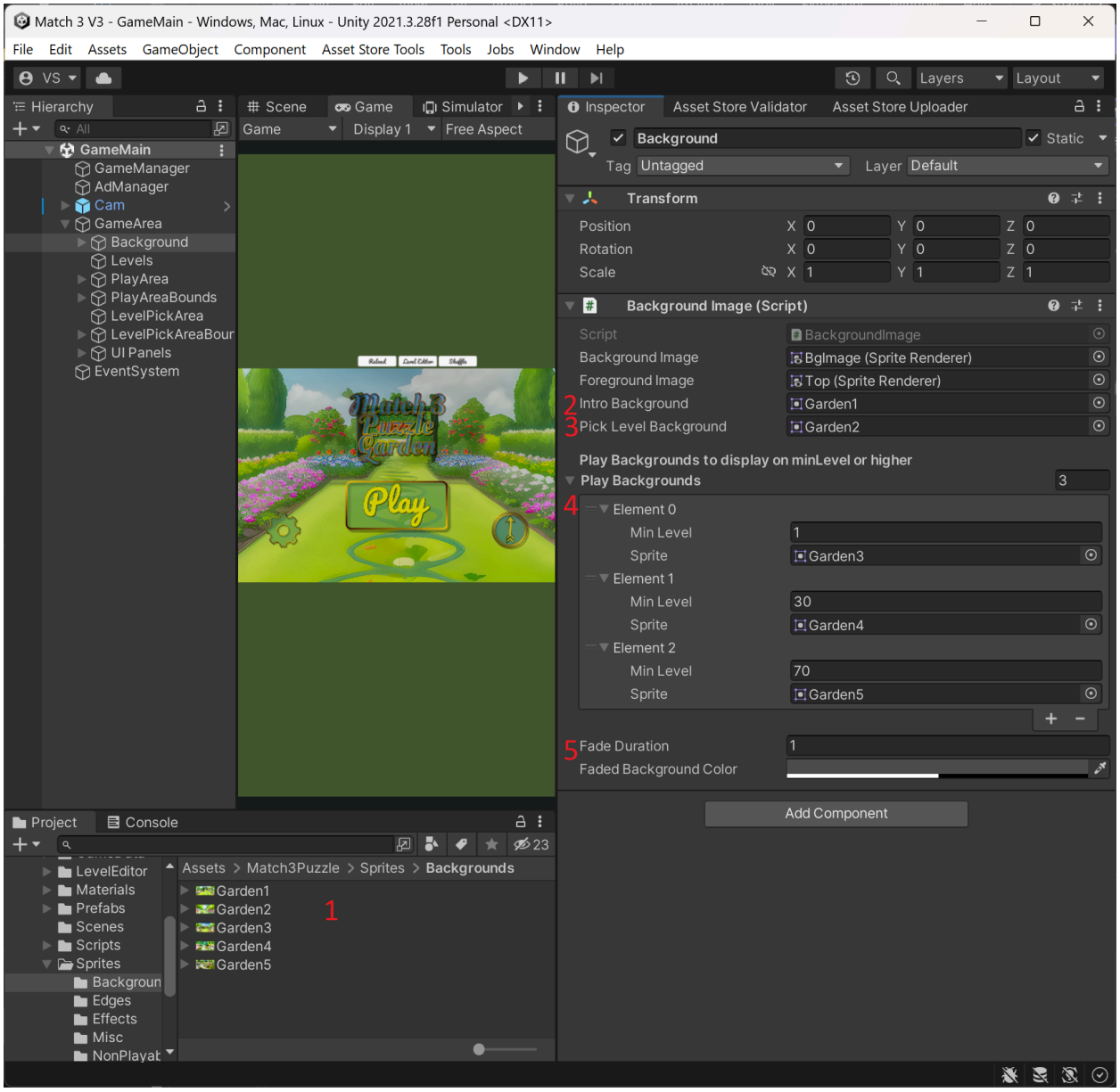
- Save Manager - handle all game save functionalities. We can update the save file name if needed. Note: Game will be saved on Application.persistentDataPath. See [Unity - Scripting API: Application.persistentDataPath (unity3d.com)] for specific path details
- Level Grid Manager - handle drawing grid and tiles (initial load for level)
-



Backgrounds

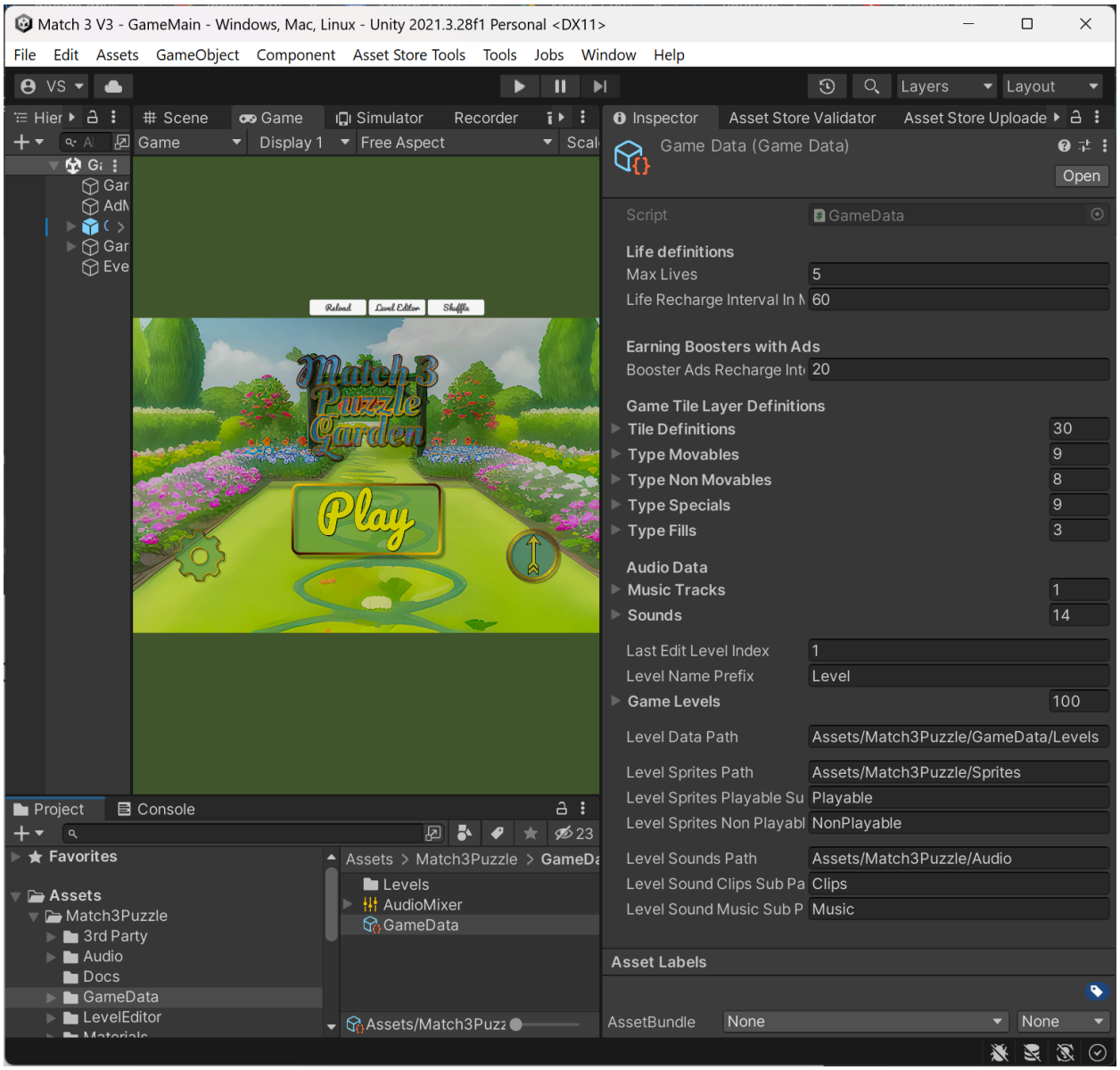
We have generated a few garden backgrounds using an AI image generator. Please see screenshot below for the below sections

1. We have 5 generated images at Full HD (1920 x 1080) resolution
2. This defines the intro/home screen background
3. This background will be shown on the pick level background
4. This is a list of backgrounds for the game play area. The background will be chosen based on the min level number. For example, Level 1-29, Garden3 will be shown and 30-69 Garden4 will be shown. We can add and adjust as many as we like here
5. We fade in and out while moving between screens. This controls the duration, and the fade out color



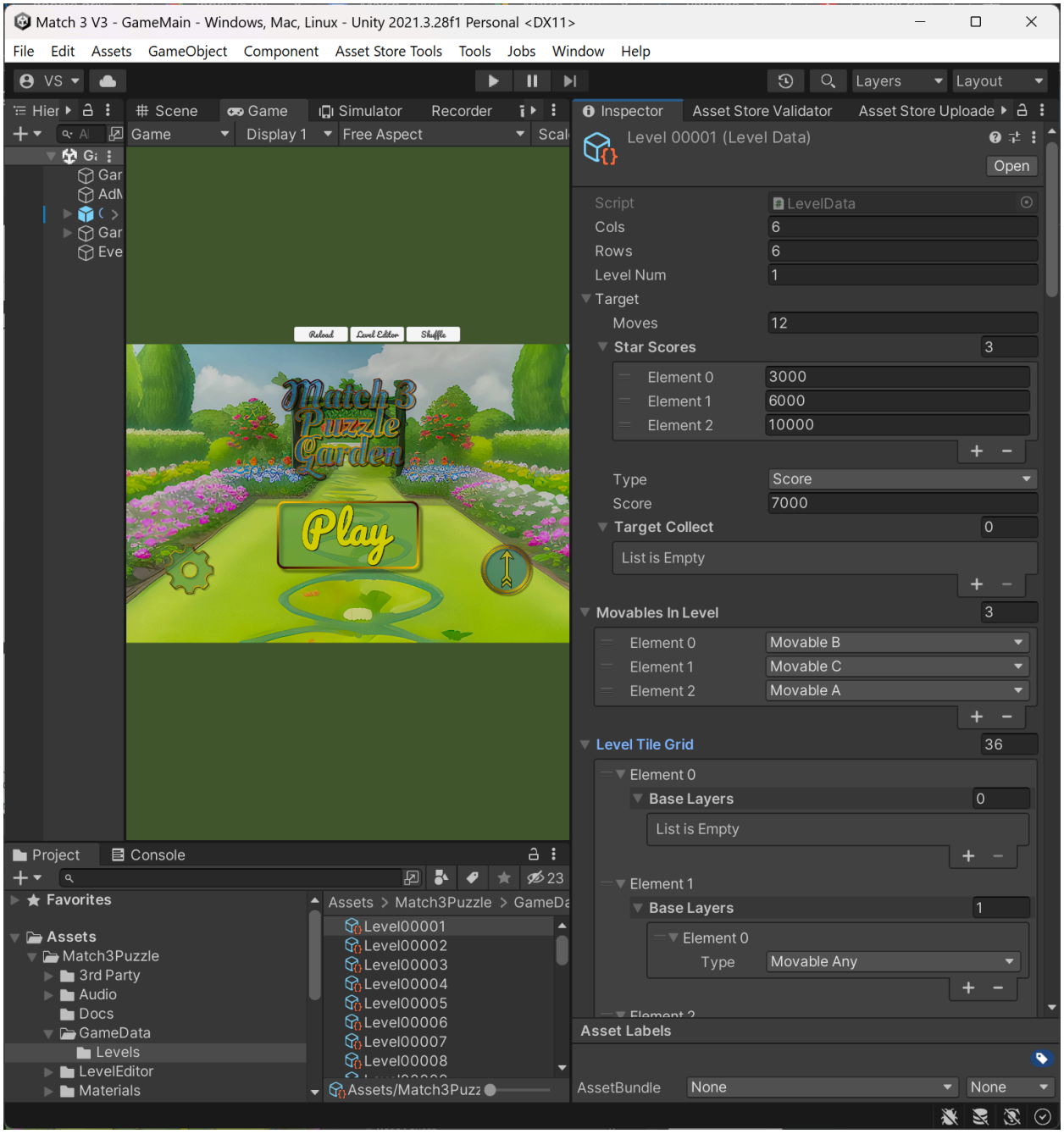
Game Data

Game data is where we store all the configuration information about the game.
Its located at
Assets/Match3Puzzle/GameData/GameData.asset



Level Data

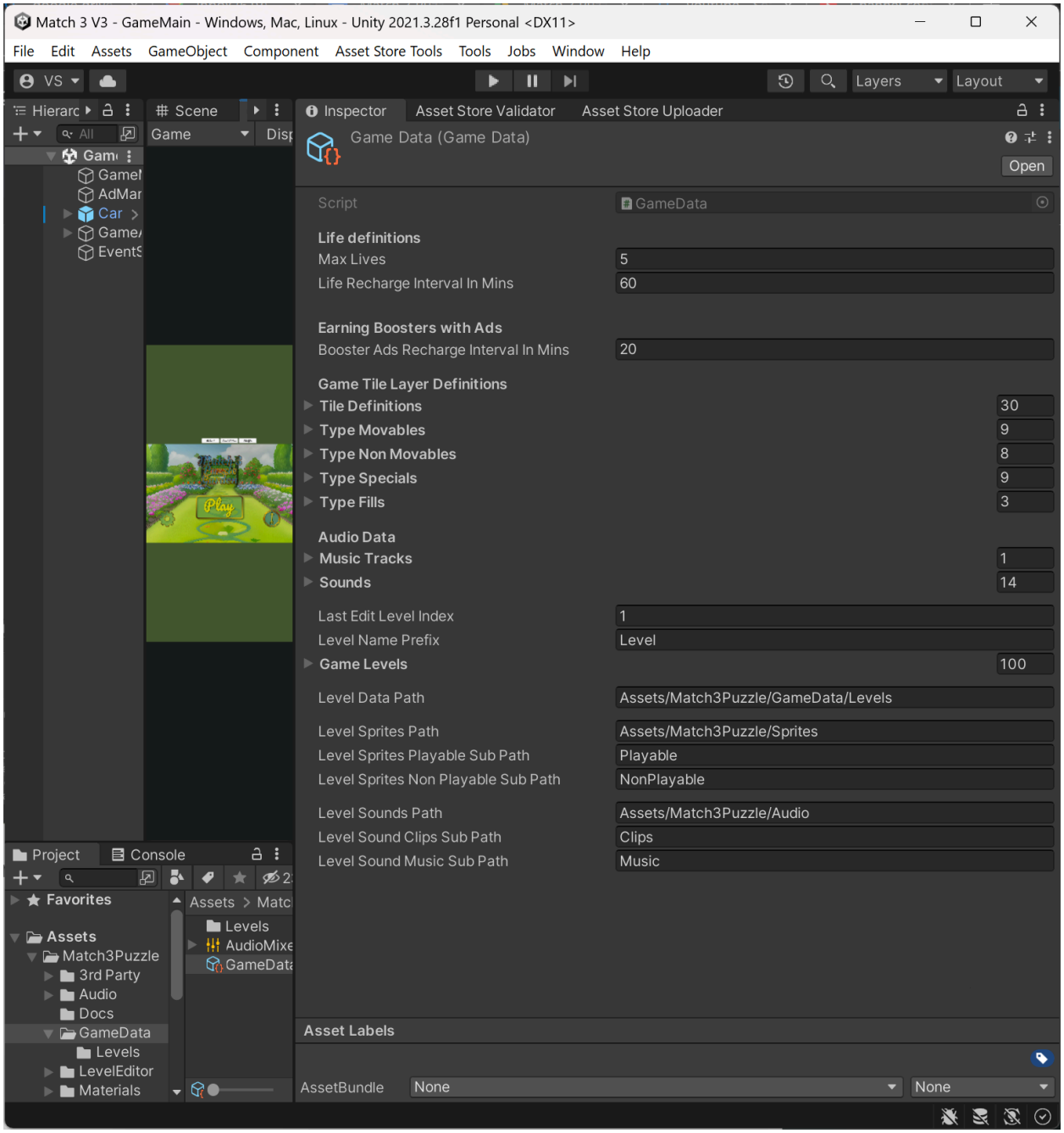
All the levels are stored in Assets/Match3Puzzle/GameData/Levels
Under normal circumstances, there is no need to visit or manipulate these files



Basic config

You may want to update below

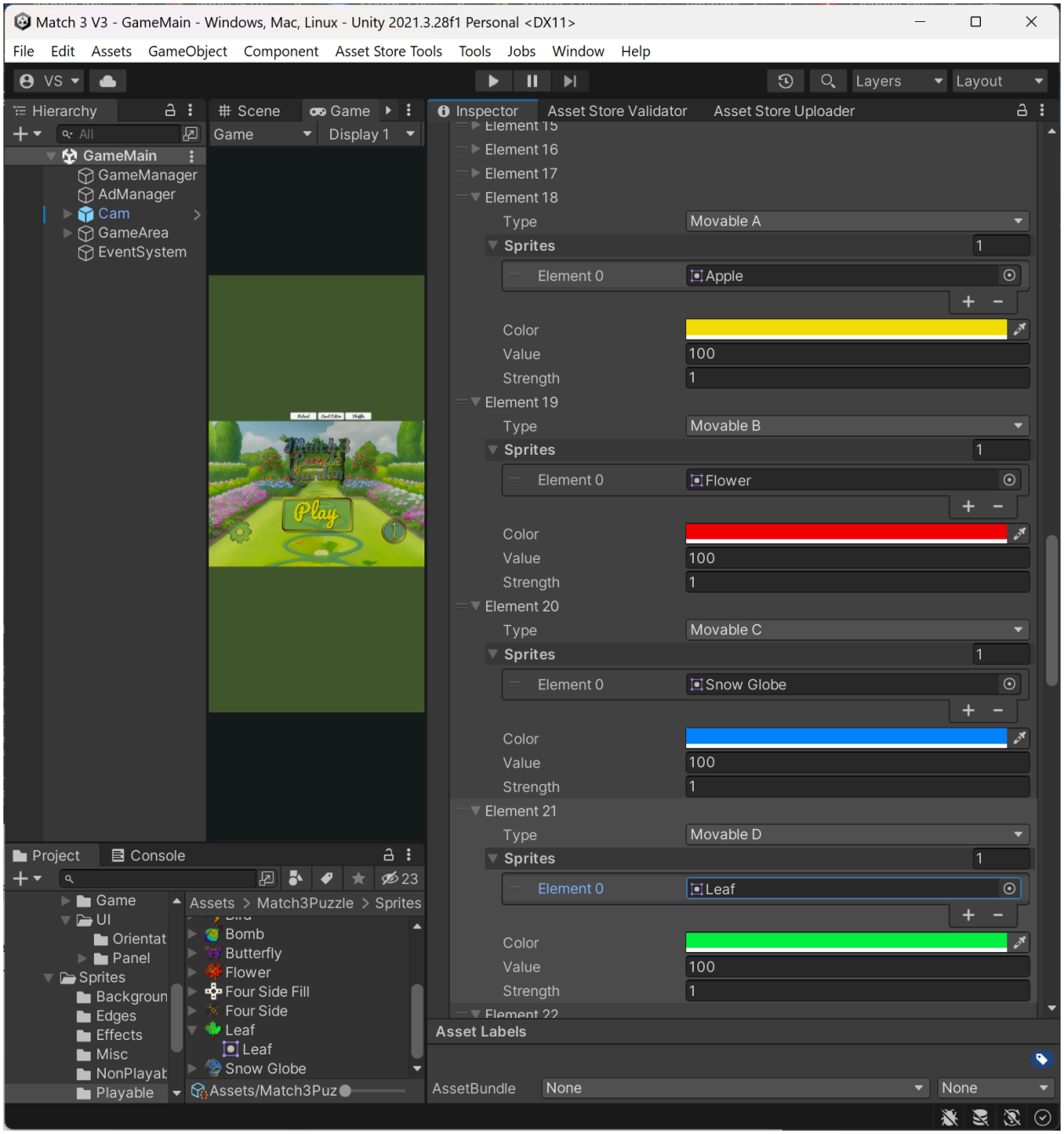
1. Max Lives available
2. Life recharge interval
3. Booster ads available interval



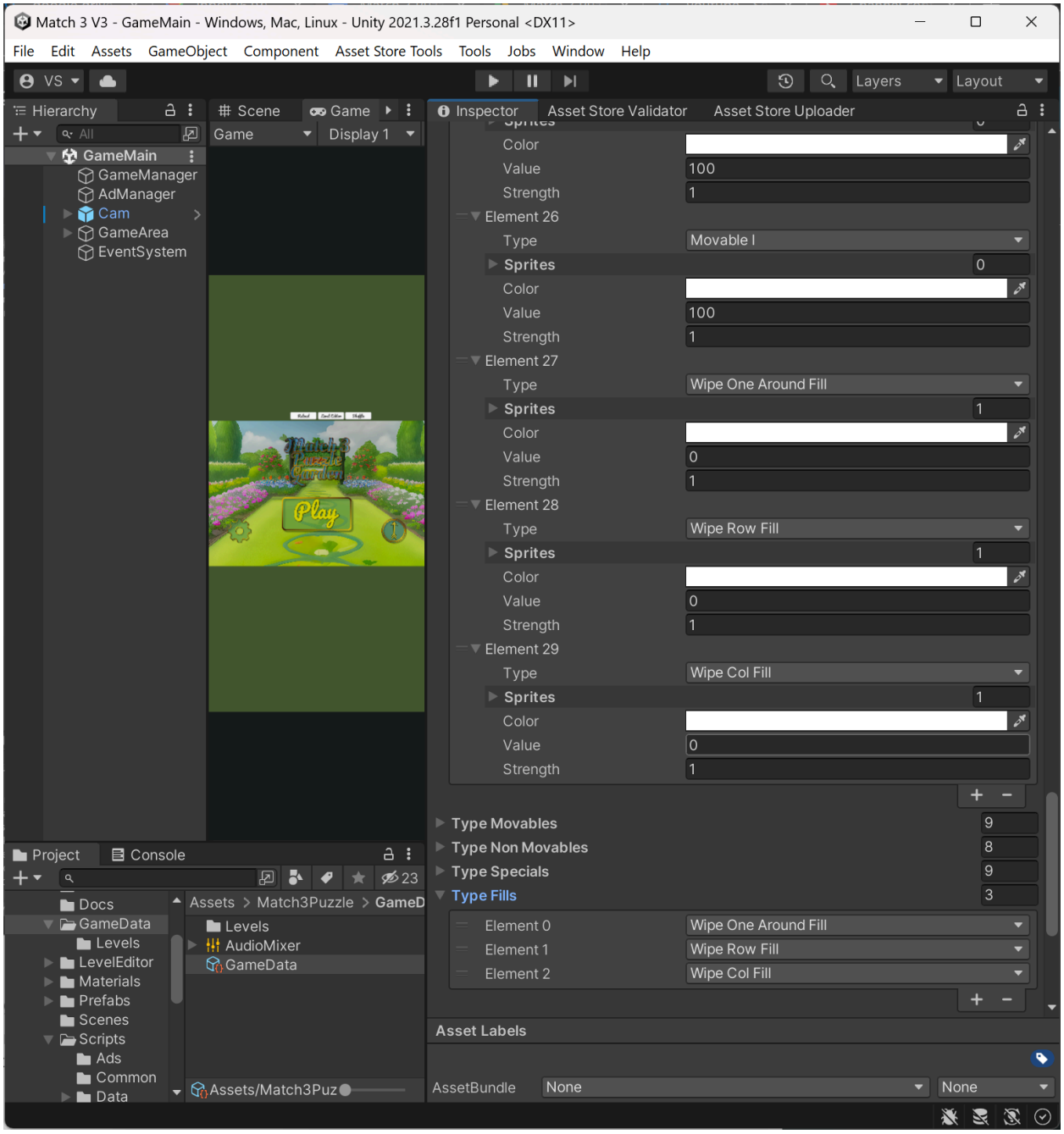
Updating Game Tiles

- Value - Each tile has a Value (points) that will be added to the total score once it's destroyed.
- Strength - Most tiles have a strength of 1 (it will break with one match). Layered break is an exception as it need 4 matches to break, and hence its strength is set to 4
- Color - Try to match the color to the closest to the sprite selected. This is important as we use this color to check match logic

- Sprites - this will be the main tile sprite. We normally have one sprite per type, and can be replaced (Exception is Layered Break, which has 4 layers and each with its corresponding sprite). Please check the next section for picking the correct resolution

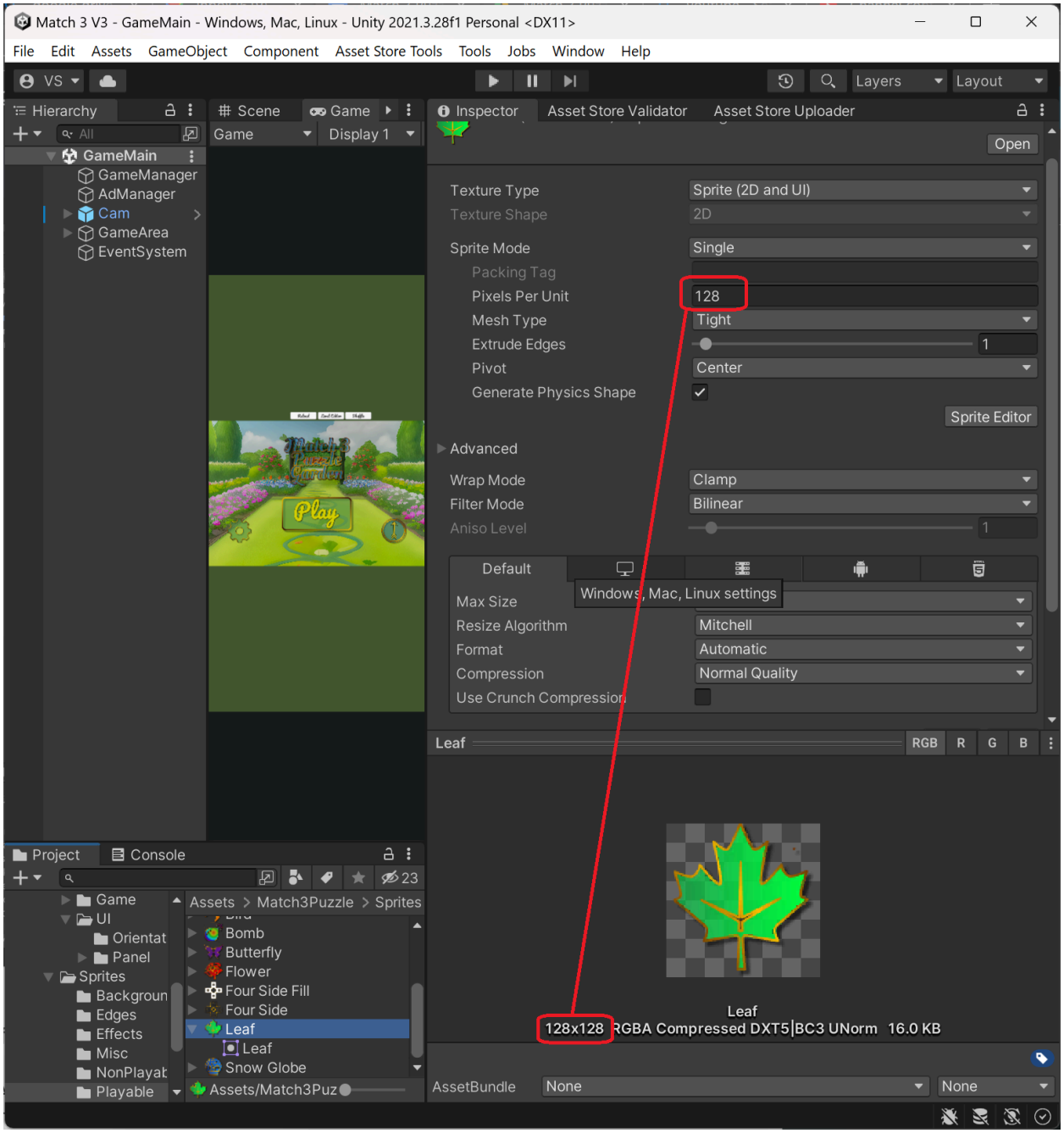


- Fill Sprites - the last 3 are fill sprites. These are special (always white) and is used to color the special tiles. They will be placed on top of the special tiles and filled with the match color during play time



Replacing Sprites

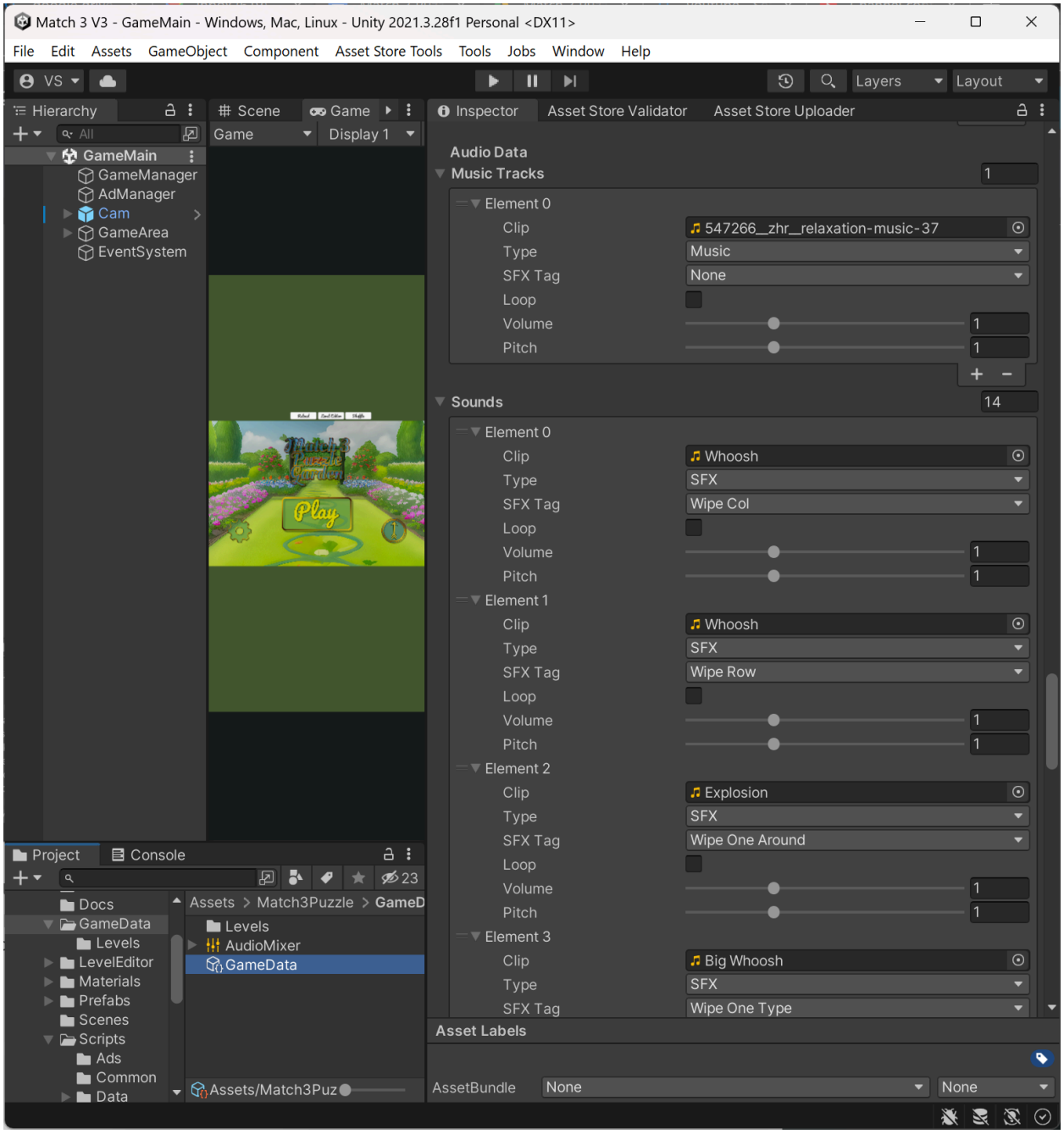
While importing sprites, please try to match pixels per unit to the resolution so it can fit properly. Please go through the above section to see where it can be updated.
Note: Special tiles (except match one type) will have two sprites. Normal, and a fill tile. Fill tile will be used to apply the matching color for these



Game Music/Sounds

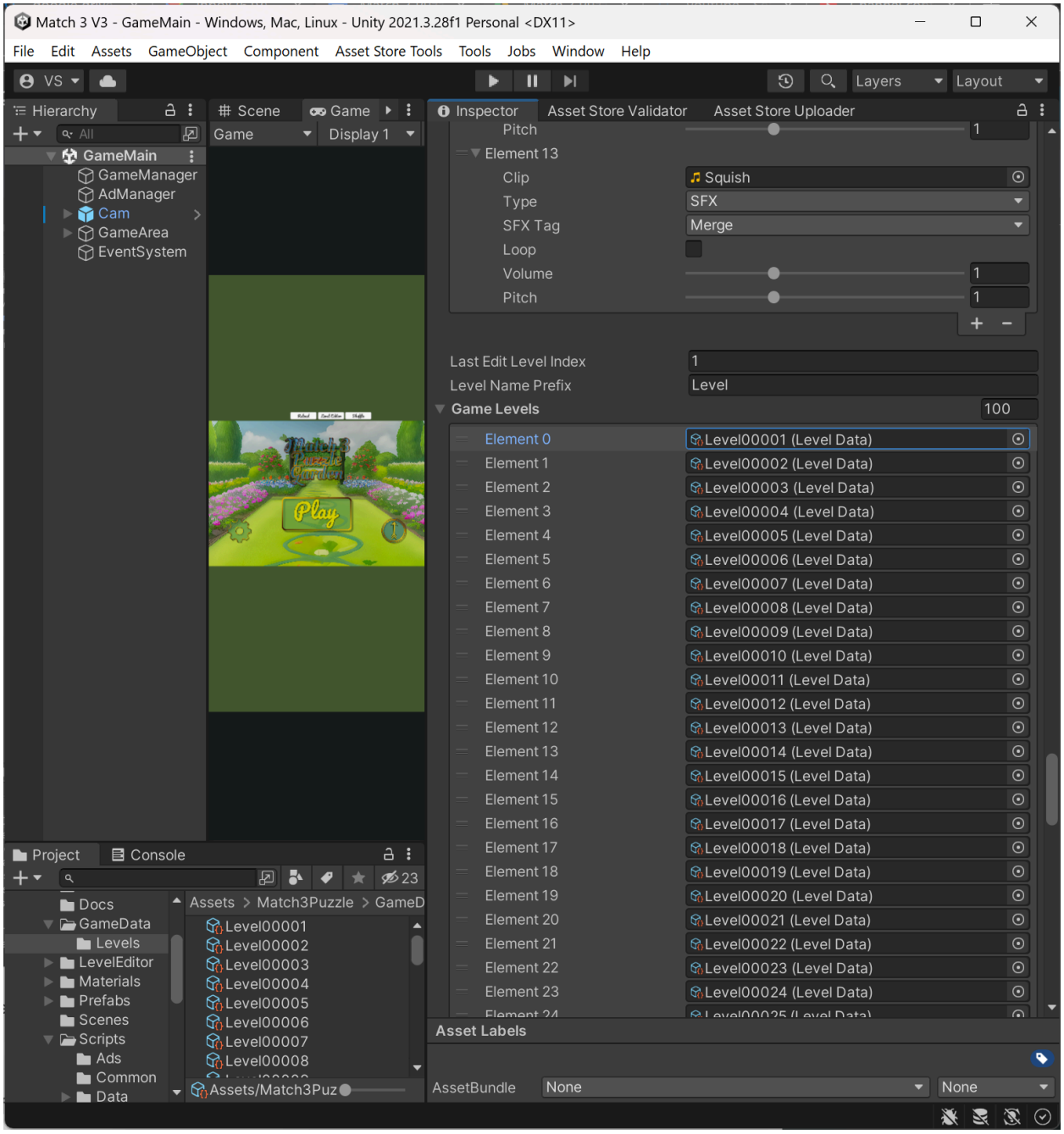
These can be found in the Sounds section. You can add multiple music tracks, and they will be played randomly while the game is active.

You can also update any of the SFX sounds with a new one as needed.



Game Levels

Levels are added in the game levels sections as you use the level editor. These can be updated directly if needed.



Starting fresh

If you wish, you can delete the game data file and start fresh. To create a brand new copy, locate and delete file Assets/Match3Puzzle/GameData/GameData.asset
You may or may not want to delete all levels in Assets/Match3Puzzle/GameData/Levels

Once deleted, Start Level Editor from
Assets/Match3Puzzle/LevelEditor/Scenes/LevelEditor.unity

This should create a new GameData file and link it to the game. One important step after this is to go through all the sprites and pick the closest color that we can match to this sprite.

Dependencies

DOTween

This game rely heavily on DOTween http://dotween.demigiant.com/
A copy of this is made available on “Assets/Match3Puzzle/3rd Party/DOTween”
If you wish, you can delete this folder and get a copy of DOTween from Asset Store for free

Cinemachine

Cinemaching virtual cams are used to manage various screen resolutions and orientations. We also use a camera share feature provided by the Cinemaching asset