Zonestar

Slicing Guide for Mixing Color printer

(Base on Cura 4.10 or later)

V2.0

Contents

Zonestar

Download and install Cura

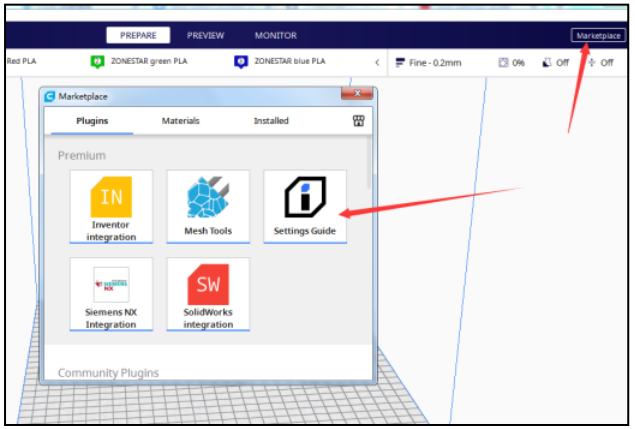
Download cura from the below link and install it to your PC:

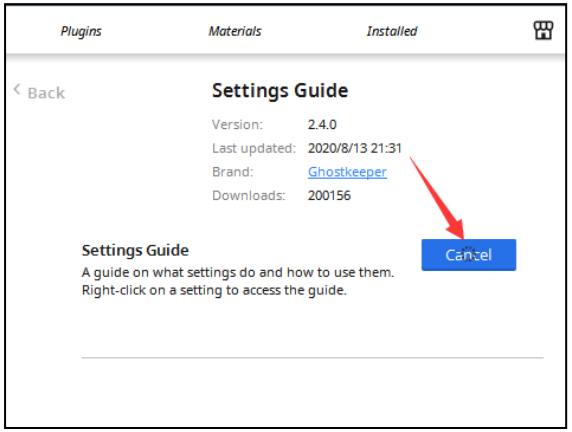
https://ultimaker.com/software/ultimaker-cura

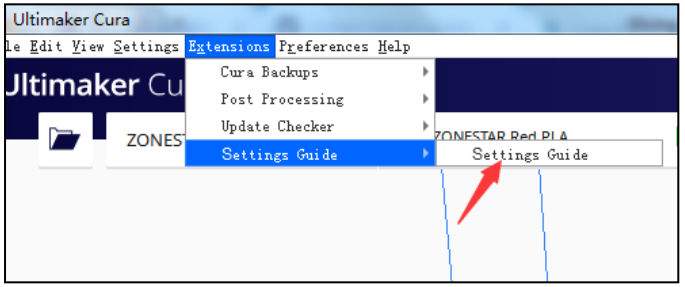
About how to install and use Cura, please refer to this link:

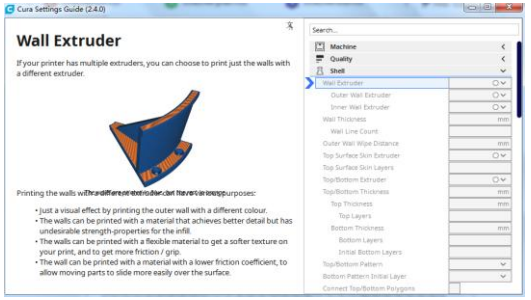
https://support.ultimaker.com/hc/en-us/categories/360002327600

If you want to know more about the settings of cura, please install a “settings guide” plugin in cura, and then open it to study:



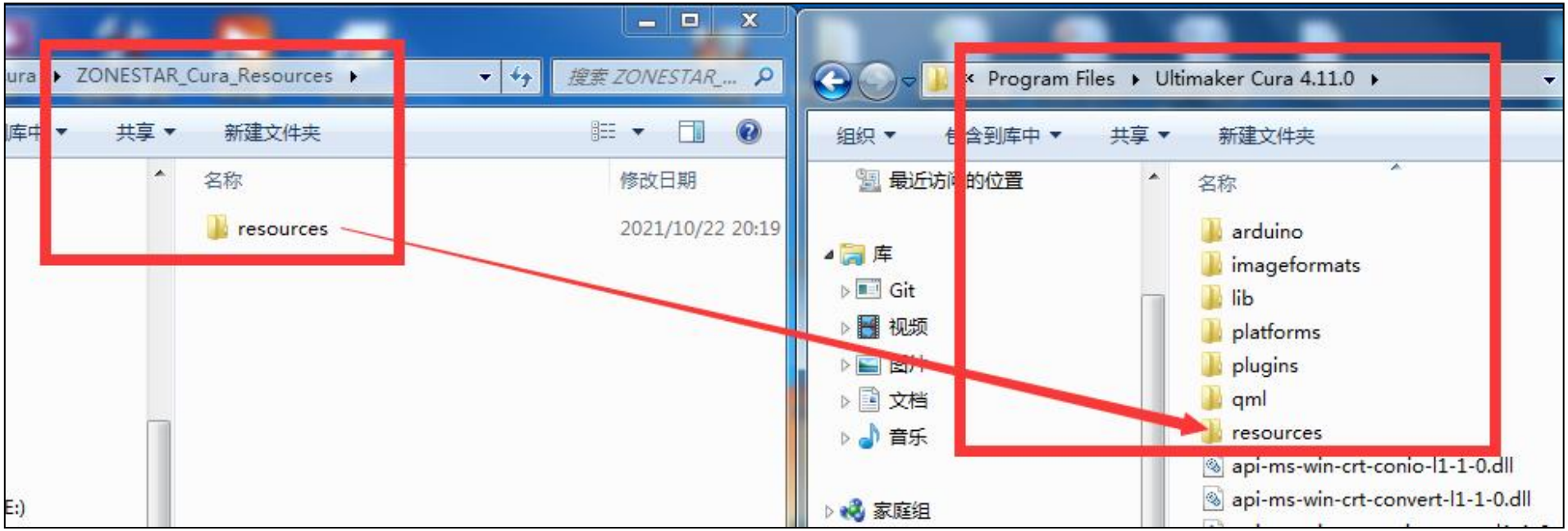






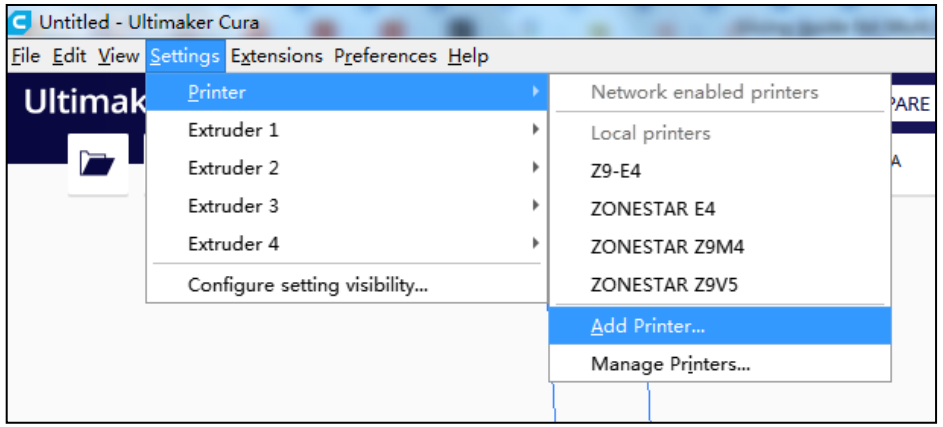
Import ZONESTAR printer settings

Copy “ZONESTAR_Cura_Resources\resources” to “resources” dirctory in the installation directory of Cura

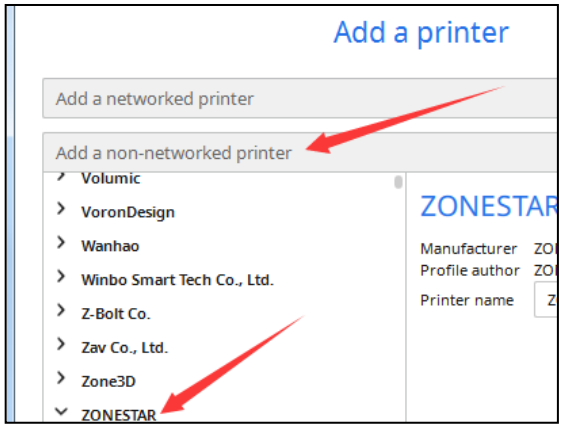


Setting up printer

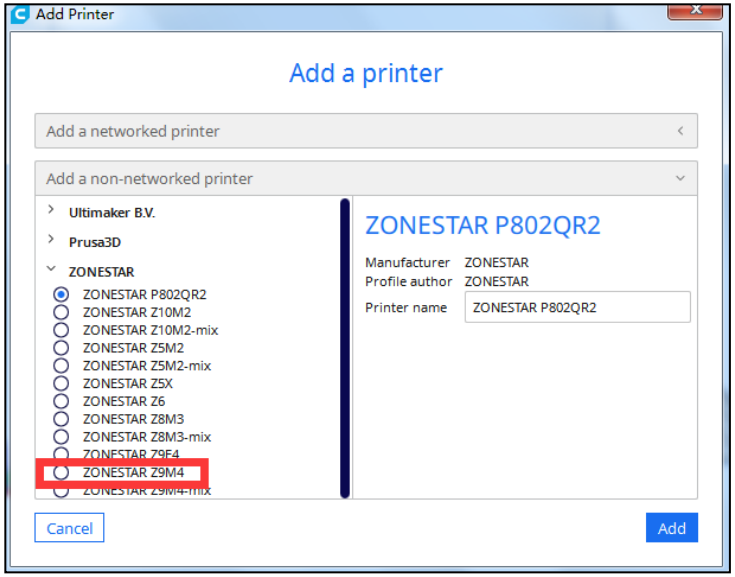
1: Open “Settings>>Add printer…”



2: Choose “ZONESTAR”



3: Choose the printer model and click “Add”



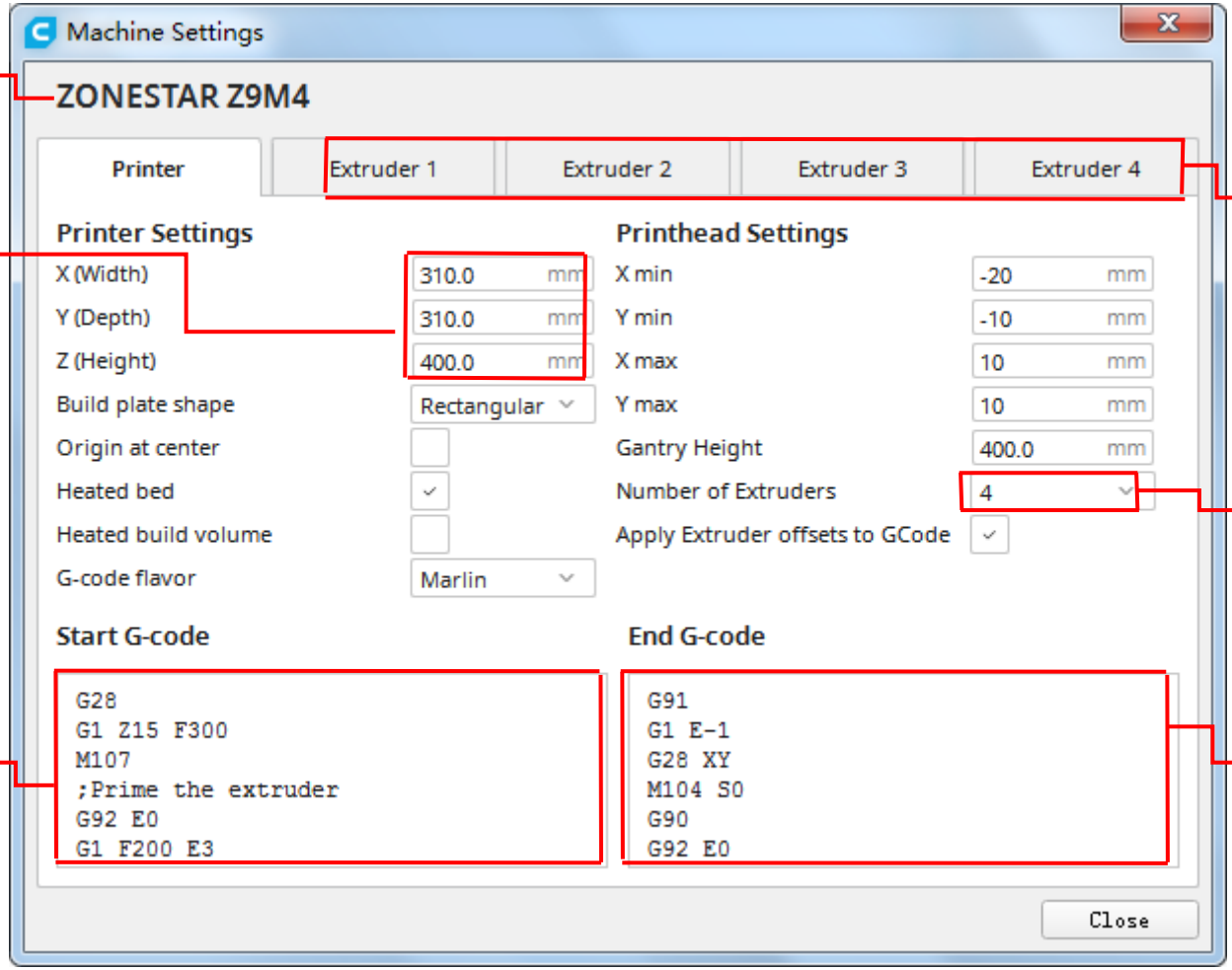
Note: choose **Z9M4** at first.

Z9M4 set 4 extruders in the define of printer.

Z9M4-mix set 8 virual extruders in the define of printer.

Setting up printer

Click “Machine settings”, and check the printer parameters.



Printer model

Print size

Start G-code

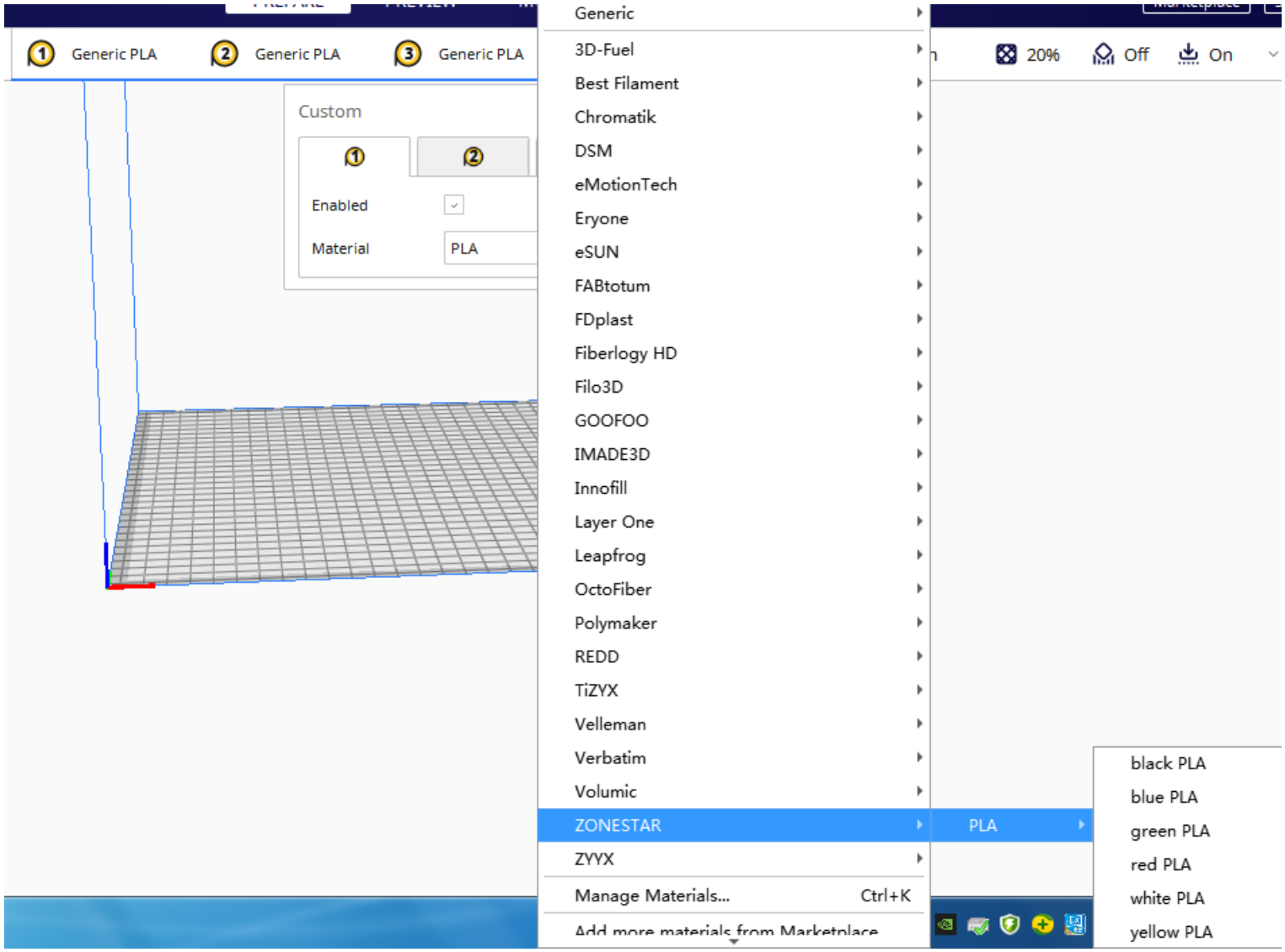
Extruder name

Number of extruders

End G-code

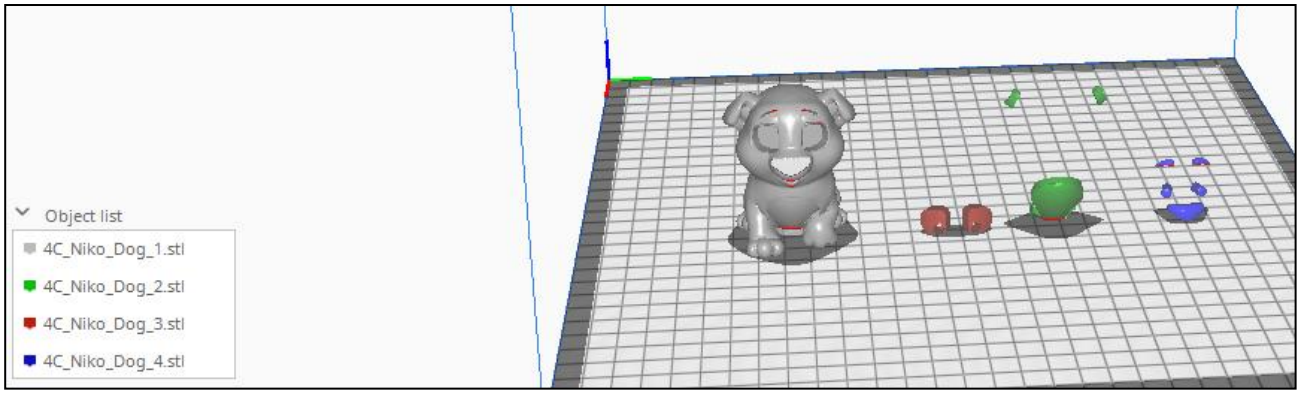
Setting up filament

In order to easy to view when slicing, you can define the filament color



Slicing

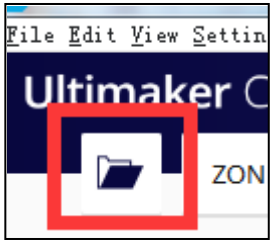
For the sake of illustration, we will use only one 3d object in the following pages. This 3d object is a 4-color model, which has divided the object into four parts

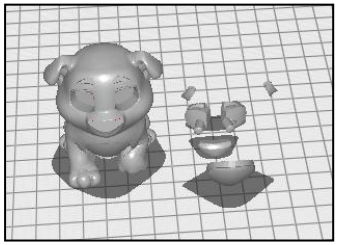


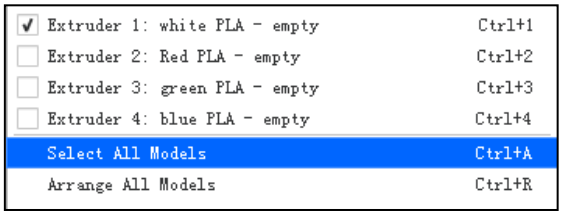
Tips: If you need to print multi colors, you need a 3d object that has been divided (the number of divided parts is according to the number of colors), and their origin position must be consistent in order to be merged.

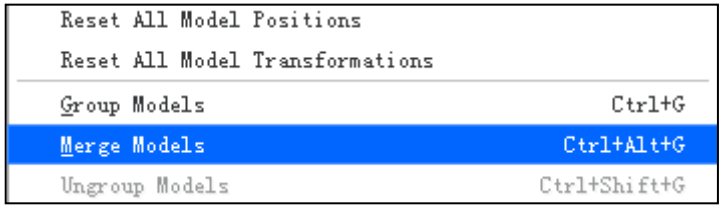
Of course, you can also merge several objects into one color (multiple parts are assigned to the same extruder), as you will see in the next pages

Slicing for one color 3d object printing





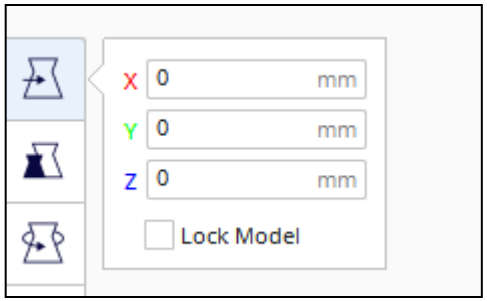


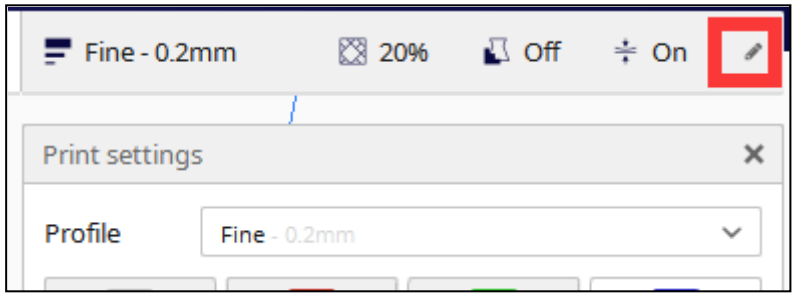


Load files

Right click the mouse
Setlect all models

Merge

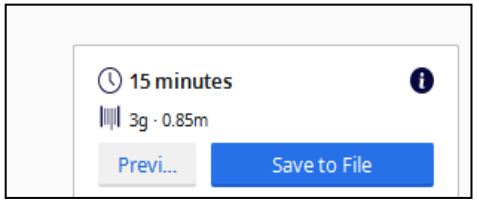




Move/Scale/Rotat
e the model

Set slicing parameters

Slicing it



save it

Copy the gcode file to SD card
and print it

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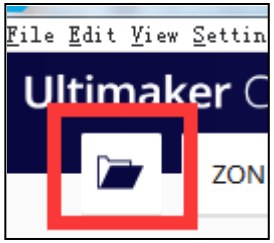
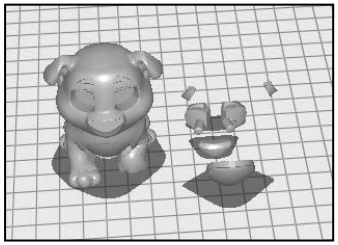
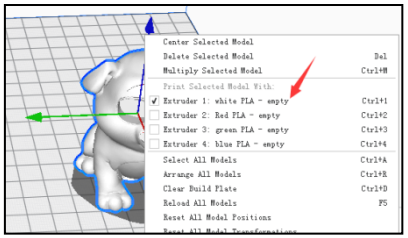
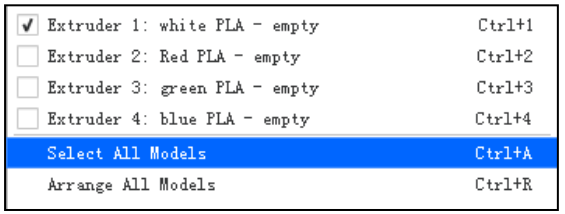
and print it

Slicing 2 Color 3d object





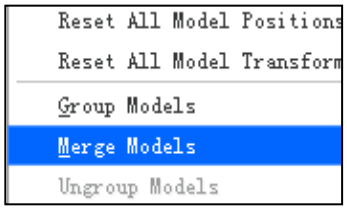


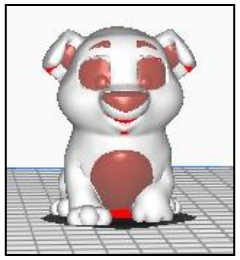


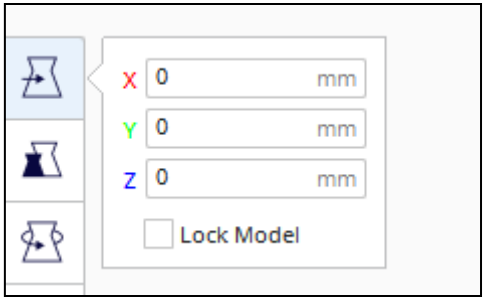
Load files

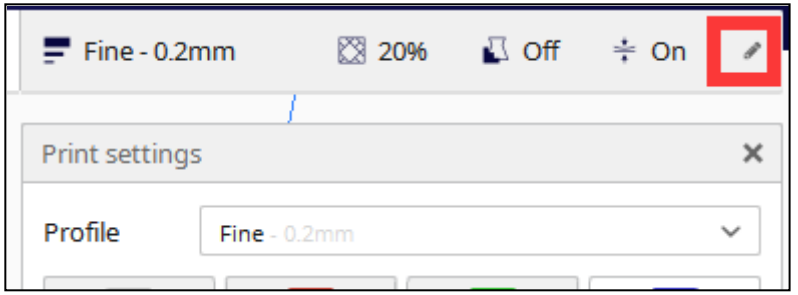
Right click the part and assign extruder for it

Right click the mouse Setlect all models





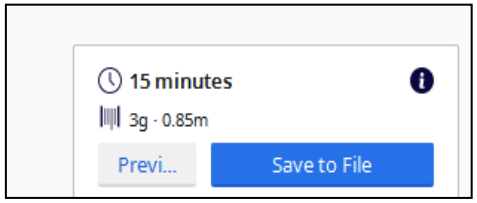




Merge

Move/Scale/Rotat e the model

Set slicing parameter



Slicing it

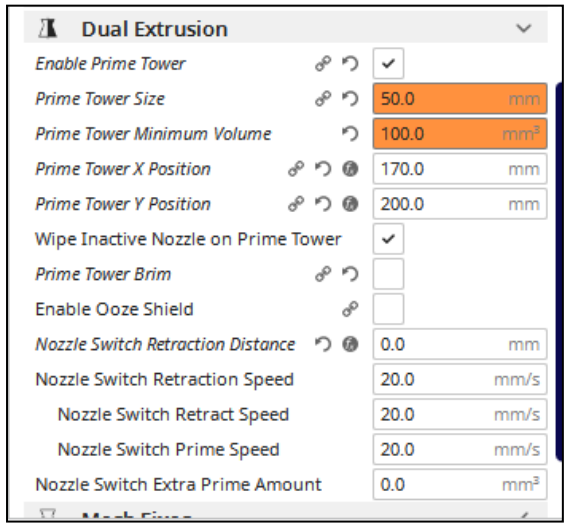
save it

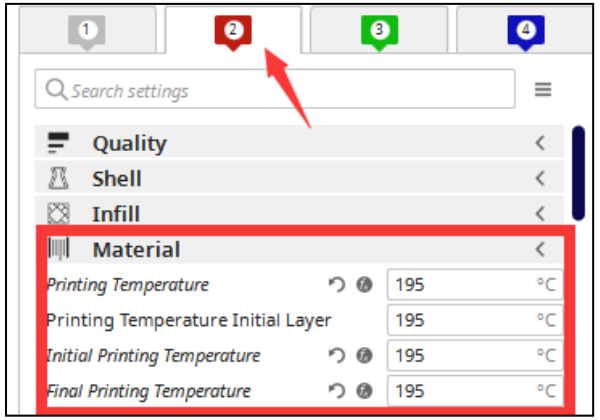
Copy the gcode file to SD card, then print it

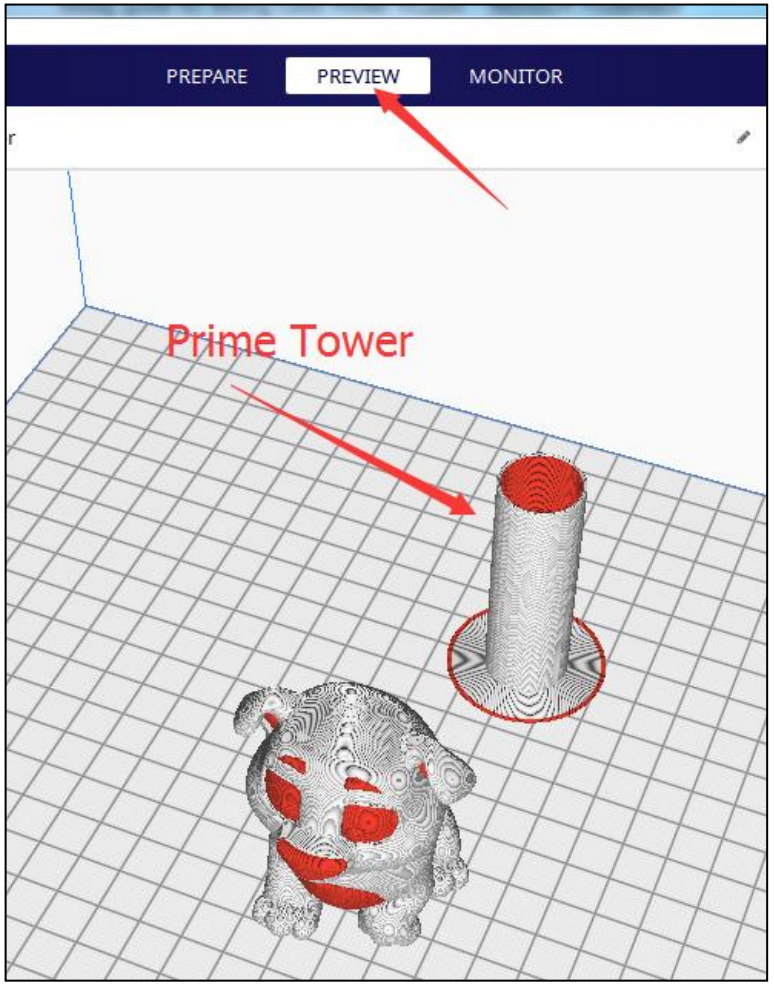
Slicing setting for 2 color printing

We need to set the below settings for 2 color printing:

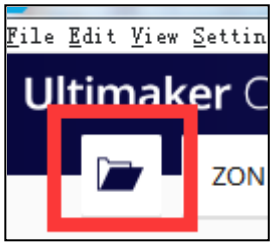
1. Enable a prime tower and set its position
2. Set the filament temperature for the 2nd extruder (set to the same with 1st extruder)

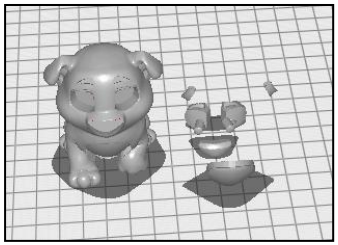


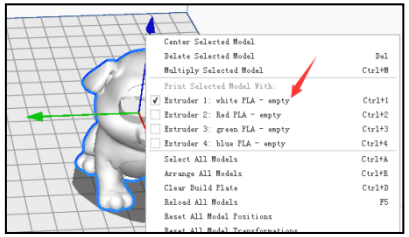


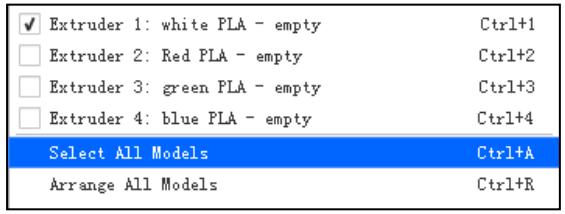


Slicing multi colors 3d object - Process





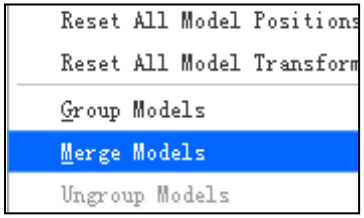


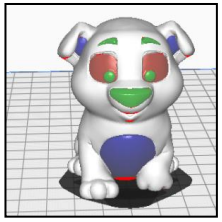


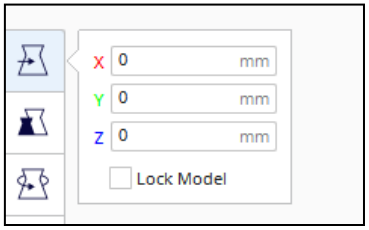
Load files

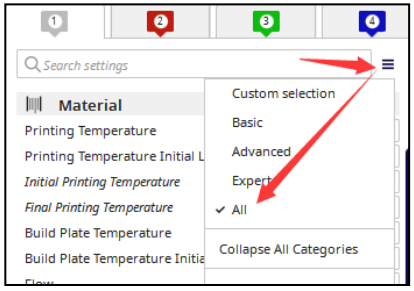
Right click the part and assign extruder for each

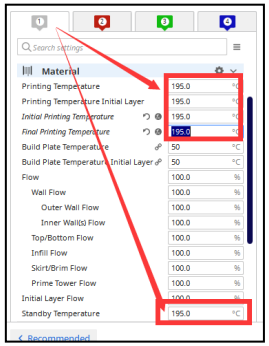
Right click the mouse setlect all models







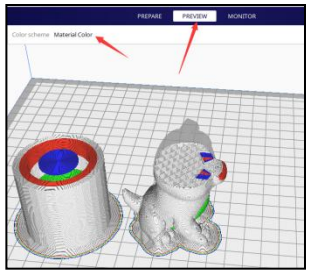


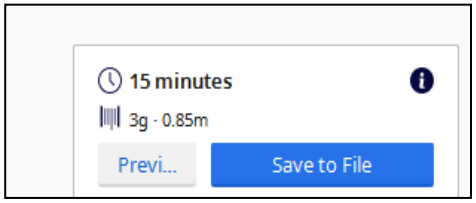


Merge

Move/Scale/Rotat e the model

Set slicing parameter (Open All mode)





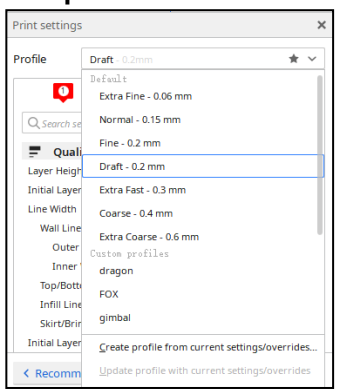
Slicing, preview and save it to PC

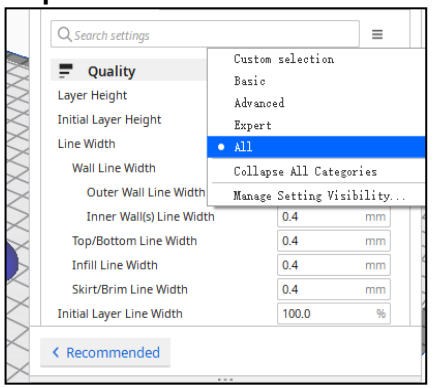
Copy the gcode file to SD card, then print it

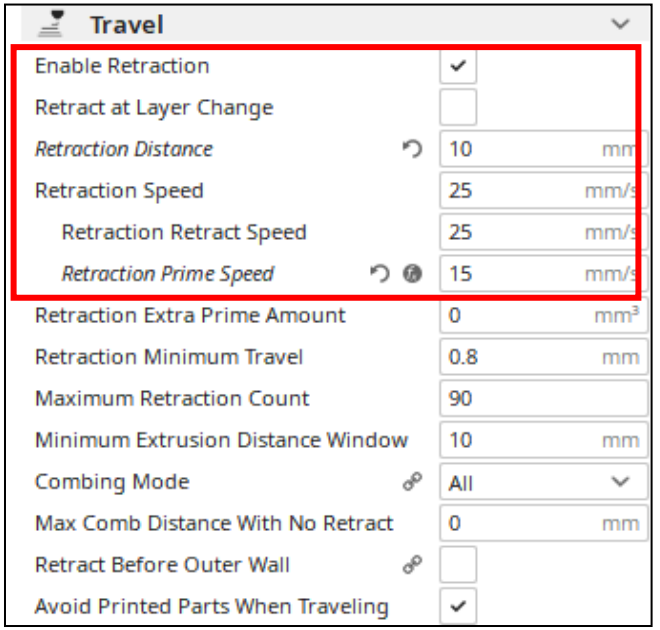
Slicing multi colors 3d object - slicing

NOTE: When printing settings, please note that it needs to be set for each extruder.

NOTE: The below settings are for PLA filament, if you want to choose other type of filament, please modify the nozzle temperature hotbed temperature to correct value

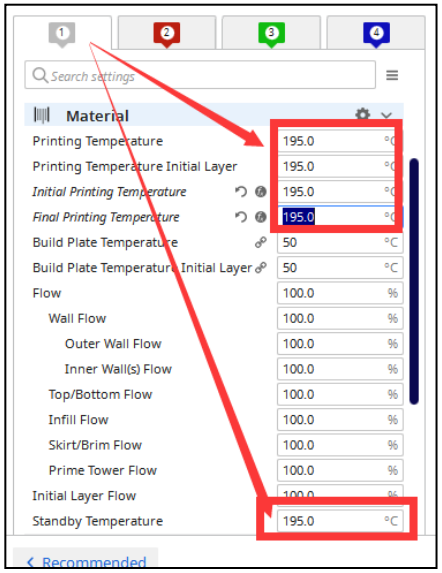






Set nozzle temperature:

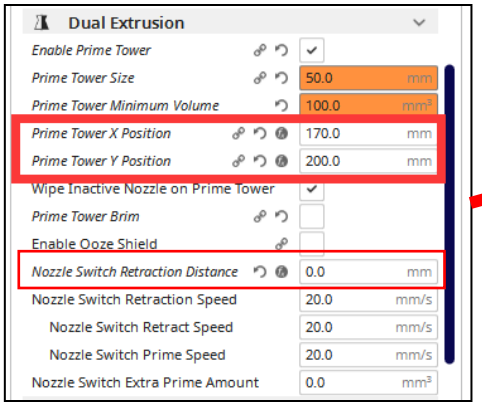
All of the extruders are the same

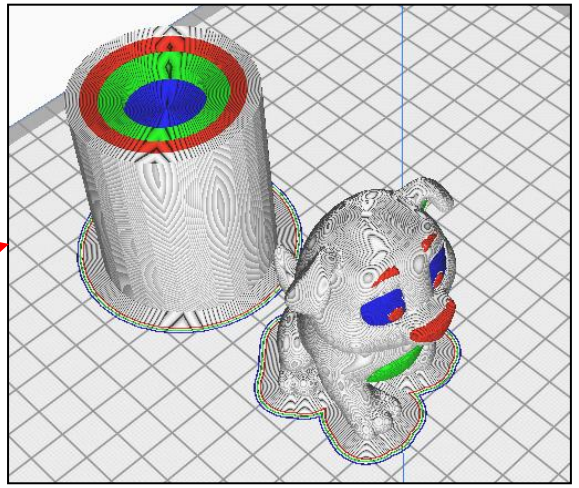


Set Prime Tower:

You need to modify the position according to your model

Nozzle switch Rettraction speed : 0

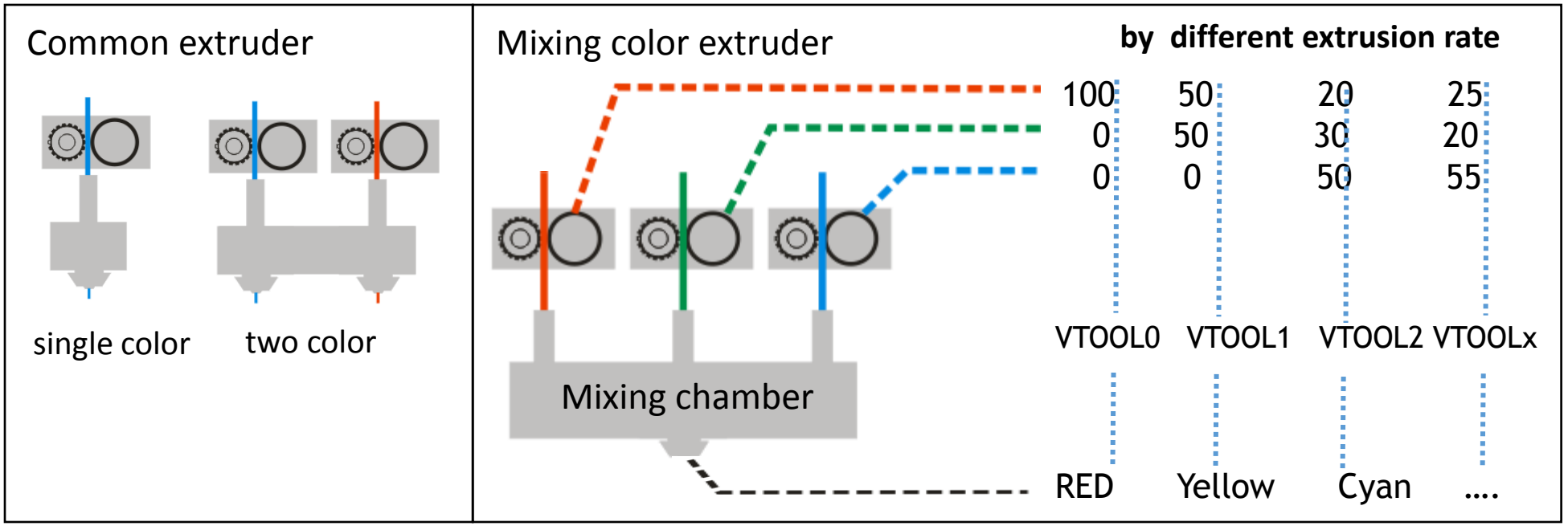




Slicing more colors 3d object by using virual extruder

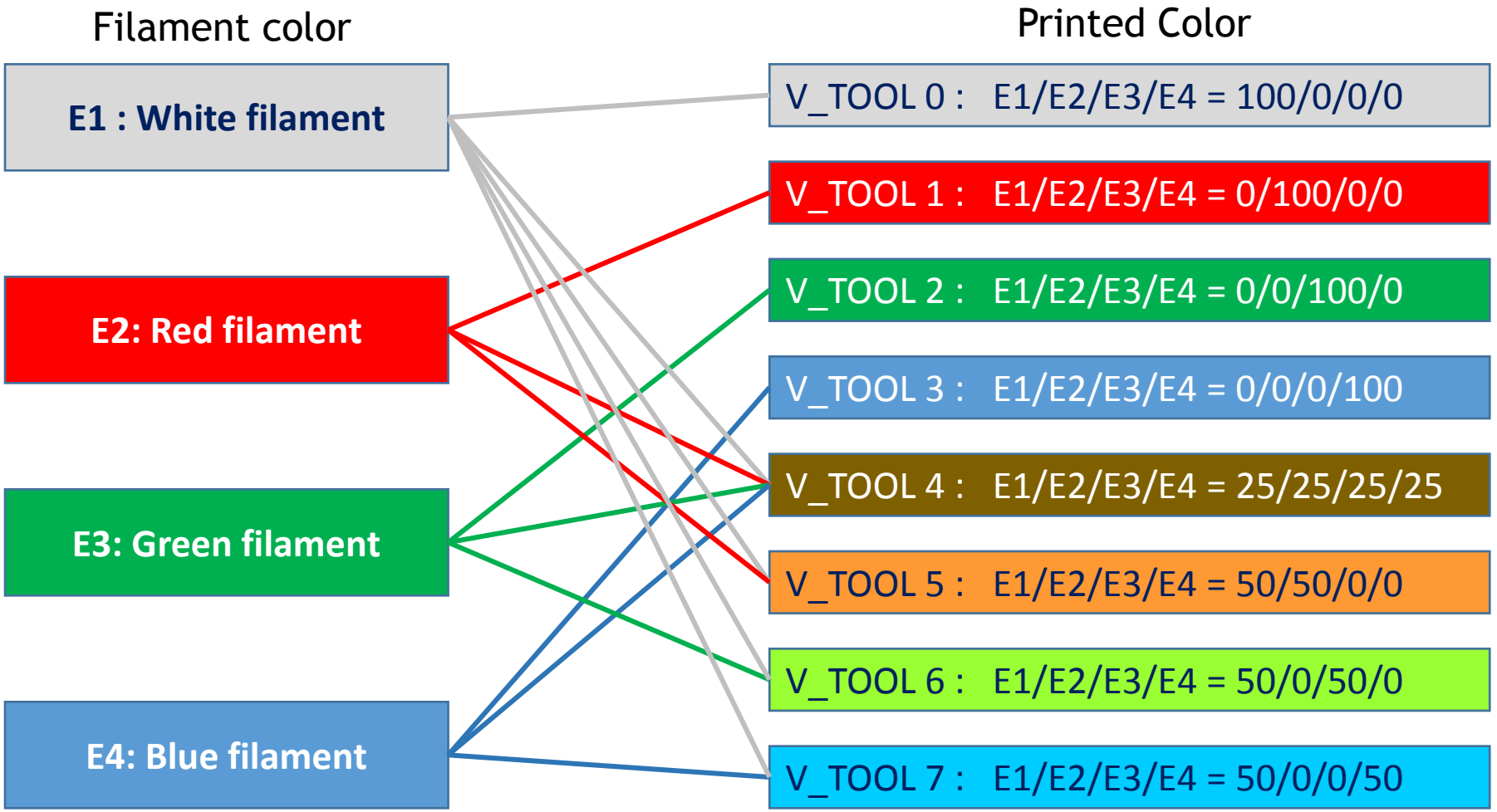
what is Virual extruder (V-TOOL)

•**Tool Chain (Tool head):**
For common singel color or general multicolor printer, each extrusion feeder corresponds to one nozzle, so the number of tool chain is equal to the extrusion feeders and nozzles.
For mixing color printer, because it has a mixing chamber to mix 2 or more filament together, so we can set more tool chain than real extruders
•**Virual Extruder / Virsual Tool Chain:**
In mixing color printer, **one combination of extrusion rates can correspond to a new color filament,** in order to distinguish them from the real extruder, they are called **Virsual Tool Chain**.



Slicing more colors 3d object by using virual extruder

The following example will show the slice process for using Z9M4 to print 8-color object



NOTE: The colors in the above figure are only used to illustrate the principle, which may be very different from the actual situation

Slicing more colors 3d object by using virual extruder

How to use Virual extruder (V-TOOL)

- **Step 1:** Add a new printer **"ZONESTAR Z9M4-mix"**
- **Step 2:** Open the machine setting >>VTOOLx>>Extruder Start G-code
- **Step 3:** Change the value of the command P**[x]**

for example the default settings of VTOOL7:

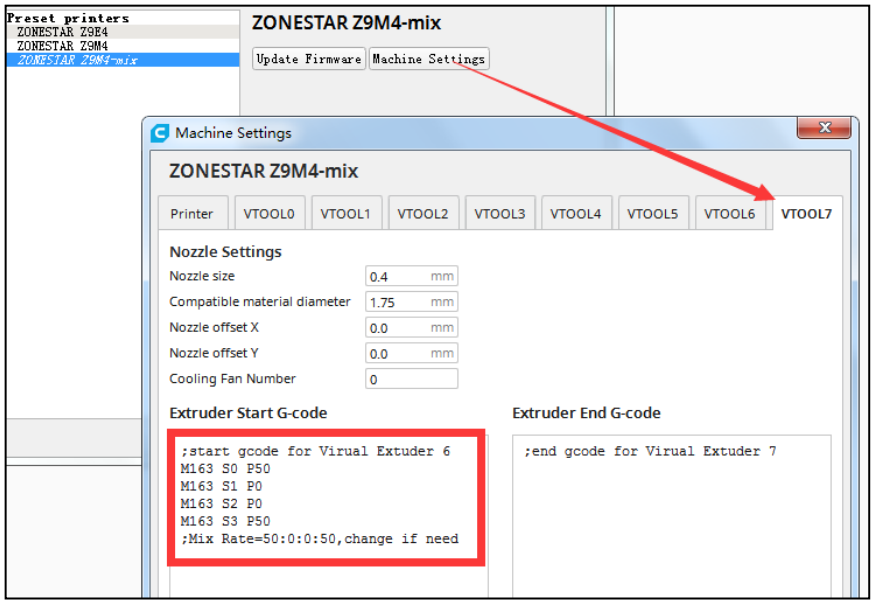
M163 S0 P50 ; Extruder **#1** rate is 50%
M163 S1 P0 ; Extruder **#2** rate is 0%
M163 S2 P0 ; Extruder **#3** rate is 0%
M163 S3 P50 ; Extruder **#4** rate is 50%

You can change them to

M163 S0 P10 ; Extruder **#1** rate is 10%
M163 S1 P20 ; Extruder **#2** rate is 20%
M163 S2 P30 ; Extruder **#3** rate is 30%
M163 S3 P40 ; Extruder **#4** rate is 40%

M163 S0 P10
M163 S1 P20
M163 S2 P30
M163 S3 P40

sum = 100



Then you will have a "new color" extruder VTOOL7, you can assign VTOOL to a part of a multi color 3d model, or assign it to print a singel color 3d model, the slicing steps is the same with 1~4 colors 3d prints.