

MultiBake – Bake Multiple Materials to Atlas

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Category: Object → View3D → Sidebar → *MultiBake* panel

Overview

MultiBake is a Blender tool designed to simplify the process of baking multiple materials into a single texture atlas.

It automates object merging, UV packing, and map baking across all materials — then optionally duplicates your object and applies the baked textures into a clean *Principled BSDF* material.

Main Features

Step 1: Combine Objects

- ◆ **Button:** *Combine Objects*

Join selected mesh objects into a single object while keeping their UVs and materials intact.
→ Equivalent to **Ctrl + J**, done automatically.

Step 2: Create / Pack UV

- ◆ **Button:** *Create Packed UV*

Creates a new UV map (default name: **MultiBake**) and automatically selects **all UVs** and **packs islands** into a unified 0–1 space.

This ensures all materials share a consistent UV layout for baking.

Step 3: Select Bake Maps

- ◆ **Available Map Types:**

- ✓ Diffuse (Color only — no lighting)
- ✓ Ambient Occlusion (AO)
- ✓ Normal
- ✓ Roughness

- ☒ Glossy (Specular)
- ☒ Emission
- ☒ Transmission
- ☒ UV Map

You can tick any combination. Each map is baked separately into a clean texture file.

Step 4: Settings

◆ Resolution Options:

Choose from standard presets:

- 1024 × 1024
- 2048 × 2048
- 4096 × 4096
- 8192 × 8192

◆ Margin:

Adjust island margin in pixels for clean separation.

◆ Output Folder:

Choose where to save the baked textures.

◆ Duplicate & Assign:

When enabled, automatically duplicates your baked object and assigns all baked maps into a new *Principled BSDF* node setup.

Final Step: Bake Selected Maps

When you click **Bake Selected Maps**, the tool:

1. Switches to **Cycles** engine (if in Eevee) and sets GPU for baking.
2. Creates all selected texture images.
3. Ensures every material has a texture node linked to the correct UV map.
4. Bakes each map and saves PNGs to your output folder.

5. Duplicates the original object.
 6. Builds a new clean *Principled BSDF* material with baked textures automatically connected:
 - Diffuse → Base Color
 - AO → Multiplied with Diffuse
 - Normal → Normal input (with Normal Map node)
 - Roughness → Roughness input
 - Glossy → Specular input
 - Emission → Emission input
 - Transmission → Transmission input
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Output

All baked textures are saved in your selected folder with filenames:

```
MultiBake_DIFFUSE.png  
MultiBake_NORMAL.png  
MultiBake_AO.png  
MultiBake_ROUGHNESS.png  
MultiBake_GLOSSY.png  
MultiBake_EMIT.png  
MultiBake_TRANSMISSION.png  
MultiBake_UV.png
```

The duplicated object will have a new material named:

```
<ObjectName>_baked_mat
```



Best For

- Combining multiple textured assets into a single optimized atlas.
 - Game asset optimization (Unity / Unreal / mobile).
 - Baking complex multi-material props or characters into a single material.
 - Preparing low-poly baked versions of high-poly assets.
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Tips

- Always unwrap all objects before combining.
- Save your .blend file before baking large resolutions.
- AO and Normal maps should use **Non-Color** data when imported elsewhere.
- Works best with **Cycles** bake engine.