

Portal9 Hy3D — Brief



What it is: A self-contained ComfyUI custom-node pack that turns photos and meshes into **game-ready 3D** — priority prep, Hunyuan paint, humanoid auto-rig, and photo-to-placed **scene** assembly.

Categories: Portal9/Hy3D · Portal9/Hy3D/Prep · Portal9/Hy3D/Scene

Brand: Portal9 product using Hunyuan paint under the hood — not a TexGen fork of ComfyUI-3D-Pack.

Four pipelines

Pipeline	What you get
Paint	Mesh + reference image → textured / PBR mesh (P9_TEXGEN_PIPE)
Prep	Segment → density remesh → part UV → pack → Save GLB
Auto-rig	Landmarks → Mixamo-style Blender bind → skinned GLB/FBX
Scene	Photo → SAM crops → Kontext restore → Hy3D + TexGen → layout → scene.glb

Node count (summary)

Area	Count	Examples
Paint	2	Load TexGen Pipeline · TexGen
Prep	12	Segment Parts · Priority Remesh · Part UV · Pack · Preview · Save GLB
Rig	5	Load Mesh · Estimate Landmarks · Auto Rig · Preview · Export
Scene	20	Job · Segment · Isolate · Layout · Assemble · gates / waits / VRAM
Total	39	Full inventory in the white paper

Why it exists

Stock Hunyuan TexGen hides bake/camera/sampling knobs. Remesh/UV and rigging usually leave Comfy. Photo-to-scene needs folder contracts, isolate, placement, and assemble that no single upstream node owns. Portal9 exposes paint controls, keeps prep/rig in-graph, and orchestrates scene I/O around the Comfy models you already run (SAM3, Flux Kontext, Hunyuan shape).

Dependencies (short)

- 1. ComfyUI + NVIDIA GPU
- 2. custom_rasterizer built for *this* Python/torch/CUDA
- 3. Paint weights (auto-download or models/paint/)
- 4. Blender 4.x for Auto Rig (PORTAL9_BLENDER if needed)
- 5. Scene path also needs your SAM / Kontext / Hunyuan **shape** nodes + weights

Install: [HOWTO.md](#) · Architecture: [Portal9_Hy3D_White_Paper.md](#) · Scene: [SCENE_PIPELINE.md](#)

Operating envelope (paint + remesh)

	≈12GB (12GB preset)	High-end (hero)
Views / res / render / texture	8 / 512 / 2048 / 4096	12 / 1024 / 4096 / 8192
Priority remesh faces	50k typical · ≤200k	≤500k

Start here

Goal	Workflow
Full character paint	example_workflows/3d_gen_Mesh_painter_prep_paint_full.json
Paint only	example_workflows/Mesh_painter.json
Auto-rig	example_workflows/Mesh_autorig.json
Photo → scene	example_workflows/photo_to_scene_*.json (room / town / city / indoor / outdoor)