



RealTerrain Studio - Day 1 Complete Setup Guide

"From Earth to Engine"

Welcome! This is your complete guide to start building RealTerrain Studio TODAY!



WHAT YOU'RE BUILDING

RealTerrain Studio - The ultimate terrain creation pipeline:

- **QGIS Plugin** (Python) → Exports real-world geodata
 - **UE5 Plugin** (C++) → Imports everything automatically
 - **Single .rterrain file** → One file contains everything
 - **13 Game Profiles** → One-click configuration
 - **Hardware Validation** → Prevents crashes before they happen
-



PREREQUISITES (Install These First)

1. Claude Pro (\$20/month) ⭐ REQUIRED

Visit: <https://claude.ai>

Click: "Upgrade to Pro"

Pay: \$20/month

Why needed:

- Claude Code access (builds everything for you!)
- Opus 4 + Sonnet 4.5 (best AI models)
- High message limits

2. VS Code (Free)

Download: <https://code.visualstudio.com/>

Install: Standard installation

Extensions to install:

- Python (Microsoft)
- Pylance (Microsoft)
- C/C++ (Microsoft)
- GitLens (Optional but recommended)

3. Python 3.9+ (Free)

Download: <https://www.python.org/downloads/>

Install: Check "Add Python to PATH"

Verify:

`python --version`

(Should show: Python 3.9 or higher)

4. Git (Free)

Download: <https://git-scm.com/>

Install: Standard installation

Verify:

`git --version`

5. QGIS 3.22+ (Free)

Download: <https://qgis.org/>

Install: Long Term Release (LTR) version

Why: This is where you'll develop and test the plugin

6. Unreal Engine 5.3+ (Free)

Install Epic Games Launcher

Download UE5.3 or later

Why: This is where terrain will be imported

Note: Large download (~50 GB), can do later

🚀 DAY 1 - SETUP (TODAY!)

Step 1: Install Claude Code (5 minutes)

On Windows (PowerShell as Admin):

```
powershell
```

```
irm https://cli.claude.ai/install.ps1 | iex
```

On Mac/Linux:

```
bash
```

```
curl -fsSL https://cli.claude.ai/install.sh | sh
```

Verify installation:

```
bash
```

```
claude-code --version
```

Authenticate:

```
bash
```

```
claude-code auth
```

(Opens browser, log in with Claude Pro account)

Step 2: Create Project Structure (2 minutes)

Create project folder:

```
bash
```

```
# Choose a location (e.g., C:/Projects/ or ~/Projects/)
```

```
cd C:/Projects/ # Windows
```

```
# OR
```

```
cd ~/Projects/ # Mac/Linux
```

```
# Create project
```

```
mkdir RealTerrainStudio
```

```
cd RealTerrainStudio
```

```
# Open in VS Code
```

```
code .
```

In VS Code terminal (Ctrl + `):

```
bash
```

```
# Verify you're in the right place
```

```
pwd
```

```
# Should show: .../RealTerrainStudio
```

Step 3: Initialize Git (1 minute)

```
bash  
  
git init  
git config user.name "Your Name"  
git config user.email "your.email@example.com"
```

Create .gitignore:

```
bash  
  
# In VS Code, create new file: .gitignore  
# Add this content:
```

```
# Python  
__pycache__/  
*.py[cod]  
*$py.class  
.so  
.Python  
venv/  
env/
```

```
# QGIS  
*.qgs~  
*.qgz~
```

```
# UE5  
Binaries/  
DerivedDataCache/  
Intermediate/  
Saved/  
*.sln  
*.suo
```

```
# IDEs  
.vscode/  
.idea/
```

```
# OS  
.DS_Store  
Thumbs.db
```

```
# RealTerrain specific  
exports/  
*.rterrain  
test_data/
```

Step 4: Start Claude Code (NOW!)

In VS Code terminal:

```
bash  
claude-code
```

You'll see:

Claude Code v1.0.0

Connected to Claude Pro

Model: claude-sonnet-4.5

What would you like to build?

>

🎯 YOUR FIRST PROMPT TO CLAUDE CODE

Copy and paste this EXACTLY:

I'm building RealTerrain Studio - a terrain creation pipeline from QGIS to Unreal Engine 5.

PROJECT CONTEXT:

- I cannot code myself, so guide me step-by-step
- Read AGENT_RULES.md for development guidelines
- Read TASKS.md for the complete task list
- We're starting with TASK-001: Initialize Project Structure

FIRST TASK:

Create the complete folder structure for RealTerrain Studio with these components:

1. QGIS plugin (Python)
2. UE5 plugin (C++)
3. Supabase backend
4. Website (Next.js)
5. Documentation
6. All necessary config files

Requirements:

- Follow the structure defined in TASKS.md
- Create README.md files in each major folder
- Add .gitignore for each component
- Create placeholder files where needed
- Explain what you're creating as you go

Start now with TASK-001.

📁 WHAT CLAUDE CODE WILL CREATE

Claude will build this structure:

```
RealTerrainStudio/
├── README.md           ← Project overview
├── CHANGELOG.md        ← Version history
├── LICENSE              ← Software license
├── .gitignore            ← Git ignore rules
|
└── qgis-plugin/         ← QGIS Plugin (Python)
    ├── realterrain_studio/
    │   ├── __init__.py
    │   ├── metadata.txt
    │   ├── icon.png
    │   ├── core/          ← Core functionality
    │   ├── pro/           ← Pro features
    │   ├── licensing/     ← License system
    │   ├── ui/            ← User interface
    │   ├── utils/         ← Utilities
    │   └── tests/         ← Unit tests
    ├── requirements.txt
    ├── setup.py
    └── README.md
|
└── ue5-plugin/          ← UE5 Plugin (C++)
    ├── RealTerrainStudio/
    │   ├── RealTerrainStudio.upplugin
    │   ├── Source/
    │   │   ├── RealTerrainStudio/  ← Runtime
    │   │   ├── RealTerrainStudioEditor/ ← Editor
    │   │   └── RealTerrainStudioPro/ ← Pro features
    │   ├── Content/
    │   │   ├── Materials/
    │   │   ├── Blueprints/
    │   │   └── UI/
    │   ├── Resources/
    │   └── Config/
    └── README.md
|
└── backend/              ← Supabase Backend
    ├── supabase/
    │   ├── config.toml
    │   ├── migrations/      ← SQL schema
    │   │   ├── 00001_initial_schema.sql
    │   │   ├── 00002_licenses.sql
    │   │   ├── 00003_hardware_activations.sql
    │   │   ...
    │   └── functions/       ← Edge functions
    └── validate_license/
```

```

|   |   |
|   |   +-- activate_license/
|   |   +-- stripe_webhook/
|   +-- README.md

+-- website/           ← Marketing Website
|   +-- public/
|   +-- src/
|   |   +-- app/
|   |   |   +-- page.tsx    ← Landing page
|   |   |   +-- pricing/
|   |   |   +-- docs/
|   |   |   +-- download/
|   |   |   +-- dashboard/
|   |   +-- components/
|   |   +-- lib/
|   +-- package.json
|   +-- README.md

+-- docs/             ← Documentation
|   +-- user-guide/
|   |   +-- getting-started.md
|   |   +-- qgis-plugin/
|   |   +-- ue5-plugin/
|   +-- api/
|   |   +-- rterrain-format.md
|   +-- tutorials/
|   +-- development/

+-- tests/            ← Integration tests
|   +-- integration/
|   +-- e2e/
|   +-- performance/

```

⌚ TIMELINE FOR TODAY

Hour 1: Setup & Installation

- +-- Install Claude Pro ✓
- +-- Install VS Code ✓
- +-- Install Python ✓
- +-- Install Claude Code ✓
- +-- Create project folder ✓

Hour 2: Project Structure

- +-- Start Claude Code

- |— TASK-001: Create folder structure
- |— Review what Claude created
- |— First git commit

Hour 3: QGIS Plugin Skeleton

- |— TASK-101: Create plugin skeleton
- |— Test loading in QGIS
- |— "Hello World" popup

Hour 4: Review & Plan

- |— Understand what was built
- |— Review TASKS.md
- |— Plan tomorrow's work
- |— Celebrate! 🎉

Total: 4 hours to working plugin skeleton!

🎯 AFTER EACH TASK

Claude Code will:

1. Create all files
2. Explain what was created
3. Show you how to test
4. Mark task as DONE in TASKS.md
5. Update CHANGELOG.md

Your job:

1.  Read Claude's explanation
2.  Test what was built (Claude gives instructions)
3. Approve if it works
4.  Ask questions if confused
5.  Move to next task

🧪 TESTING YOUR FIRST PLUGIN

After TASK-101 is complete, test it:

Step 1: Copy plugin to QGIS

```
bash

# Windows
cp -r qgis-plugin/realterrain_studio "C:/Users/YourName/AppData/Roaming/QGIS/QGIS3/profiles/default/python/plugins/"

# Mac
cp -r qgis-plugin/realterrain_studio("~/Library/Application Support/QGIS/QGIS3/profiles/default/python/plugins/")

# Linux
cp -r qgis-plugin/realterrain_studio "~/.local/share/QGIS/QGIS3/profiles/default/python/plugins/"
```

Step 2: Open QGIS

1. Launch QGIS
2. Go to: Plugins → Manage and Install Plugins
3. Click: "Installed" tab
4. Find: "RealTerrain Studio"
5. Check the checkbox to enable
6. Look in menu bar: You should see "Plugins → RealTerrain Studio"
7. Click it!

Expected result:

A dialog appears saying:
"RealTerrain Studio - From Earth to Engine
Welcome! Plugin loaded successfully!"

[OK]

If you see this = SUCCESS!

💡 TIPS FOR WORKING WITH CLAUDE CODE

1. Be Specific

- Bad: "Make it better"
- Good: "Add error handling for network failures"

2. One Task at a Time

- Bad: "Build the whole plugin now"

Good: "Complete TASK-101: Create plugin skeleton"

3. Ask Questions

If confused:

"Explain what this file does in simple terms"

"How do I test this feature?"

"What does this error mean?"

4. Use Opus for Complex Tasks

When starting a new major feature:

"Use Opus 4 for this task: Create terrain export system"

For simple fixes:

"Use Sonnet 4.5 for this: Fix typo in README"

5. Review Before Moving On

After each task:

1. Read what Claude built
2. Test it yourself
3. Understand it (ask if not clear)
4. Then move to next task

TROUBLESHOOTING

Problem: Claude Code won't start

Solution:

1. Check Claude Pro subscription is active
2. Re-authenticate: claude-code auth
3. Restart terminal
4. Try again

Problem: Python version wrong

Check version:

`python --version`

If wrong:

- Windows: Reinstall Python, check "Add to PATH"

- Mac: Use brew install python@3.9
- Linux: Use pyenv to manage versions

Problem: QGIS won't load plugin

Check:

1. Plugin copied to correct folder
2. `__init__.py` exists
3. `metadata.txt` has correct info
4. QGIS version is 3.22+
5. Python errors in QGIS log (View → Panels → Log Messages)

Problem: Git not working

Verify installation:

```
git --version
```

Configure:

```
git config --global user.name "Your Name"  
git config --global user.email "you@example.com"
```

RESOURCES

Documentation

- AGENT_RULES.md - How Claude should code
- TASKS.md - All 80 tasks
- Your project's docs/ folder

QGIS Development

- <https://docs.qgis.org/>
- <https://plugins.qgis.org/>

UE5 Development

- <https://docs.unrealengine.com/>
- <https://dev.epicgames.com/>

Supabase

- <https://supabase.com/docs>

Get Help

- Ask Claude Code (it knows everything!)
 - QGIS forums
 - Unreal Engine forums
-

🎯 SUCCESS CRITERIA FOR DAY 1

By end of today, you should have:

- ✓ Claude Pro subscription active
- ✓ VS Code installed and working
- ✓ Claude Code authenticated
- ✓ Project folder created
- ✓ Git initialized
- ✓ TASK-001 complete (folder structure)
- ✓ TASK-101 complete (plugin skeleton)
- ✓ Plugin loads in QGIS
- ✓ "Hello World" dialog appears

If you have all these = **PERFECT START!** 🎉

➡ WHAT'S NEXT (DAY 2)

Tomorrow you'll build:

- TASK-102: Main UI with Game Profile wizard
- TASK-103: License activation dialog
- Test the complete UI flow

Estimated time: 4-6 hours

🎉 YOU'RE READY!

Open VS Code terminal and type:

```
bash
```

```
claude-code
```

Then paste the first prompt above and START BUILDING!

Remember:

- Claude Code does ALL the coding
- You just guide it with tasks
- Test everything it builds
- Ask questions when confused
- Have fun! 

From Earth to Engine - Let's make it happen!  → 

Last Updated: December 2024

RealTerrain Studio - Day 1 Guide

Total estimated time: 4 hours