



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/
*.rtterrain
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.uplugin
 - └─ 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/



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