

# Sovereign Sanctuary Elite - Deployment Guide

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**Version:** 2.0.0 **Date:** 2026-01-25 **Author:** Manus AI for Architect

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## 1. Prerequisites

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Before deploying the Sovereign Sanctuary Elite system, ensure the following prerequisites are met:

### 1.1 System Requirements

Component	Minimum	Recommended
CPU	2 cores	4+ cores
RAM	4 GB	8+ GB
Disk	20 GB	50+ GB SSD
OS	Ubuntu 22.04 / Windows 11	Ubuntu 22.04 LTS
Python	3.10+	3.11+
Node.js	18+	22 LTS

### 1.2 Network Requirements

- Tailscale installed and configured (for multi-node deployment)
- Outbound HTTPS access to OpenAI API
- SSH access between nodes (port 22)

## 1.3 Required Credentials

Create a `.env` file with the following:

```
# Agent signing key (generate with: openssl rand -hex 32)
AGENT_SIGNING_KEY="your-64-character-hex-key"

# OpenAI API key
OPENAI_API_KEY="sk-...."

# Optional: Agent identity
AGENT_ID="agent-pr-reviewer-v2"
```

## 2. Installation

### 2.1 Clone Repository

```
git clone https://github.com/YOUR_ORG/sovereign-sanctuary-elite.git
cd sovereign-sanctuary-elite
```

### 2.2 Python Environment Setup

```
# Create virtual environment
python3 -m venv .venv
source .venv/bin/activate # Linux/Mac
# or: .venv\Scripts\activate # Windows

# Install dependencies
pip install -e .[dev]
```

## 2.3 Node.js Environment Setup

```
# Install Node dependencies  
pnpm install  
  
# Build TypeScript  
pnpm build
```

## 2.4 Configuration

Copy and customize the configuration:

```
cp config/swarm_config.example.json config/swarm_config.json
```

Edit `config/swarm_config.json` to match your node topology.

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# 3. Single-Node Deployment

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For development or single-machine deployments:

## 3.1 Start Self-Heal Monitor

```
# Start with default 60-second interval  
sanctuary-heal  
  
# Or with custom interval  
sanctuary-heal --interval 30 --config config/swarm_config.json
```

## 3.2 Start Flight Control Daemon

```
# Start file watcher  
sanctuary-flight --verbose
```

### 3.3 Verify Installation

```
# Check health endpoint
curl http://localhost:5001/health

# Run test suite
pytest
pnpm test
```

## 4. Multi-Node Deployment

For production deployments across multiple nodes:

### 4.1 Node Configuration

Update `config/swarm_config.json` with your node IPs:

```
{
  "nodes": {
    "controller": {
      "ip": "100.94.217.80",
      "role": "controller",
      "port": 22
    },
    "pc1_blade": {
      "ip": "100.94.217.81",
      "role": "primary",
      "port": 22
    },
    "pc2_echo": {
      "ip": "100.94.217.82",
      "role": "compute",
      "port": 22
    }
  }
}
```

## 4.2 Deploy to Each Node

Use the push system to deploy:

```
python scripts/push_system.py --target all --method git
```

## 4.3 Start Services on Each Node

On each node, start the appropriate services:

**Controller Node:**

```
sanctuary-heal --interval 30  
sanctuary-flight
```

**Compute Nodes:**

```
sanctuary-heal --interval 60
```

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# 5. Systemd Service Installation (Linux)

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## 5.1 Create Service File

```
sudo cp scripts/self_activation/sovereign-sanctuary.service  
/etc/systemd/system/  
sudo systemctl daemon-reload
```

## 5.2 Enable and Start

```
sudo systemctl enable sovereign-sanctuary  
sudo systemctl start sovereign-sanctuary
```

## 5.3 Check Status

```
sudo systemctl status sovereign-sanctuary  
journalctl -u sovereign-sanctuary -f
```

# 6. Windows Service Installation

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## 6.1 Install as Service

Run PowerShell as Administrator:

```
.\scripts\self_activation\Sovereign-Service.ps1 -Install
```

## 6.2 Start Service

```
Start-Service SovereignSanctuary
```

# 7. Verification Checklist

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After deployment, verify the following:

Check	Command	Expected Result
Self-heal running	<code>ps aux \  grep self_heal</code>	Process active
Flight control running	<code>ps aux \  grep flight_control</code>	Process active
SITREP updated	<code>cat evidence/SITREP.md</code>	Recent timestamp
Nodes reachable	<code>ping 100.94.217.81</code>	Response received
Ledger writable	<code>echo "test" &gt;&gt; evidence/ledger.jsonl</code>	No error

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## 8. Troubleshooting

### 8.1 Common Issues

Issue	Cause	Solution
“psutil not available”	Missing dependency	<code>pip install psutil</code>
“watchdog not installed”	Missing dependency	<code>pip install watchdog</code>
Node unreachable	Tailscale not connected	<code>tailscale up</code>
Signature verification failed	Wrong signing key	Check <code>.env</code> file

### 8.2 Log Locations

- Self-heal logs: `logs/self_heal.log`
  - Flight control: `stdout` (or redirect to file)
  - Evidence ledger: `evidence/ledger.jsonl`
  - Learn database: `evidence/learn_db.jsonl`
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# 9. Backup and Recovery

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## 9.1 Critical Files to Backup

```
evidence/  
└── ledger.jsonl      # Audit trail (CRITICAL)  
└── learn_db.jsonl    # Learning patterns  
└── SITREP.md         # Status board  
  
config/  
└── swarm_config.json # Node configuration
```

## 9.2 Recovery Procedure

1. Stop all services
  2. Restore `evidence/` directory from backup
  3. Verify ledger integrity: `sha256sum evidence/ledger.jsonl`
  4. Restart services
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### Document Control

Version	Date	Author	Changes
2.0.0	2026-01-25	Manus AI	Initial deployment guide