

Operator for Linux

This comprehensive guide will help you set up and run the Fiamma Operator on Linux systems for **mainnet production**. The process involves multiple steps with advanced security features including GPG-encrypted private keys.

Production Linux Deployment

This guide is specifically designed for **production mainnet deployment** on Linux systems. All production operators must use Linux-based infrastructure for optimal security, performance, and reliability.

Production Environment Overview

This guide covers **mainnet production deployment** with:

- **Real Bitcoin transactions** and stakes
- **Enhanced security measures** including GPG encryption
- **24/7 operational requirements**
- **Production-grade monitoring and logging**
- **Advanced troubleshooting procedures**

Setup Process Overview

The production setup involves these key components:

1. **Set Up Fiamma Operator** - Environment preparation and installation
2. **Start and Register** - Service configuration and operator registration
3. **Deposit and Stake** - Real Bitcoin staking for production
4. **Query Operator Status** - Monitoring and status management
5. **Manage the Operator Program** - Maintenance and updates
6. **Advanced Security Setup** - GPG encryption and enhanced security
7. **Pause and Quit** - Graceful shutdown procedures
8. **Troubleshooting** - Production issue resolution



New Security Features

GPG-Encrypted Private Keys

- **Enhanced security** for private key storage
- **Automatic agent caching** for seamless operation
- **Production-grade encryption** with long-term key storage
- **Compatible with systemd** auto-restart capabilities

Benefits

- **Keys encrypted at rest** using GPG

- **Automatic decryption** via gpg-agent cache
- **Supports 24/7 operation** with automatic restarts
- **Maintains compatibility** with existing plaintext workflow

System Requirements

Minimum Specifications

- **OS:** Ubuntu 20.04 LTS or later (recommended), CentOS 8+, or similar
- **CPU:** 4 cores minimum (8+ recommended for production)
- **RAM:** 8GB minimum (16GB+ recommended)
- **Storage:** 100GB SSD minimum (500GB+ recommended)
- **Network:** Stable internet with low latency

Recommended Production Setup

- **Cloud deployment:** AWS, GCP, Azure, or equivalent
- **Dedicated instance:** No shared resources
- **SSD storage:** Fast I/O for database operations
- **Monitoring:** CloudWatch, DataDog, or similar
- **Backup:** Automated backup strategy

Security Considerations

Production Security Requirements

- **Hardware Security Module (HSM)** support for key management
- **Multi-signature wallets** for high-value operations
- **Regular security audits** and updates
- **Intrusion detection systems** monitoring
- **Network security** with proper firewall configuration

Data Protection

- **Encrypted storage** for all sensitive data
- **Secure backup procedures** with encryption
- **Access control** with role-based permissions
- **Audit logging** for all operations

Pre-Installation Checklist

Before starting the installation:

- ✓ **Production environment** properly configured
- ✓ **Security measures** in place and tested
- ✓ **Backup procedures** established and verified
- ✓ **Monitoring systems** ready for deployment
- ✓ **Emergency procedures** documented
- ✓ **Team contacts** available for 24/7 support

- ✅ **Real Bitcoin** secured for staking requirements
- ✅ **Production invite codes** obtained from Fiamma team

Getting Started

1. **Review all documentation** thoroughly before beginning
2. **Complete security assessment** of your environment
3. **Test procedures** in a staging environment if possible
4. **Follow the step-by-step guides** in order
5. **Contact support** for production-specific questions

Support and Resources

Production Support

- **Priority support channels** for production issues
- **24/7 emergency contacts** for critical problems
- **Technical consultation** for complex configurations
- **Security advisory** services available

Community Resources

- **Documentation updates** regularly published
- **Best practices** shared by operator community
- **Security bulletins** for important updates
- **Performance optimization** guides

⚠ **Production Warning:** This guide involves real Bitcoin transactions with significant financial implications. Ensure you fully understand all procedures, risks, and requirements before proceeding. Test thoroughly in non-production environments when possible.