

User Data Database Tasks

Setup Tasks

Database Creation

- ☐ Create user_data database
- ☐ Set up database user permissions
- ☐ Configure database connection parameters
- ☐ Set up database backup procedures
- ☐ Test database connectivity

Table Creation

- ☐ Create users table
- ☐ Create user_portfolios table
- ☐ Create user_watchlists table
- ☐ Create user_preferences table
- ☐ Create user_activity table
- ☐ Create user_alerts table
- ☐ Create user_sessions table

Relationship Setup

- ☐ Create foreign key constraints
- ☐ Set up cascade delete rules
- ☐ Create referential integrity checks
- ☐ Validate relationship constraints
- ☐ Test data consistency

Index Optimization

- ☐ Create user lookup indexes
- ☐ Create portfolio performance indexes
- ☐ Create activity tracking indexes
- ☐ Create session management indexes
- ☐ Validate index effectiveness

Testing Tasks

Connection Tests

- ☐ Test database connectivity
- ☐ Validate user permissions
- ☐ Test connection pooling
- ☐ Verify SSL connections
- ☐ Test failover mechanisms

Data Integrity Tests

- ☐ Test foreign key constraints
- ☐ Validate cascade operations
- ☐ Test unique constraints
- ☐ Verify data type constraints
- ☐ Test transaction rollbacks

Security Tests

- ☐ Test password hashing
- ☐ Validate session management
- ☐ Test access controls
- ☐ Verify data encryption
- ☐ Test audit logging

Performance Tests

- ☐ Measure user query response times
- ☐ Test concurrent user operations
- ☐ Validate portfolio calculations
- ☐ Test large dataset queries
- ☐ Monitor memory usage

Configuration Tasks

Security Configuration

- ☐ Set up password policies
- ☐ Configure session timeouts
- ☐ Set up access controls
- ☐ Configure audit logging
- ☐ Implement data encryption

Privacy Configuration

- ☐ Set up data anonymization
- ☐ Configure data retention policies
- ☐ Set up GDPR compliance
- ☐ Configure consent management
- ☐ Set up data export features

Data Management Tasks

User Management

- ☐ Set up user registration flow
- ☐ Configure email verification
- ☐ Set up password reset procedures
- ☐ Implement account deactivation
- ☐ Set up user data export

Portfolio Management

- ☐ Set up portfolio tracking
- ☐ Configure performance calculations
- ☐ Set up asset allocation tracking
- ☐ Implement profit/loss calculations
- ☐ Set up portfolio analytics

Optimization Tasks

Performance Tuning

- ☐ Optimize user lookup queries
- ☐ Implement portfolio caching
- ☐ Configure session optimization
- ☐ Set up query optimization
- ☐ Monitor resource usage

Monitoring Setup

- ☐ Set up user activity monitoring
- ☐ Configure performance metrics
- ☐ Set up error tracking
- ☐ Create usage dashboards
- ☐ Set up alerting

Documentation Tasks

Technical Documentation

- ☐ Document database schema
- ☐ Create API documentation
- ☐ Document security procedures
- ☐ Create troubleshooting guide
- ☐ Document best practices

User Documentation

- ☐ Create user guide
- ☐ Document privacy policies
- ☐ Create FAQ section
- ☐ Document feature limitations
- ☐ Create migration guide

Completion Criteria

Functional Requirements

- ☐ User registration/login works
- ☐ Portfolio tracking functional
- ☐ Watchlists operational

- ☐ Alerts system working
- ☐ Session management secure

Non-Functional Requirements

- ☐ Response time < 2 seconds
- ☐ 99.9% uptime achieved
- ☐ Data privacy compliant
- ☐ Security requirements met
- ☐ Backup procedures tested

Validation Checklist

Pre-Production

- ☐ All tests passing
- ☐ Security scan completed
- ☐ Privacy compliance verified
- ☐ Documentation reviewed
- ☐ Monitoring configured

Production Ready

- ☐ Load testing completed
- ☐ Security testing passed
- ☐ Privacy audit completed
- ☐ Support procedures documented
- ☐ Disaster recovery tested

Success Metrics

- **User Registration:** > 95% success rate
- **Login Performance:** < 2 seconds
- **Data Accuracy:** > 99.9%
- **Security Incidents:** 0 per month
- **User Satisfaction:** > 4.5/5

Known Issues & Limitations

- Password reset requires email verification
- Session timeout for security (24 hours)
- Portfolio calculations depend on price data
- Large portfolios may need pagination
- GDPR compliance requires data export features

Support & Troubleshooting

Common Issues

1. **Login Failures:** Check credentials and account status

2. **Portfolio Sync Issues:** Verify price data connections
3. **Alert Delays:** Check notification system status
4. **Session Timeouts:** Review session configuration
5. **Data Export Issues:** Check privacy compliance features

Escalation Path

1. Check user activity logs
2. Verify database connectivity
3. Contact system administrator
4. Escalate to security team if needed
5. Create incident ticket for tracking