

# Application Test Report

**Test Report No.:** 001

**Date:** 2026-01-28

**Build Number:** 1.2.0

## A. Description of Performed Activities

### Environments and Devices Used for Testing:

- 1. **OS:** Windows 11 (x64)
- 2. **Runtime:** Python 3.14.2
- 3. **Dependencies:** requirements.txt (requests, pytest, etc.)

### Application Areas and Types of Tests Performed:

Application Area	Types of Tests Performed	Time Spent
CLI / Main Loop	Manual Functional Testing (Start, Exit, Help, Invalid Commands)	0.5h
Analyze Command	Functional & Edge Case Testing (Valid/Invalid Periods, Date Validation)	1.0h
Distribution Command	Functional & Edge Case Testing (Histogram Generation, Currency Pairs)	1.0h
Error Handling	Edge Cases (Malicious Input, Future Dates, Pre-2002 Dates)	0.5h
Unit Tests	Automated Regression Testing (Pytest, Coverage)	0.5h

**Total Time Spent:** ~3.5 hours

## B. Summary of All Defects

### 1. Fixed and Retested

- No defects were found during this test cycle.

## 2. To Do

- None.

## 3. Those that are risky to fix at the moment

- None.
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## C. Detailed Description of Defects

*No defects to report.*

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## D. Summary of Completion Criteria for All Tests

### 1. Were we able to complete the planned tests?

Yes, all planned manual and automated tests were executed successfully.

### 2. Were there any difficulties?

Minor environment configuration issues were encountered regarding Python path and dependency installation in the test environment, but these were resolved by adjusting the test runner configuration and using appropriate permissions. These were environment-specific and not application defects.

### 3. Verification of work time estimates.

Testing was completed within the expected timeframe.

### 4. Risks that materialized and can be removed from our test plan.

- **Risk:** External API (NBP) unavailability.
  - **Status:** The API was responsive during testing. Unit tests use mocks, mitigating this risk for regression testing.

### 5. Conclusions for the future.

- The application demonstrates robust error handling for user inputs (dates, periods).
- Unit test coverage is high (84%), ensuring core logic reliability.
- Future testing should verify behavior when the NBP API is actually down or rate-limited (simulating timeouts).

# Appendix: Test Results Summary

## Unit Tests

- **Status:** PASSED (32/32 tests)
- **Coverage:** 84%
- **Report:** [test\\_report.html](#)

## Manual Test Execution Log

(Selected excerpts from manual\_test\_results.md )

### Test Case: Analyze USD 1-week

*Input:* analyze USD --period 1-week

*Result:* Success. Statistics displayed correctly.

### Test Case: Analyze Invalid Period

*Input:* analyze USD --period 3-years

*Result:* Handled. "invalid choice" error displayed.

### Test Case: Date Validation (Future)

*Input:* analyze USD --period 1-week --start 2099-01-01

*Result:* Handled. "Requested date cannot be in the future" error displayed.

### Test Case: Change Distribution

*Input:* change-distribution USD EUR --period 1-month

*Result:* Success. Histogram generated.