# Banking App - QA Test Matrix

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## Authentication Module Tests

| ID | Scenario | Input | Action | Expected Output | Sev |
|---|---|---|---|---|---|
| AUTH-01 | Valid login | user@bank.com / Pass123! | 1.Open app<br>2.Enter creds<br>3.Tap Login | Dashboard loads, session token generated, last login updated | P1 |
| AUTH-02 | Biometric login | Registered fingerprint | 1.Open app<br>2.Tap fingerprint icon<br>3.Scan finger | Authenticated in <1s, no password prompt | P1 |
| AUTH-03 | Account lockout | Wrong password x5 | 1.Enter wrong pass<br>2.Repeat 5 times | Account locked 30min, email sent to user, admin notified | P0 |
| AUTH-04 | Session timeout | Valid session, 15min idle | 1.Login<br>2.Wait 15min<br>3.Try action | Logged out automatically, redirect to login, session invalidated | P2 |
| AUTH-05 | 2FA setup | Phone number +1234567890 | 1.Go to security<br>2.Enable 2FA<br>3.Enter phone<br>4.Verify OTP | OTP sent within 30s, 2FA enabled after verification | P1 |

## Transaction Processing Tests

| Test Case | Precondition | Steps & Expected Result |
|---|---|---|
| TXN-001: Fund Transfer - Same Bank<br>Priority: CRITICAL<br>Type: Functional | Logged in, balance > $100, payee saved | Step 1: Select "Transfer"<br>Step 2: Choose saved payee<br>Step 3: Enter $50<br>Step 4: Confirm<br><br>Result: Transfer completes <3s, balance updated, confirmation# shown, notification sent |
| TXN-002: International Wire<br>Priority: HIGH<br>Type: Integration | Verified account, SWIFT enabled | Step 1: Select "Wire Transfer"<br>Step 2: Enter SWIFT/IBAN<br>Step 3: Enter amount + currency<br>Step 4: Review fees ($25)<br>Step 5: Authenticate<br><br>Result: Wire queued, status "Processing", email confirmation, expected 2-3 days |
| TXN-003: Payment Declined - Insufficient Funds<br>Priority: HIGH<br>Type: Error Handling | Balance = $10 | Step 1: Try transfer $100<br><br>Result: Error "Insufficient funds", no debit, transaction logged as failed |

| TXN-004: Duplicate Transaction Prevention Priority: CRITICAL Type: Security | None | Step 1: Submit transfer Step 2: Quickly tap submit again Result: Second request blocked, only ONE transaction processed, warning shown |
|---|---|---|

## Security & Compliance Matrix

| Code | Test | Attack Vector | Expected Defense | Priority |
|---|---|---|---|---|
| SEC-001 | SQL Injection on login | Enter: admin'-- | Input sanitized, login fails normally | CRITICAL |
| SEC-002 | XSS in profile name | Set name: <script>alert(1)</script> | Script escaped, shows as text | CRITICAL |
| SEC-003 | Brute force API | Send 100 login requests/min | Rate limited after 10, IP blocked temp | HIGH |
| SEC-004 | Token expiration | Use 25-hour old token | Token rejected, re-auth required | HIGH |
| SEC-005 | Certificate pinning | MITM proxy intercept | Connection refused, alert logged | CRITICAL |