Flux Logic Identification

Phase 01 :

According to a document from 29 January 2026 (your uploaded Flux latest scope.pdf), here is Phase 1: the big picture map in very simple words.

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1) What Flux is (in 1 sentence)

- Flux is a POS + Inventory system: you add setup data, do daily transactions (sales, purchases, stock moves, payments), then see reports.

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2) The 3 main parts of the application (Module Map)

A) Add & Edit (Setup / Master Data)

These are the “background details” you must create first, so transactions work.

- Category
- Supplier
- User
- Item
- Manufacturer
- Location
- Customer (includes Credit Limit and Credit Days)
- Units
- Invoice Adjustment Reason
- GRN Adjustment Reason
- Cash In Reason
- Cash Out Reason
- Banks and Branches (Bank Account Details)
- Ledger Accounts

Simple idea: If masters are wrong, everything else becomes wrong.

B) Transactions (Daily work)

These are the actions staff do day-to-day.

Sales

- Sales Invoice
- Credit Note
- Invoice Post Adjustment
- Invoice Cancellation
- Credit Invoice
- Temp Invoice

Purchases

- Goods Received Note (GRN)
- Purchase Return Note
- GRN Post Adjustment
- GRN Cancellation

Payments

- Customer Receipt
- Supplier Payment
- Customer Payment Adjustment
- Supplier Payment Adjustment
- Customer Receipt Cancellation
- Supplier Payment Cancellation

Stock

- Stock Transfer Note
- Stock Receive Note
- Stock Adjustments
- Inventory Reconciliation
- Purchase Order
- Barcode Printing

Cheques Related

- Cheque Deposit
- Cheque Deposit to Fixed Account
- Returned Cheques
- Returned Cheque Payments

Accounts Related

- Journal Entry
- Cash/Bank Journal Entry
- Bank Reconciliation
- Close Financial Year

Closing routines

- Day End Close
- Shift End Close
- Month End Close
- Add Cash In
- Add Cash Out

C) Reports (Viewing / Checking)

Reports are for checking stock, sales, purchases, customer dues, supplier dues, and accounts.

Main report groups:

- Stocks
- Sales
- Purchases
- Customers
- Suppliers
- PD and Deposit Cheques
- Account Related (Trial Balance, Income Statement, Balance Sheet, General Ledger, etc.)

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3) Tools (Helper screens)

These are not transactions, but they support the system:

- Calculator
- User Password Change / Recover
- Printer Settings
- Report Templates
- User Type Authentication Mapping
- Preferences
- General Account Mapping
- File Import

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4) The “story” of Flux (End-to-End flow)

Think of a normal business day:

1. Setup (once, then update when needed)
    - Create Items, Suppliers, Customers, Locations, Banks, Ledger Accounts, etc.
2. Bring stock in
    - Use GRN when goods arrive (purchase stock comes in).
3. Sell to customers
    - Use Sales Invoice (stock goes out + money comes in / or becomes credit).
4. Handle changes
    - If something is wrong: Post Adjustment / Cancellation / Credit Note.
5. Take/Pay money
    - Customer pays later → Customer Receipt
    - You pay suppliers → Supplier Payment
    - If mistakes → adjustments / cancellations.
6. Move stock between branches

    - Stock Transfer (send out) + Stock Receive (receive in).
7. Close & check
    - End of shift/day/month → Shift/Day/Month End Close, Cash In/Out.
8. Reports
    - Use Stock/Sales/Purchase/Customer/Supplier/Accounts reports to verify everything.

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5) Roles (who usually does what)

The scope includes User Type Authentication Mapping, meaning different users will have different access.

A simple, practical role split:

- Cashier
    - Sales Invoice, Temp Invoice, Credit Invoice (if allowed)
    - Customer Receipt
    - Shift End Close, Add Cash In/Out (if allowed)
    - Basic finding/report viewing (limited)
- Manager / Admin
    - Add & Edit (Items, Suppliers, Customers, Locations, Banks, Ledger Accounts)
    - GRN, Purchase Return, Stock Adjustments, Inventory Reconciliation
    - Cancellations / Post Adjustments (high control)
    - Bank reconciliation, close financial year
    - Full reports + settings (printer, templates, account mapping, preferences)

Phase 02 :

According to a document from 27 Jan 2026 (your uploaded Flux latest scope.pdf), here is Phase 2: Master Data logic in very simple points.

Phase 2 Goal

- Build a “Master Data Rulebook”: what each master record means, what rules it must follow, and how it affects sales/purchases/stock/accounts.

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1) Category (the “grouping” for items)

- What it is: A way to group items (ex: Medicines → Antibiotics → Amoxicillin).
- Why it matters: Reports and searching become easy; items can be filtered by category.
- Key fields mentioned: Category No, Level, Category Name, Short Code, Comment.

- Rules (simple):
  - Category No should be unique.
  - Level helps create parent/child categories (Main → Sub).

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2) Units (the “measurement” for quantity)

- What it is: How you count stock (ex: tablet, strip, bottle).
- Why it matters (arithmetic):
  - All stock calculations depend on units (GRN adds, Sales reduces).
  - If you sell in smaller parts (like strips/tablets), you need unit conversion logic.
- Exists in masters: “Units” is a setup section.
- Rules (simple):
  - Decide a Base Unit for each item (example: tablet).
  - If selling in packs/strips, define conversion (example: 1 strip = 10 tablets).

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3) Supplier (who you buy from)

- What it is: The company/person you purchase stock from.
- Why it matters:
  - GRN and supplier payments need a supplier record.
  - Supplier reports like payables/aging depend on it.
- Key fields mentioned: Level, Supplier No, Address, Email, Mobile, NIC No, Remarks.
- Rules (simple):
  - Supplier No must be unique.
  - Mobile/email should be valid format (basic validation).

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4) Customer (who you sell to, especially credit customers)

- What it is: The person/company buying items.
- Why it matters (arithmetic):
  - Credit Limit controls “how much they can owe.”
  - Credit Days controls “how long until payment is due.”
- Key fields mentioned: Customer No, Title, Name, Address, NIC, Mobile, Email, Remarks, Credit Limit, Credit Days.
- Rules (simple + important):
  - Customer No must be unique.
  - Credit check idea:
    - Outstanding = (Total credit invoices) − (Total receipts)

        - Don’t allow a new credit invoice if Outstanding + New Invoice > Credit Limit.
    - Due date idea: Due Date = Invoice Date + Credit Days.

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5) Location (multi-branch / stock by place)

- What it is: A branch/store/warehouse where stock is kept.
- Why it matters (arithmetic):
    - Stock is not just “total stock” – it is stock per location.
    - Transfers must move quantity from one location to another.
- Exists in masters: “Location” is a setup section.
- Evidence that location-wise stock is core:
    - Stock Balance by Location / Locationwise Stock Balance reports exist.
    - Stock Transfer Note + Stock Receive Note exist.
- Rules (simple):
    - Each stock movement must have From Location and/or To Location.
    - Transfer logic:
        - Transfer Note: reduce source location
        - Receive Note: increase destination location

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6) Item (the main “product” record)

- What it is: The thing you sell/buy/keep in stock.
- Why it matters (arithmetic):
    - Item connects to stock quantity, selling price, cost, expiry, and barcode.
- Evidence that these item features are required:
    - Barcode Printing exists.
    - Expiration Date Warnings (and by Location) exist → so expiry tracking is needed.
    - Stock Valuation reports exist → so cost/valuation logic is needed.
- Rulebook decisions you must set clearly (even before coding):
    - Pricing fields: selling price (what customer pays), cost price (what you paid).
    - Expiry tracking: store expiry date (and ideally batch/lot if pharmacy-style).
    - Unit conversion: pack/strip/tablet logic (from Units section).
    - Barcode rules: barcode unique per item (or per batch if you decide that way).

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7) Reasons (why adjustments happen)

- What it is: Pre-made reason lists to explain changes.

- Why it matters:
  - Helps auditing: *who changed what and why*.
  - Makes adjustment reports meaningful.
- Exists in masters: Invoice Adjustment Reason, GRN Adjustment Reason, Cash In Reason, Cash Out Reason.
- Rules (simple):
  - Reason text should be required (no empty reasons).
  - Adjustments should force selecting a reason.

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8) Banks + Ledger Accounts + Account Mapping (accounts logic)

- What it is:
  - Bank accounts = where money sits.
  - Ledger accounts = accounting heads (Sales, Purchases, Cash, Bank, Receivables, Payables…).
  - Account mapping = “which transaction hits which ledger account”.
- Evidence these are core:
  - Banks and Branches (Bank Account Details) + Ledger Accounts are in master data.
  - General Account Mapping is a tool page.
  - Journal Entry, Cash/Bank Journal Entry, Bank Reconciliation, Close Financial Year exist.
- Rules (simple):
  - Every money/stock transaction should be able to post into accounts (via mapping).
  - Bank reconciliation needs clean bank account setup.

Sure — I’ll create *a tiny, realistic sample setup for Flux*, exactly with the items you listed. You can copy this as your “practice data”.

A) Locations (2 branches)

1) LOC-A — Branch A

- Location Code: LOC-A
- Name: Branch A (Main)
- City: Jaffna
- Status: Active

2) LOC-B — Branch B

- Location Code: LOC-B
- Name: Branch B (Secondary)

- City: Colombo
- Status: Active

Rule to remember

- Location Code must be unique (no duplicates).

B) Units (2 units only)

1) UNIT-TAB – Tablet (Base Unit)

- Unit Code: UNIT-TAB
- Unit Name: Tablet
- Is Base Unit: Yes

2) UNIT-STR – Strip

- Unit Code: UNIT-STR
- Unit Name: Strip
- Conversion: 1 Strip = 10 Tablets

Rule to remember

- Always keep one base unit (Tablet here).
- Strip is just a “bigger pack” of the base.

C) Supplier (1 supplier)

SUP-001 – ABC Pharma Distributors

- Supplier No: SUP-001
- Name: ABC Pharma Distributors
- Address: No. 12, Hospital Road, Jaffna
- Mobile: 0771234567
- Email: abcpharma@gmail.com
- NIC/BR No: PV12345 (example)
- Remarks: Main medicine supplier

Rules

- Supplier No must be unique
- Name is required

D) Customers (2 customers: one cash + one credit)

1) CUST-CASH – Walk-in Customer (Cash)

- Customer No: CUST-CASH
- Name: Walk-in Customer
- Type: Cash
- Credit Limit: 0
- Credit Days: 0

- Mobile/Email: Optional

2) CUST-001 – Nila Medical Clinic (Credit)

- Customer No: CUST-001
- Name: Nila Medical Clinic
- Address: 45, Main Street, Jaffna
- Mobile: 0712223344
- Email: nilaclinic@gmail.com
- Type: Credit Customer
- Credit Limit: LKR 200,000
- Credit Days: 30
- Remarks: Monthly billing customer

Rules (super important)

- For credit invoices, check:
  - Outstanding + New Invoice ≤ Credit Limit
- Due date idea:
  - Due Date = Invoice Date + Credit Days

E) Items (3 items, with unit + prices + barcode)

(I'll keep all items using Tablet/Strip so it matches your 2-unit setup.)

1) ITEM-001 – Paracetamol 500mg

- Item Code: ITEM-001
- Name: Paracetamol 500mg Tablet
- Category: Medicine
- Unit (Base): Tablet (UNIT-TAB)
- Selling Units Allowed: Tablet + Strip
- Pack Rule: 1 Strip = 10 Tablets
- Cost Price: LKR 2.50 per tablet
- Selling Price: LKR 4.00 per tablet
- Barcode: 4790000000001 (example)
- Expiry Tracking: YES (pharmacy-style)
- Reorder Level: 200 tablets
- Remarks: Fast-moving

2) ITEM-002 – Cetirizine 10mg

- Item Code: ITEM-002
- Name: Cetirizine 10mg Tablet
- Category: Medicine
- Unit (Base): Tablet (UNIT-TAB)
- Selling Units Allowed: Tablet + Strip

- Cost Price: LKR 6.00 per tablet
- Selling Price: LKR 9.00 per tablet
- Barcode: 4790000000002
- Expiry Tracking: NO (for practice)
- Reorder Level: 100 tablets

3) ITEM-003 – Vitamin C 500mg

- Item Code: ITEM-003
- Name: Vitamin C 500mg Tablet
- Category: Supplement
- Unit (Base): Tablet (UNIT-TAB)
- Selling Units Allowed: Tablet + Strip
- Cost Price: LKR 12.00 per tablet
- Selling Price: LKR 18.00 per tablet
- Barcode: 4790000000003
- Expiry Tracking: NO (for practice)
- Reorder Level: 80 tablets

Rules

- Item Code must be unique
- Barcode should be unique (one barcode shouldn’t belong to two items)
- If expiry tracking = YES, then in GRN/stock receive you must capture expiry date (usually per batch)

F) Reasons (3 reasons)

1) Cash In Reason

- Reason Code: CIN-01
- Reason: Petty cash top-up

2) Cash Out Reason

- Reason Code: COUT-01
- Reason: Delivery / Courier charges

3) Invoice Adjustment Reason

- Reason Code: INVADJ-01
- Reason: Price correction after billing

Rule

- Adjustments should always require a reason (no blank reasons)

G) Bank account (1 bank account)

BANK-001 – Bank of Ceylon (Current)

- Bank: Bank of Ceylon

- Branch: Jaffna
- Account Type: Current
- Account No: 1234567890 (example)
- Account Name: Flux Demo Pharmacy

H) Basic ledger accounts (simple list)

You can start with these:

Assets

- 1000 Cash in Hand
- 1010 Bank – BOC Current
- 1200 Inventory (Stock)
- 1300 Accounts Receivable (Customers)

Liabilities

- 2000 Accounts Payable (Suppliers)

Income

- 4000 Sales Revenue

Expenses

- 5000 Cost of Goods Sold (COGS)
- 5100 Discounts Allowed
- 5200 Stock Adjustment Gain/Loss (for inventory corrections)

(Optional but useful) Simple “Account Mapping” idea

Just to make it clear how transactions affect accounts:

- Sales Invoice (cash):
  - Cash in Hand increases
  - Sales Revenue increases
  - Inventory decreases
  - COGS increases
- Sales Invoice (credit):
  - Accounts Receivable increases (instead of cash)
  - Sales Revenue increases
  - Inventory decreases
  - COGS increases
- GRN (purchase):
  - Inventory increases
  - Accounts Payable increases
- Customer Receipt:
  - Cash/Bank increases

    - Accounts Receivable decreases
- Supplier Payment:
    - Accounts Payable decreases
    - Cash/Bank decreases

Phase 03 :

According to a document from 29 January 2026, here is Phase 3 — Stock logic (the core engine) in the simplest way.

Phase 3: Stock Logic (Core Engine)

1) The main idea (super important)

- Think of stock like a bank account for each item.
- Every time something happens, stock changes by + (add) or − (remove).
- So we keep a Stock Movement Ledger (like a diary of stock changes) instead of "editing stock" randomly.

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2) The 4 main stock transaction screens (your "stock controllers")

These are the screens that *directly control stock* in your system:

- Stock Transfer Note (send stock out from one location)
- Stock Receive Note (receive stock into a location)
- Stock Adjustments (increase/decrease stock manually with a reason)
- Inventory Reconciliation (stock count and fix the difference)

(Also related tools in the same area: Purchase Order and Barcode Printing.)

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3) The simple arithmetic rule (memorize this)

For each item, at each location:

- New Stock = Old Stock + Stock In − Stock Out

That's it. Everything is just this rule, repeated many times.

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4) What counts as "Stock In" and "Stock Out"

Stock In (stock increases)

- GRN (Goods Received Note) → stock goes UP (you bought items)
- Stock Receive Note → stock goes UP (you received a transfer)

Stock Out (stock decreases)

- Sales Invoice → stock goes DOWN (you sold items)

- Purchase Return Note → stock goes DOWN (you returned items to supplier)
- Stock Transfer Note → stock goes DOWN at “From Location” (you sent items out)

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5) Transfer logic (most people get this wrong — here is the correct mindset)

A transfer is actually 2 events:

1. Transfer OUT (Stock Transfer Note)
    - From Location: −Qty
2. Receive IN (Stock Receive Note)
    - To Location: +Qty

👉 This is how you support multi-branch properly: one branch can send, the other can receive later.

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6) Adjustments vs Reconciliation (difference in one line)

- Stock Adjustments = “I am changing stock by +/− because something happened” (damage, expiry, found extra, etc.)
- Inventory Reconciliation = “I counted stock. System stock is wrong. Fix it.”

Reconciliation arithmetic:

- Difference = Counted Qty − System Qty
- If Difference is + → add stock
- If Difference is − → remove stock

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7) Expiry / batch mindset (pharmacy critical)

- Stock is not just “Item = 50”.
- It’s more like: “Item X has batches with different expiry dates”.
- That’s why you have reports like:
    - Item Expiration Date Warnings
    - Item Expiration Date Warnings by Location

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8) Reports are just “different views” of the same stock ledger

Once your movements are correct, reports become easy. Your scope includes:

- Stock Balance by Location / Locationwise Stock Balance (how much at each branch)
- Item History Report (full story of an item)
- Stock Transfer Listing / Find (track transfers)
- Itemwise Stock Valuation / Stock Valuation / Valuation as at Date (stock value)
- Itemwise Stock Movement / Stock Movement by Item (movement ledger grouped)
- Stock Adjustment Details (audit trail for adjustments)

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9) The “never break” rules (these make your system reliable)

- Never “edit stock quantity” directly. Always create a movement.
- Always know which location the movement affects.
- For selling/transfer out: check Available Qty ≥ Required Qty (to prevent negative stock) – unless you intentionally allow negative.

If you want, next I’ll make a very small example (with numbers) showing: GRN → Sale → Transfer → Receive → Reconciliation, and we’ll calculate the final stock step-by-step like a maths exercise.

Great – let’s do a tiny full example with numbers, using the same sample setup we created (LOC-A, LOC-B, ITEM-001 Paracetamol, Units Tablet/Strip where 1 Strip = 10 Tablets).

I’ll write it like a simple “story + maths”.

Example: GRN → Sale → Transfer → Receive → Reconciliation

Starting point

- ITEM-001 Paracetamol
- Base unit: Tablet
- 1 Strip = 10 Tablets
- Locations: LOC-A (Branch A), LOC-B (Branch B)

✅ Starting Stock

- LOC-A: 0 tablets
- LOC-B: 0 tablets

Step 1) GRN (Stock IN)

Event: You receive stock at LOC-A from supplier.

- GRN received at LOC-A
- Quantity received: 30 strips
- Convert to tablets:
  - 30 strips × 10 = 300 tablets

✅ Stock after GRN

- LOC-A: 0 + 300 = 300 tablets
- LOC-B: 0 tablets

Step 2) Sale (Stock OUT)

Event: A customer buys at LOC-A.

Customer buys:

- 5 strips + 20 tablets

Convert strips:

- 5 strips × 10 = 50 tablets
- Total sold = 50 + 20 = 70 tablets

✅ Stock after Sale

- LOC-A: 300 − 70 = 230 tablets
- LOC-B: 0 tablets

Step 3) Stock Transfer Note (Transfer OUT from LOC-A)

Event: Branch A sends stock to Branch B.

Transfer Note created:

- From: LOC-A
- To: LOC-B
- Quantity: 10 strips

Convert:

- 10 strips × 10 = 100 tablets

✅ Stock after Transfer OUT

- LOC-A: 230 − 100 = 130 tablets
- LOC-B: still 0 tablets (not received yet)

👉 Important: At this point, stock has left A, but B hasn’t received yet.

Step 4) Stock Receive Note (Receive IN to LOC-B)

Event: Branch B confirms it received the transfer.

Receive Note:

- Location: LOC-B
- Quantity received: 10 strips = 100 tablets

✅ Stock after Receive IN

- LOC-A: 130 tablets
- LOC-B: 0 + 100 = 100 tablets

Step 5) Inventory Reconciliation (Physical count vs system)

Event: At end of day, LOC-A does a physical count.

System shows LOC-A = 130 tablets
But staff physically count and find = 125 tablets

Difference:

- Difference = Counted − System
- Difference = 125 − 130 = −5 tablets

Meaning:

- System has 5 extra that are not physically there
- So we must reduce stock by 5 tablets (loss/damage/missing)

✅ Stock after Reconciliation

- LOC-A: 130 − 5 = 125 tablets
- LOC-B: 100 tablets (no change)

Final Answer (End State)

✅ Final Stock

- LOC-A: 125 tablets
- LOC-B: 100 tablets

✅ Total company stock

- 125 + 100 = 225 tablets

The whole stock ledger in one clean table (easy view)

Step	Action	LOC-A Change	LOC-B Change	LOC-A Stock	LOC-B Stock
Start	Opening	0	0	0	0
1	GRN 30 strips (300 tabs)	+300	0	300	0
2	Sale (5 strips + 20 tabs = 70 tabs)	−70	0	230	0
3	Transfer OUT 10 strips (100 tabs)	−100	0	130	0
4	Receive IN 10 strips (100 tabs)	0	+100	130	100
5	Reconcile: counted 125 vs system 130	−5	0	125	100

Key lessons you must remember

- Strip is never magic: always convert to tablets for stock maths.
- Transfer is 2 steps:
  - Transfer OUT reduces source
  - Receive IN increases destination
- Reconciliation uses: Counted − System

Phase 04 :

According to a document from 29 January 2026 (*Flux latest scope.pdf*), Flux has these Sales actions: Sales Invoice, Credit Note, Invoice Post Adjustment, Invoice Cancellation, Credit Invoice, Temp Invoice.

Below is Phase 4 – Sales arithmetic in the most understandable way (points + clear maths).

Phase 4: Sales arithmetic (how invoice maths works)

1) Sales Invoice flow (what cashier does)

- Create a new invoice.
- Add items by name or barcode, enter quantity, system shows prices.
- Choose payment type (cash/credit) and print.

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2) The 3-level maths (Line → Invoice → Payment)

A) Line-level maths (each item row)

For each line:

- Gross Line Amount = Qty × Rate
- Discount (if any) reduces the gross
- Net Line Amount = Gross − Discount

Discount can be:

- Disc % (percentage)
- Disc Rs (fixed amount)
- Free Issue (some quantity is free)

B) Invoice-level maths (whole bill)

- Subtotal = sum of all Net Line Amounts
- Total Discount / Total Savings = sum of all discounts (some systems show this)
- Grand Total = Subtotal (sometimes plus/minus a rounding adjustment)

Your POS-style docs commonly treat Subtotal / Grand total / Total savings as auto-calculated fields.

C) Payment-level maths (cash vs credit)

- Cash Sale
  - Paid Amount = what customer gives
  - Change = Paid − Grand Total (if Paid is bigger)
  - Due Amount = 0 (because fully paid)
- Credit Invoice / Credit Sale
  - Paid Amount often 0 (or partial if you allow part-pay)
  - Due Amount = Grand Total − Paid
  - Track Due for customer reports (Outstanding invoices, Aging, Statements exist in scope)

Flux supports Credit Invoice as a separate sales transaction.

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3) Discount types (simple rules)

A) Disc % (percentage discount)

- Discount = Gross × (Disc% / 100)
- Net = Gross − Discount

B) Disc Rs (fixed discount in money)

- Discount = given amount
- Net = Gross − Discount
- Rule: Don’t allow discount > gross (otherwise net becomes negative)

C) Free Issue (free quantity)

This one is important because it affects billing and stock differently:

- Billing (money): only charge for Billable Qty
  - Billable Qty = Qty − Free Qty
  - Line Amount = Billable Qty × Rate
- Stock (quantity): stock goes out for the full Qty (including free)

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4) Credit rules (Credit Limit + Credit Days)

Customer master data includes Credit Limit and Credit Days.

When making a credit invoice:

- New Outstanding = Current Outstanding + New Due Amount
- Allow credit invoice only if:
  - New Outstanding ≤ Credit Limit
- Due Date = Invoice Date + Credit Days

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5) Corrections (when mistakes happen)

Flux has these correction actions in scope: Credit Note, Invoice Post Adjustment, Invoice Cancellation, plus Find Invoice and invoice listings.

- Invoice Post Adjustment
  - Use when invoice is correct “mostly” but needs a controlled change (price/discount correction).
  - System should keep an audit trail (because “Invoice Adjustment Listing” exists).
- Credit Note
  - Use when items are returned or you need to reduce the invoice value (often linked to an original invoice).
- Invoice Cancellation
  - Use when the whole invoice should be void.
  - It should reverse stock and money effects and appear in “Invoice Cancellation” listing/report.
- Temp Invoice

    - Think “saved draft sale”: keep cart details, but usually not final until converted to a real invoice.

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5 Worked examples (with clean maths)

I’ll use our sample prices:

- Paracetamol: LKR 4.00 per tablet (40 per strip)
- Cetirizine: LKR 9.00 per tablet (90 per strip)
- Vitamin C: LKR 18.00 per tablet (180 per strip)

Example 1 — Simple cash sale (no discount)

1. Paracetamol: 20 tablets × 4.00 = 80
2. Cetirizine: 1 strip (10 tabs) × 9.00 = 10 × 9 = 90

- Subtotal / Grand Total = 80 + 90 = 170
- Customer pays 200 → Change = 200 − 170 = 30

Example 2 — Disc % + Disc Rs in one invoice

1. Paracetamol: 5 strips × 40 = 200
    - Disc 10% = 200 × 10% = 20
    - Net = 200 − 20 = 180
2. Vitamin C: 10 tablets × 18 = 180
    - Disc Rs = 15
    - Net = 180 − 15 = 165

- Grand Total = 180 + 165 = 345
- Paid 500 → Change = 500 − 345 = 155

Example 3 — Free issue (billing vs stock difference)

Customer gets Paracetamol 3 strips, but 1 strip free.

- Rate per strip = 40
- Qty = 3 strips, Free = 1 strip
- Billable Qty = 3 − 1 = 2 strips
- Bill amount = 2 × 40 = 80

Stock effect (important):

- Stock OUT = full 3 strips = 30 tablets (not 2 strips)

Paid 100 → Change 20

Example 4 — Credit invoice (Due + due date + credit limit check)

Customer: CUST-001 (Credit Days 30, Limit 200,000)

Invoice:

1. Cetirizine: 5 strips × 90 = 450
2. Paracetamol: 100 tablets × 4 = 400

- Grand Total = 450 + 400 = 850
- Paid = 0 → Due Amount = 850

Credit check:

- If customer already owes 50,000 → New Outstanding = 50,000 + 850 = 50,850 (still ≤ 200,000) ✅

Due date:

- Due Date = Invoice Date + 30 days

Example 5 — Correction: Post Adjustment + Credit Note + Cancellation (concept)

5A) Post Adjustment (price correction)

Original invoice: Paracetamol 50 tablets × 4.00 = 200

Correct price should be 3.80:

- Correct total = 50 × 3.80 = 190
- Adjustment amount = 200 − 190 = 10 (reduce invoice by 10)

5B) Credit Note (return)

Customer returns 10 tablets (at corrected price 3.80):

- Credit Note value = 10 × 3.80 = 38
- Stock: +10 tablets back into inventory
- Customer due: reduce by 38 (or refund cash)

5C) Cancellation (full void)

If invoice is cancelled:

- Reverse all stock-out quantities
- Reverse the money/due
- It should appear in invoice cancellation listing/report.

Your “Invoice Formula Sheet” (keep this)

- Line Gross = Qty × Rate
- Line Net = Line Gross − Discount
- Subtotal = Σ(Line Net)
- Grand Total = Subtotal (± rounding, if enabled)
- Cash Change = Paid − Grand Total
- Due Amount = Grand Total − Paid
- Credit Check: (Current Outstanding + New Due) ≤ Credit Limit

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Phase 05 :

According to a document from 29 January 2026 (*Flux latest scope.pdf*), Flux handles purchases using GRN (Goods Received Note), Purchase Return Note, GRN Post Adjustment, and GRN Cancellation, and it also has supplier-payment features and purchase reports like GRN Listing / GRN Adjustment Listing / Outstanding GRNs / Accounts Payable Aging.

Phase 5: Purchases arithmetic (GRN maths + supplier balance)

1) What a GRN really means

- GRN = “stock came in” (items arrive from supplier).
- A GRN affects two things:
  - Stock increases
  - Supplier due (payable) increases (because you now owe money to supplier)

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2) GRN line maths (per item row)

For each item line in a GRN:

- Chargeable Qty = the quantity you are paying for
- Free Qty = extra quantity given free (if supplier gives free issue)
- Total Stock-In Qty = Chargeable Qty + Free Qty
- Line Cost Amount (what you owe supplier for this line) = Chargeable Qty × Unit Cost

Simple rule

- Free items increase stock, but do not increase supplier bill.

---

3) GRN totals (whole GRN)

- GRN Subtotal = sum of all line cost amounts
  - Σ(Chargeable Qty × Unit Cost)
- (If you later add taxes/other charges, they usually add on top — but only do this if your UI includes it.)

---

4) Stock impact of a GRN (important)

- When GRN is posted:
  - Stock goes UP by Total Stock-In Qty
- Stock should also be tracked by location (because your system has location-wise stock reports).

---

5) Supplier payable impact (how “amount due” changes)

Flux has Supplier Payment, Supplier Payment Adjustment, and Supplier Payment Cancellation, so supplier due is clearly tracked.

When GRN is posted:

- Accounts Payable (Supplier Due) increases by GRN Subtotal

When you pay supplier:

- Supplier Due decreases

Reports like Outstanding GRNs and Accounts Payable Aging depend on this logic.

---

6) Selling price + margin (simple, practical)

Many shops update selling price after a purchase.

- Unit Cost = what you pay per unit (tablet/bottle/etc.)
- Selling Price = what you sell it for

Two easy margin formulas:

- Profit per unit = Selling Price − Unit Cost
- Margin % = ((Selling Price − Unit Cost) ÷ Selling Price) × 100

(Even if margin is not shown on screen, cost is needed because you have stock valuation reports.)

---

7) Purchase Return Note (when you return goods to supplier)

Flux has Purchase Return Note.

When you return items:

- Stock goes DOWN by the returned quantity
- Supplier Due goes DOWN by the return value

Return maths:

- Return Amount = Return Qty × Unit Cost
- Rule: Return Qty should not be more than what you received (common validation).

---

8) GRN Post Adjustment (fixing a GRN after saving)

Flux includes GRN Post Adjustment and has GRN Adjustment Reason in master data.

Use this when:

- Cost price was entered wrong
- Quantity was entered wrong
- Discount/free issue was missed

Adjustment effect:

- If you increase cost/qty → supplier due may increase and/or stock changes
- If you reduce cost/qty → supplier due may reduce and/or stock changes

Your reports include GRN Adjustment Listing, which means adjustments must be traceable.

---

9) GRN Cancellation (void the whole GRN)

Flux includes GRN Cancellation and has GRN Cancellation reporting.

Cancellation should reverse everything:

- Stock decreases by the same quantity that was added
- Supplier due decreases by the same amount that was added

GRN Formula Sheet (keep this)

- Total Stock-In Qty = Chargeable Qty + Free Qty
- Line Cost Amount = Chargeable Qty × Unit Cost
- GRN Subtotal = Σ(Line Cost Amount)
- Supplier Due change from GRN = + GRN Subtotal
- Supplier Due change from payment = − Payment Amount
- Purchase Return Amount = Return Qty × Unit Cost
- Supplier Due change from return = − Return Amount

Mini walkthrough with numbers (GRN → Return → Adjustment)

Using our sample item Paracetamol (tablet base):

Step A: GRN received (at LOC-A)

- Chargeable: 30 strips
- Free: 2 strips
- 1 strip = 10 tablets

Convert to tablets:

- Chargeable tablets = 30 × 10 = 300
- Free tablets = 2 × 10 = 20
- Total Stock-In = 320 tablets

Assume Unit Cost = LKR 2.50 per tablet

- Supplier bill (only chargeable) = 300 × 2.50 = LKR 750

✅ Results:

- Stock at LOC-A: +320 tablets
- Supplier Due: +750

Step B: Purchase Return (return 5 strips)

- Return Qty = 5 strips = 50 tablets
- Return Amount = 50 × 2.50 = 125

✅ Results:

- Stock at LOC-A: −50 tablets
- Supplier Due: −125

Step C: GRN Post Adjustment (cost was wrong)

Suppose correct Unit Cost should be 2.60 (not 2.50) for the chargeable 300 tablets:

- Difference per tablet = 2.60 − 2.50 = 0.10
- Adjustment amount = 300 × 0.10 = 30

✅ Results:

- Supplier Due: +30
- Stock quantity: usually no change (because only price changed)
- Stock valuation reports will now value that batch using updated cost.

Phase 06 :

According to a document from 29 January 2026 (*Flux latest scope.pdf*), Phase 6 is about the Payments, Cheques, and Close parts of Flux.

Phase 6: Money flows (Receivables, Payables, Cash & Cheques)

1) The big idea (keep this in your head)

- Flux tracks money using 3 “buckets”:
  - Customer Due (customers owe you) → *Receivables*
  - Supplier Due (you owe suppliers) → *Payables*
  - Cash/Bank (money you actually have)

Every payment screen simply moves numbers between these buckets.

---

2) Customer side (Receivables)

A) What creates customer due?

- Credit Invoice creates a due amount (customer owes you).

B) What reduces customer due?

- Customer Receipt reduces customer due (because customer paid).

C) Fixing mistakes (important controls)

Flux has these, so the system can correct errors properly:

- Customer Payment Adjustment = “edit/correct a payment amount” (controlled correction).
- Customer Receipt Cancellation = “cancel the whole receipt” (full reversal).

D) Customer reports (how you check your work)

These reports show that Flux expects full receivable logic:

- Outstanding Invoices
- Accounts Receivable Aging
- Receipts Listing / Receipts Summary

- Customer Statement
- Sales and Receipt Summary

---

3) Supplier side (Payables)

A) What creates supplier due?

- GRN creates supplier due (you received goods, now you owe supplier).

B) What reduces supplier due?

- Supplier Payment reduces supplier due (because you paid them).

C) Fixing mistakes

- Supplier Payment Adjustment = correct a payment record.
- Supplier Payment Cancellation = cancel the whole payment record (full reversal).

D) Supplier reports (how you check your work)

- Accounts Payable Aging
- Outstanding GRNs
- Payment Listing / Payment Summary
- Supplier Statement

---

4) Cheques (money “in between”)

Flux has a dedicated cheque section:

- Cheque Deposit
- Cheque Deposit to Fixed Account
- Returned Cheques
- Returned Cheque Payments

Simple way to understand cheques

- A cheque is not fully “safe money” until it is deposited and cleared.
- If a cheque is returned, you must treat it like:
  - “Customer still hasn’t paid” (customer due comes back)
  - and it must appear in Returned Cheques reporting.

There’s also a reports group for cheque tracking:

- PD Cheque Details
- PD Payment Details

---

5) Cash controls (daily cash handling)

Flux includes closing and cash movement screens:

- Day End Close
- Shift End Close
- Month End Close
- Add Cash In

- Add Cash Out

What these mean in simple words

- Add Cash In = cash added into drawer (with a reason)
- Add Cash Out = cash taken out of drawer (with a reason)
- Shift/Day/Month End Close = “count cash and lock the period”

How you verify

Reports exist for this:

- Cash In/Out Report
- Shift End Report
- Day End Report
- Month End Report

---

6) The “Cash & Due Balances” logic diagram (easy arrows)

- Credit Invoice → Customer Due goes up
- Customer Receipt → Customer Due goes down AND Cash/Bank goes up
- GRN → Supplier Due goes up
- Supplier Payment → Supplier Due goes down AND Cash/Bank goes down
- Cheque Deposit → moves cheque money toward Bank
- Returned Cheque → Customer Due comes back (because payment failed)
- Add Cash In/Out → Cash up/down
- Shift/Day/Month Close → compare expected cash vs counted cash, then report the result

---

Phase 07 :

According to your uploaded Flux latest scope.pdf (the PDF excerpt doesn’t show a date), Flux has a full Accounts layer: Journal Entry, Cash/Bank Journal Entry, Bank Reconciliation, Close Financial Year, plus accounting reports like Trial Balance, Income Statement, Balance Sheet, General Ledger, and a General Account Mapping tool.

Below is Phase 7 – Accounting layer (Ledger-grade logic) in simple points.

Phase 7: Accounting layer (how Flux turns daily work into accounts)

1) The main idea

- Every transaction (sales, GRN, payments, cash-in/out, stock adjustments) creates accounting entries behind the scene.
- That is why Flux includes:
  - Ledger Accounts (you create the chart of accounts)

    - General Account Mapping (you decide which transaction goes to which ledger account)
    - Accounting reports (Trial Balance → Income Statement/Balance Sheet → General Ledger)

---

2) What “Ledger Accounts” mean (very simple)

- Ledger Accounts are the “boxes” where money values go, like:
    - Cash, Bank, Customer Due (Receivables), Supplier Due (Payables)
    - Sales Revenue, Purchases/COGS, Discounts, Stock/Inventory
- Flux explicitly has Ledger Accounts and Bank Account Details in setup.

---

3) Why “General Account Mapping” is critical

- Flux has a tool named General Account Mapping.
- Meaning: you must set rules like:
    - “When I do a Sales Invoice, which ledger accounts should increase/decrease?”
    - “When I do a GRN, which accounts change?”
- If mapping is wrong → your Trial Balance / Income Statement / Balance Sheet will be wrong.

---

4) The 4 accounting screens (what each one does)

A) Journal Entry

- Use this when you want to post a manual accounting entry (not directly from sales/stock screens).
- Example use: record an expense, depreciation, opening balances, corrections.

B) Cash/Bank Journal Entry

- Like Journal Entry, but focused on cash and bank movements.
- Example use: bank charges, interest, direct deposits, owner drawings.

C) Bank Reconciliation

- This is where you match Flux bank entries with the real bank statement.
- Goal: make sure “Bank balance in system” ≈ “Bank balance in statement” after considering pending cheques/deposits.

D) Close Financial Year

- “Lock and finalize” the year so reports don’t change later.
- After closing, you normally start a new year with clean periods.

---

5) Accounting reports (what they mean in plain words)

Flux has these account-related reports: Journal Listing, Trial Balance, Income Statement, Balance Sheet, General Ledger.

- Journal Listing: list of all accounting entries (audit trail).

- Trial Balance: checks that total Debits = total Credits (basic accuracy check).
- Income Statement: profit report (Sales − Expenses).
- Balance Sheet: what you own/owe at a date (Assets, Liabilities, Equity).
- General Ledger: detailed view of each account’s movements.

---

6) The Accounting Mapping Cheatsheet (the “what posts where” guide)

Think in two sides: something increases, something decreases.

Sales Invoice (Cash sale)

- Cash ↑
- Sales Revenue ↑
- (If you track COGS automatically) COGS ↑ and Inventory ↓

Sales Invoice (Credit sale / Credit Invoice)

- Customer Due (Accounts Receivable) ↑
- Sales Revenue ↑
- (COGS + Inventory effect same as above)

Customer Receipt

- Cash/Bank ↑
- Customer Due (Receivable) ↓

GRN (Purchase)

- Inventory (Stock) ↑
- Supplier Due (Accounts Payable) ↑

Supplier Payment

- Supplier Due (Payable) ↓
- Cash/Bank ↓

Cash In / Cash Out (drawer control)

- Cash ↑ (Cash In) or Cash ↓ (Cash Out)
- The other side goes to a mapped account (example: petty cash top-up / expenses). *(These actions exist in Flux under close/cash controls.)*

Stock Adjustment / Inventory Reconciliation

- If stock increases: Inventory ↑ and “Stock Gain/Adjustment” account changes
- If stock decreases: Inventory ↓ and “Stock Loss/Adjustment” account changes *(These stock correction functions exist in Flux.)*

Cheques (high-level)

- Cheques have their own set of screens (Deposit / Returned etc.), meaning Flux treats them as a special money flow.
- In mapping, you usually keep a “Cheques in Hand / Undeposited funds” type account until it clears.

---

7) A simple way to *study* Phase 7 (so it becomes easy)

When you see any transaction, ask 2 questions:

1. What did I receive? (cash/bank/stock/service)
2. What did I give up or owe? (cash/bank/stock/customer due/supplier due)

That automatically tells you the 2 sides of the accounting entry.

Phase 08 :

According to your Flux latest scope document, the Reports area is grouped into Stocks, Sales, Purchases, Customers, Suppliers, and Account Related (including Cash In/Out, Shift/Day/Month End reports).

Phase 8 — Reporting logic (how every report is computed)

1) The golden rule (very important)

- Reports don’t create numbers. Reports only “sum up” transactions.
- So first we identify the source events (transactions). Then every report is just a *filter + grouping + totals* from those events.

2) Your “Source Events” (what feeds all reports)

These are the real actions users do in the system (the “truth”):

Sales events

- Sales Invoice, Credit Note, Invoice Post Adjustment, Invoice Cancellation, Credit Invoice, Temp Invoice

Purchase events

- GRN (Goods Received Note), Purchase Return Note, GRN Post Adjustment, GRN Cancellation

Payments events

- Customer Receipt, Supplier Payment, Customer Payment Adjustment, Supplier Payment Adjustment, Receipt/Payment Cancellations

Stock events

- Stock Transfer Note, Stock Receive Note, Stock Adjustments, Inventory Reconciliation, Purchase Order

Cash-control events

- Day End Close, Shift End Close, Month End Close, Add Cash In, Add Cash Out

Think of these as your “database journal”. Reports read these; they don’t guess.

---

3) Report Source Matrix (report → which events it uses)

A) Stock reports (inventory logic)

Your scope includes: Stock Valuation / as-at-date, Stock Movement, Expiration warnings, etc.

Core stock math

- Closing Qty = Opening Qty + Stock IN − Stock OUT
- “IN” usually comes from: GRN, Stock Receive, positive Adjustments/Reconciliation
- “OUT” usually comes from: Sales Invoice, Purchase Return, Stock Transfer OUT, negative Adjustments/Reconciliation

1) Stock Valuation / Itemwise Stock Valuation / Stock Valuation as at Date

- Uses events: GRN + Sales + Purchase Returns + Stock Transfers + Stock Adjustments + Inventory Reconciliation
- Valuation needs a costing method (example: Weighted Average or FIFO).
  - Simple weighted average idea:
    - Avg Cost = (Total cost of all IN quantities) / (Total IN quantity)
    - Stock Value = Closing Qty × Avg Cost
- “As at Date” = same calculation, but ignore events after that date.

2) Stock Movement (Itemwise / by Item)

- Uses events: all stock-changing events (sales, GRNs, transfers, adjustments, reconciliation).
- Output is typically: Date, Doc No, Type, IN Qty, OUT Qty, Balance Qty.

3) Item Expiration Date Warnings (and by Location)

- Uses: Item batches/stock records that carry expiry (usually created via GRN), then compares Expiry Date vs Today and shows items within a warning window.
- “By Location” additionally filters by branch/location.

B) Sales reports (revenue + sold quantities)

Your scope includes: Invoice listing (by date/user/sales rep), Sales Summary, Itemwise Sales, Full summaries etc.

Sales totals logic

- Start from Sales Invoices (and Credit Invoices)
- Then apply corrections:
  - Credit Notes reduce sales
  - Post Adjustments change totals
  - Cancellations remove/void documents

1) Sales Summary / Full Summary (by date/user)

- Uses: Sales Invoice + Credit Note + Adjustments + Cancellations
- Group by:
  - Date (daily totals)
  - User (cashier)
  - Sales Rep
- Arithmetic idea:
  - Net Sales = Sum(Valid Invoices) − Sum(Credit Notes) ± Sum(Adjustments)

2) Itemwise Sales / Single Item Sales

- Uses: invoice line-items from valid sales invoices (minus returns/credit notes).
- Arithmetic:
  - Item Qty Sold = Σ(line qty) − Σ(return/credit qty)
  - Item Sales Value = Σ(line net amount)

C) Purchases reports (stock-in + supplier liability)

Your scope includes: GRN Listing, GRN Summary, Purchase Order Listing, etc.

1) GRN Summary / GRN Listing

- Uses: GRN + GRN Post Adjustment + GRN Cancellation
- GRN affects:
  - Stock increases
  - Supplier payable increases (if not paid immediately)

2) Purchase Orders

- Uses: Purchase Orders
- Important: PO is usually not stock yet; it’s “planned purchase”.

D) Customer reports (Receivables)

Your scope includes: Outstanding Invoices, AR Aging, Receipts Listing/Summary, Customer Statement etc.

Customer master fields that affect this

- Customer has Credit Limit and Credit Days (so due dates/aging can be based on this).

1) Outstanding Invoices / Customerwise Outstanding

- Uses:
  - Sales Invoices / Credit Invoices
  - minus Customer Receipts
  - minus Credit Notes
  - plus/minus Adjustments
  - exclude Cancellations
- Arithmetic per invoice:
  - Outstanding = Invoice Total − Paid Amount − Credit Notes ± Adjustments

2) Accounts Receivable Aging

- Uses same sources as Outstanding, plus a date rule:
  - Due Date = Invoice Date + Credit Days (common rule)
  - Bucket logic example: 0–30, 31–60, 61–90, 90+ days overdue.

3) Customer Statement

- Uses: Sales Invoices + Credit Notes + Receipts + Adjustments + Cancellations in date order.

E) Supplier reports (Payables)

Your scope includes: AP Aging, Outstanding GRNs, Supplier Statement, Overdue GRN etc.

1) Outstanding GRNs

- Uses:
  - GRNs (what you owe)
  - minus Supplier Payments
  - minus Purchase Returns
  - plus/minus Adjustments
  - exclude Cancellations

2) Accounts Payable Aging / Overdue GRN

- Same outstanding logic + aging buckets by due date.

3) Supplier Statement

- Timeline of: GRNs / Adjustments / Payments / Cancellations for that supplier.

F) Account-related reports (cash control + accounting summaries)

Your scope includes: Journal Listing, Trial Balance, Income Statement, Balance Sheet, General Ledger, Cash In/Out, Shift/Day/Month End reports.

1) Cash In/Out Report

- Uses: Add Cash In, Add Cash Out events (and often ties to shift/day end close).

2) Shift End / Day End / Month End Reports

- Uses: Shift End Close / Day End Close / Month End Close events, plus totals of sales/receipts/payments during that period.
- Simple view:
  - “What happened in this shift/day/month?” = sum all relevant transactions in that time window.

3) Trial Balance / Income Statement / Balance Sheet / General Ledger

- Uses: Journal entries + system-generated postings from sales, purchases, payments, cash movements.
- Key idea: every posting affects ledger accounts, then reports summarize those balances.

---

4) Mini-check you can use while building/understanding any report

For any report, ask:

- Which event types change this number? (sales? GRN? payment? adjustment? cancellation?)
- What is the filter? (date range? location? user? customer? supplier? item?)
- What is the grouping? (by item? by customer? by branch? by day?)
- What is the formula? (sum qty, sum value, outstanding = invoice − paid, etc.)

If you want, in the next phase we can take one report (e.g., Stock Valuation as at Date) and I'll walk you through a small example with numbers using the exact event flow.

According to your uploaded Flux latest scope.pdf, Flux includes these stock valuation reports: Itemwise Stock Valuation, Stock Valuation, and Stock Valuation as at Date.

Below is a small worked example for Stock Valuation as at Date (easy words + clear maths).

Stock Valuation as at Date = "What is my stock worth on that date?"

Meaning

- Pick a date (example: 8 Feb).
- The report calculates:
  - How many units you have on that date
  - Multiply by cost price to get the value

Example setup (1 item, 2 locations)

- Item: ITEM-001 Paracetamol
- Base unit: Tablet
- Locations: LOC-A and LOC-B

We will use a simple costing method for learning

- Weighted Average Cost (easy to understand)
- If Flux later uses FIFO, the *quantity part* is same; only "cost per unit" changes.

Step 1 – List all stock-changing events up to the "as at" date

We choose As at Date = 8 Feb (end of day).

Events (only up to 8 Feb)

1. GRN #1 (1 Feb): Receive 300 tablets @ LKR 2.50 cost
   - Total cost = 300 × 2.50 = LKR 750
2. GRN #2 (4 Feb): Receive 200 tablets @ LKR 2.70 cost
   - Total cost = 200 × 2.70 = LKR 540
3. Sale Invoice (6 Feb): Sell 150 tablets (stock OUT)
4. Stock Transfer (7 Feb): Transfer 100 tablets from LOC-A → LOC-B
   - (Transfer OUT + Receive IN) changes location stock, not total company stock.
5. No adjustments/reconciliation before 8 Feb (so ignore those)

Step 2 – Calculate Closing Quantity as at 8 Feb

Total stock IN up to 8 Feb

- Total IN = 300 + 200 = 500 tablets

Total stock OUT up to 8 Feb

- Total OUT = Sales 150 = 150 tablets

Closing quantity

- Closing Qty = IN − OUT
- Closing Qty = 500 − 150 = 350 tablets

✅ So, as at 8 Feb, system stock = 350 tablets

Step 3 – Compute Average Cost per tablet (Weighted Average)

Use only purchase/GRN costs:

- Total cost = 750 + 540 = LKR 1,290
- Total purchased qty = 300 + 200 = 500 tablets

Average Cost per tablet

- Avg Cost = 1,290 ÷ 500
- Avg Cost = LKR 2.58 per tablet

Step 4 – Compute Stock Value as at 8 Feb

- Stock Value = Closing Qty × Avg Cost
- Stock Value = 350 × 2.58 = LKR 903.00

✅ Stock Valuation as at 8 Feb = LKR 903.00

(Optional) Same valuation but by location

Your scope also has Stock Balance by Location / Locationwise Stock Balance reports, so location view matters.

Let’s track location quickly:

Start: all goods received into LOC-A

After both GRNs:

- LOC-A: 500 tablets
- LOC-B: 0 tablets

After Sale of 150 (assume sold from LOC-A):

- LOC-A: 500 − 150 = 350
- LOC-B: 0

After Transfer 100 from A → B (with receive done):

- LOC-A: 350 − 100 = 250
- LOC-B: 0 + 100 = 100

Now value by location (using same avg cost 2.58):

- LOC-A value = 250 × 2.58 = LKR 645.00

- LOC-B value = 100 × 2.58 = LKR 258.00
- Total = 645 + 258 = LKR 903.00 ✅

Important rule: “As at Date” ignores later events

If on 10 Feb you do Inventory Reconciliation and reduce stock by 5 tablets, that must not affect the 8 Feb valuation. That’s why the report exists separately as “as at date”.

How this report is linked to other stock reports

- Itemwise Stock Valuation = same math, but shown item by item.
- Stock Movement by Item / Itemwise Stock Movement = shows the “IN/OUT ledger” that creates the final quantity.

Phase 09 :

Phase 9 — Offline + Multi-branch logic (Offline Sync Rules v1)

1) The simple goal

- Even without internet, the cashier must be able to do sales safely.
- When internet comes back, the system must sync without duplicating or corrupting data.
- With multi-branch, everything must be correct per location (Branch A stock is not Branch B stock).

---

2) Basic concepts (easy words)

- Branch / Location: where stock exists (LOC-A, LOC-B).
- Device: a phone/tablet/PC running the PWA.
- Local database (offline storage): where the device keeps data when offline.
- Sync queue: a “to-upload later” list of actions (sales, receipts, transfers, etc.).

---

3) Rule 1: Offline-first writing (how saving works)

- When the user clicks Save (invoice/receipt/GRN/etc.), the app must:
  - Save locally first (so it works offline)
  - Then add a record to the Sync Queue
- Never “wait for server” to complete a sale. Offline must still print a bill.

---

4) ID + Invoice numbering strategy (branch-aware + offline-safe)

A) Use 2 identifiers (best practice)

1. Internal ID (for database): use a globally unique ID like UUID/ULID
    - This avoids duplicates across devices.
2. Human Invoice Number (for printing): readable, branch-based.

B) Offline-safe invoice number options (choose one)

Option 1 (cleanest): Pre-allocate number blocks

- When the device is online, server gives it a reserved range like:
    - LOC-A-000100 to LOC-A-000199
- Offline, the device uses the next number from its reserved block.
- Result: no collisions, still sequential per branch.

Option 2 (simple): Include device code

- Invoice No format: LOC-A-20260130-D03-00057
    - Branch + date + device + local sequence
- Result: unique even offline, but not perfectly sequential across all devices.

Important rule

- Once printed, don’t renumber later. Renumbering causes audit confusion.

---

5) Conflict rules (what can go wrong, and what to do)

A) Same item sold offline in two *different branches*

- Usually not a conflict, because each branch has its own stock.
- Just ensure every sale line stores location_id.

B) Same item sold offline on two devices in the *same branch*

This is the real problem.

What happens

- Both devices think stock is available.
- After sync, server may see negative stock (oversold).

Rule (practical)

- Allow the sale offline, but mark it:
    - “Stock may be insufficient — needs review”
- When syncing, server checks:
    - If stock becomes negative → create a Discrepancy/Exception for that branch.

How you fix

- Use Inventory Reconciliation or Stock Adjustment after checking physical stock.

C) Master data edited on two devices (example: Item price changed twice)

Use version checking (simple and powerful):

- Each master record has a version number.
- Device sends “I edited version 7”.
- If server is already at version 8 → conflict.

- Then:
    - Keep server value and show a conflict screen (“choose which to keep”), OR
    - Use “last write wins” only for low-risk fields (like remarks), not for pricing.

D) Duplicate sync (same invoice uploaded twice due to retry)

Prevent duplicates using idempotency:

- Every transaction has a unique internal ID.
- Server must treat “same ID again” as ignore / already processed.

---

6) Sync priorities (what to sync first)

A safe priority order is:

1. Sales + Customer Receipts
    - These are the most time-critical (cash + revenue + customer due).
2. Stock movements
    - Transfers, receives, adjustments, reconciliation.
3. Accounting layer
    - Journal entries, bank reconciliation changes, year close actions.

Extra rule

- Always sync in the exact order the device created them (FIFO), because later actions depend on earlier ones.

---

7) Reconciliation strategy when mismatch happens (what you do in real life)

A) Detect mismatches automatically

After sync, server should check:

- Any item/location where calculated stock < 0
- Any invoice totals that don’t match payments
- Any “transfer out” without “receive in” after X hours/days

B) Put mismatches into a simple “Needs Attention” list

Examples:

- “LOC-A Paracetamol is -5 tablets after sync”
- “Transfer TN-123 not received by LOC-B”
- “Receipt uploaded but invoice is cancelled”

C) Fix using existing Flux screens

- Stock issues → Inventory Reconciliation / Stock Adjustment
- Transfer issues → create the missing Stock Receive Note
- Money issues → Payment Adjustment / Receipt Cancellation (controlled reversal)

---

8) A few “must-have” offline safety rules

- Never delete transactions in sync. If something is wrong, create a Cancellation / Adjustment record.
- Use server time for official reporting, but keep device time for local display.
- Sync must handle:
  - “Send unsynced actions”
  - “Pull server changes since last sync”
  - “Resolve conflicts”
  - “Retry safely without duplicates”

Phase 10 :

Phase 10 — Practice + mastery (Flux Logic Workbook)

Goal: You can explain Flux like the system designer, and you can predict the final stock + money + due after any action.

---

1) How we will practice (simple method)

For every scenario, you will always do 4 checks:

1. Stock check
   - Which item?
   - Which location?
   - Stock goes UP or DOWN by how much?
2. Invoice total check
   - Line totals, discounts, grand total
3. Customer/Supplier due check
   - Customer due goes UP/DOWN
   - Supplier due goes UP/DOWN
4. Cash/Bank check
   - Cash/Bank goes UP/DOWN

✅ If you can do these 4, you understand the whole app.

---

2) The 10 realistic practice scenarios (with answers)

Scenario 1 — GRN (basic purchase)

Action: GRN at LOC-A: Paracetamol 300 tablets @ cost 2.50
Result:

- Stock LOC-A: +300 tablets
- Supplier Due: +750 (300×2.50)

- Cash/Bank: no change

Scenario 2 – Cash sale with mixed units

Action: Sale at LOC-A: Paracetamol 5 strips + 20 tablets (1 strip=10 tablets), rate 4.00 per tablet, cash paid fully
Math:

- Qty in tablets = 5×10 + 20 = 70
- Total = 70×4 = 280
  Result:
- Stock LOC-A: -70 tablets
- Cash: +280
- Customer due: 0

Scenario 3 – Credit sale (creates customer due)

Action: Credit Invoice to CUST-001: Cetirizine 50 tablets @ 9.00, paid 0
Math: 50×9 = 450
Result:

- Stock (selling location): -50 tablets
- Customer Due: +450
- Cash: 0

Scenario 4 – Customer receipt (reduces due)

Action: Customer pays 300 against the above due
Result:

- Cash/Bank: +300
- Customer Due: -300
- Remaining due: 150

Scenario 5 – Discount % sale

Action: Sale: Vitamin C 10 tablets @ 18.00 with 10% discount
Math:

- Gross = 10×18 = 180
- Discount = 18
- Net = 162
  Result:
- Stock: -10 tablets
- Cash (if paid): +162

Scenario 6 – Free issue sale (billing vs stock difference)

Action: Give Paracetamol 3 strips, with 1 strip free
Math:

- Stock out = 3 strips = 30 tablets
- Billable = 2 strips = 20 tablets
- Bill = 20×4 = 80
  Result:
- Stock: −30 tablets
- Cash (if paid): +80

Scenario 7 – Stock transfer between branches

Action: Transfer 10 strips Paracetamol from LOC-A to LOC-B
Math: 10 strips = 100 tablets
Result:

- After Transfer OUT: LOC-A −100
- After Receive IN: LOC-B +100
- Company total stock: unchanged

Scenario 8 – Purchase Return (reduce stock + reduce supplier due)

Action: Return 50 tablets to supplier @ cost 2.50
Math: 50×2.50 = 125
Result:

- Stock: −50 tablets
- Supplier Due: −125

Scenario 9 – Inventory reconciliation (counted vs system)

Action: System says LOC-A Paracetamol 130 tablets, counted 125
Math: Difference = 125−130 = −5
Result:

- Stock LOC-A: −5 tablets
- (Accounting: stock loss account increases, if mapped)

Scenario 10 – Cancellation (full reversal rule)

Action: Cancel a cash sale invoice of total 280 and stock-out 70 tablets
Result (reverse everything):

- Stock: +70 tablets back
- Cash: −280
- Invoice is void in reports

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3) Mini Test Plan (how to check if logic is correct)

For each scenario (or any real transaction), verify these outputs:

A) Stock tests

- Stock never changes without an event (sale/GRN/transfer/adjustment/reconcile)
- Stock never becomes negative unless you intentionally allow it
- Location-wise stock matches transfers (A down, B up)

B) Invoice tests

- Line totals correct: Qty×Rate − Discount
- Grand total equals sum of net lines (plus rounding if used)

C) Due tests

- Credit invoice increases customer due
- Customer receipt decreases due
- GRN increases supplier due
- Supplier payment decreases supplier due

D) Cancellation/Adjustment tests

- Cancellation fully reverses stock + money + due impact
- Post adjustment changes totals but keeps an audit trail

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4) “Explain it back” sessions (how you master fast)

When you practice, do this:

- You tell me: What changed in Stock, Cash, Customer Due, Supplier Due
- I check it and correct small gaps.

Best rule: Always speak in this format:

- “Stock: +/− … at Location …”
- “Cash/Bank: +/− …”
- “Customer Due: +/− …”
- “Supplier Due: +/− …”
