

# **Information Technology for Logistics**

# **Part 3: ERPNext**

# What is ERP?

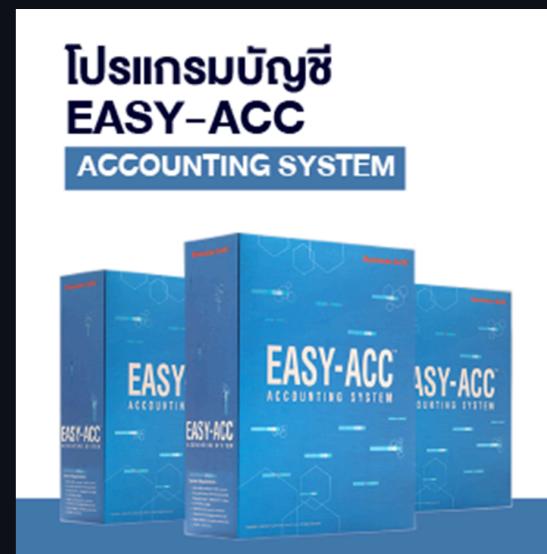
- Stands for *Enterprise Resource Planning*.
- Software that collects information from various departments in a common database
  - Unify critical business functions together.
  - Provide organization-wide visibility.

| Really complicated software

# Modules



# Standalone Software



# Standalone Software



## ERP vs Standalone Software

- ERP acts as a unified platform integrating multiple business processes
  - Specialized software addresses only a single function or department.
- | ERP enforces *process flows* across business functions.

# Benefits of ERP



# Implementation Challenges

- Budget
  - License, operation cost, upgrade cost
- High learning curve
  - Need training, resistances to change
- Complex system
  - Need dedicated IT resource, capable vendor to maintain
- Non-standard processes / localization
  - Need a lot of customization (e.g. tax)

# ERP Products

Product	Cost (Monthly)
Oracle NetSuite	\$100 / user + \$1000
SAP Business One	\$200 / user (min 4 users)
Microsoft Dynamics 365	\$200 / user
Sage Intacct	\$1200 (1 user)
Odoo	\$25 / user
Odoo (Open Source)	Free
ERPNext	\$50 (unlimited user)
ERPNext (Open Source)	Free

# Odoo

	<b>Enterprise</b>	<b>Community</b>
Price	<i>\$25 / user / mo</i>	<i>Free</i>
Functionality	<i>Full</i>	<i>Limited</i>
Service	<i>On Cloud</i>	<i>On Premise</i>

# ERPNext

	<b>Cloud</b>	<b>Open Source</b>
Price	\$50 / mo <i>(unlimited user)</i>	<i>Free</i>
Functionality	<b>Full</b>	<b>Full</b>
Service	<i>On Cloud</i>	<i>On Premise</i>

# Why ERPN<sup>ext</sup>?

- 100% open source
- Extensive functionality
  - All areas covered (more or less)
  - Low Code / No Code
- Allow for easy customization

# Why ERPN**e**x?

- Built on general-purpose framework
  - Frappe framework
  - Rapid development / customization
    - Active development
  - Update every week

# Frappeverse

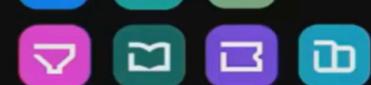
- Ecosystem of open-source products, frameworks, and community built around the Frappe Framework,
  - ERPNext as its flagship application.
- Checkout [Frappeverse Conference 2025](#).

## Full Stack

Enterprise apps



Business apps



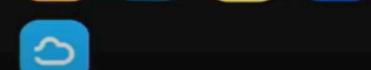
Developer tools



Productivity suite



Cloud platform



# Installation

- Guide

# Accounting Module

# Double Entry Accounting

- សេចក្តីផ្តល់នូវបញ្ជីគ្មាន
- Every financial transaction is recorded in at least two entries.
  - Debit (*Dr.*) entry
  - Credit (*Cr.*) entry
- **Debit = Credit**
- Why?: provides consistency check

# Type of Accounts

Type	Type (Thai)	Definition
Asset	สินทรัพย์	Things you own
Liability	หนี้สิน	Things you owe
Equity	ส่วนของผู้ถือหุ้น	Things you invest
Income	รายได้	<i>"Income"</i> (duh)
Expense	ค่าใช้จ่าย	<i>"Expense"</i> (duh)

Debit	Credit
Asset	Equity
Expense	Liability Income

*The account balances in ERPNext will be increasingly **positive**.*

*The account balances in ERPNext will be increasingly **negative**.*

Posting D...	Account	Debit (THB)	Credit (THB)	Balance (THB)	Voucher Type	Voucher Subtype	Voucher No
1	Opening	0.000	0.000	0.000			
2	31-10-20... Creditors - IE	0.000	100.000	-100.000	Purchase Invo...	Credit Note	ACC-PINV-2024-00...
3	31-10-20... Stock Received But No...	93.460	0.000	-6.540	Purchase Invo...	Credit Note	ACC-PINV-2024-00...
4	31-10-20... VAT - IE	6.540	0.000	0.000	Purchase Invo...	Credit Note	ACC-PINV-2024-00...
5	Total	100.000	100.000	0.000			
6	Closing (Opening + Tot...	100.000	100.000	0.000			

<b>Account</b>	<b>Increase</b>	<b>Decrease</b>
<b>Asset</b>	<b>Add to Dr</b>	<b>Add to Cr</b>
<b>Liabilities</b>	<b>Add to Cr</b>	<b>Add to Dr</b>
<b>Equity</b>	<b>Add to Cr</b>	<b>Add to Dr</b>
<b>Income</b>	<b>Add to Cr</b>	<b>Add to Dr</b>
<b>Expenses</b>	<b>Add to Dr</b>	<b>Add to Cr</b>

Posting D...	Account	Debit (THB)	Credit (THB)	Balance (THB)
1	Opening	0.000	0.000	0.000
2	31-10-20... Creditors - IE	0.000	100.000	-100.000
3	31-10-20... Stock Received But No...	93.460	0.000	-6.540
4	31-10-20... VAT - IE	6.540	0.000	0.000
5	Total	100.000	100.000	0.000
6	Closing (Opening + Tot...	100.000	100.000	0.000

You owe VAT less.

# Accounting Example

- *Entry 1: Sarah opened a business.*

- Invested THB 70,000 (Equity)
- Borrowed from friend THB 30,000 (Liability)

Debit	Credit
Asset Expense	Equity Liability Income

Entry	Debit	Credit
1	Asset: 100,000 <i>Cash</i>	Equity: 70,000 Liability: 30,000 <i>Equity</i> <i>Loan</i>
	<i>Tot. Dr. = 100,000</i>	<i>Tot. Cr. = 100,000</i>

We will see negative balances here.

- *Entry 2*

- Saran bought equipment for THB 25,000 (expense).

Debit	Credit
Asset Expense	Equity Liability Income

Entry	Debit	Credit
1	Asset: 100,000	Equity: 70,000 Liability: 30,000
2	Expense: 25,000	Liability: 25,000
	<i>Tot. Dr. = 125,000</i>	<i>Tot. Cr. = 125,000</i>

Direct Expense

Creditors

- *Entry 3:* Sarah sold product for THB 50,000.

- Received money for THB 25,000.
- To be received for THB 25,000.

Debit	Credit
Asset	Equity
Expense	Liability
	Income

Entry	Debit	Credit
1	Asset: 100,000	Equity: 70,000 Liability: 30,000
2	Expense: 25,000	Liability: 25,000
3	Asset: 25,000 Asset: 25,000	Income: 50,000
	<i>Tot. Dr. = 175,000</i>	<i>Tot. Cr. = 175,000</i>

*Cash*      *Sale*

*Debtor \**

You will see negative balance for income here!

# Accounting

| Hand-on

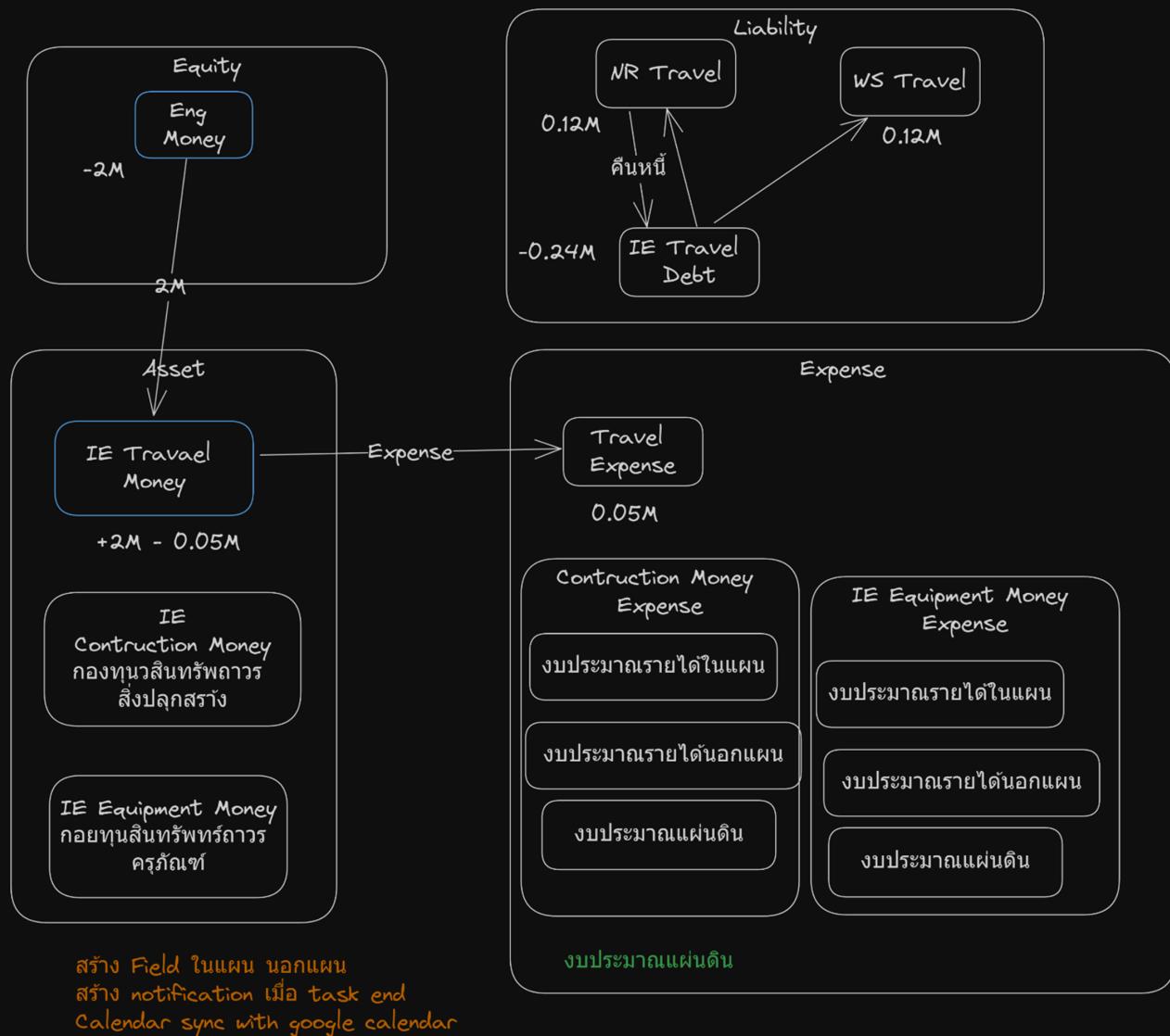
# Hand-On

- Open a business
- Equity
  - John – 2000 THB
  - Mary – 3000 THB
- Expense
  - Rent - 500 THB
  - Salary – 200 THB

# Practice

- Mary
  - 3000
- Create another expense
  - Salary

# Case Study





Accounting

Search or type a command (Ctrl + G)

## Trial Balance

IECMU

2024-2025

01-10-2024

30-09-2025

Cost Center

Project

Finance Book

Currency

 With Period Closing Entry  
For Opening Balances Period Closing Entry For  
Current Period Show zero values Show  
P&L b Include Default FB Entries Show net values in opening  
and closing columns

	Account	Opening (Dr)	Opening (Cr)	Debit	Credit	Closing (Dr)	Closing (Cr)
1	Application of Funds (Assets)						
2	IE Travel Money						
3	Source of Funds (Liabilities)						
4	AB Travel						
5	AC Travel						
6	AL Travel						
7	AP Travel						
8	AS Travel						

# Real Job

รายละเอียดการพัฒนา (ERPNext Customization Items)

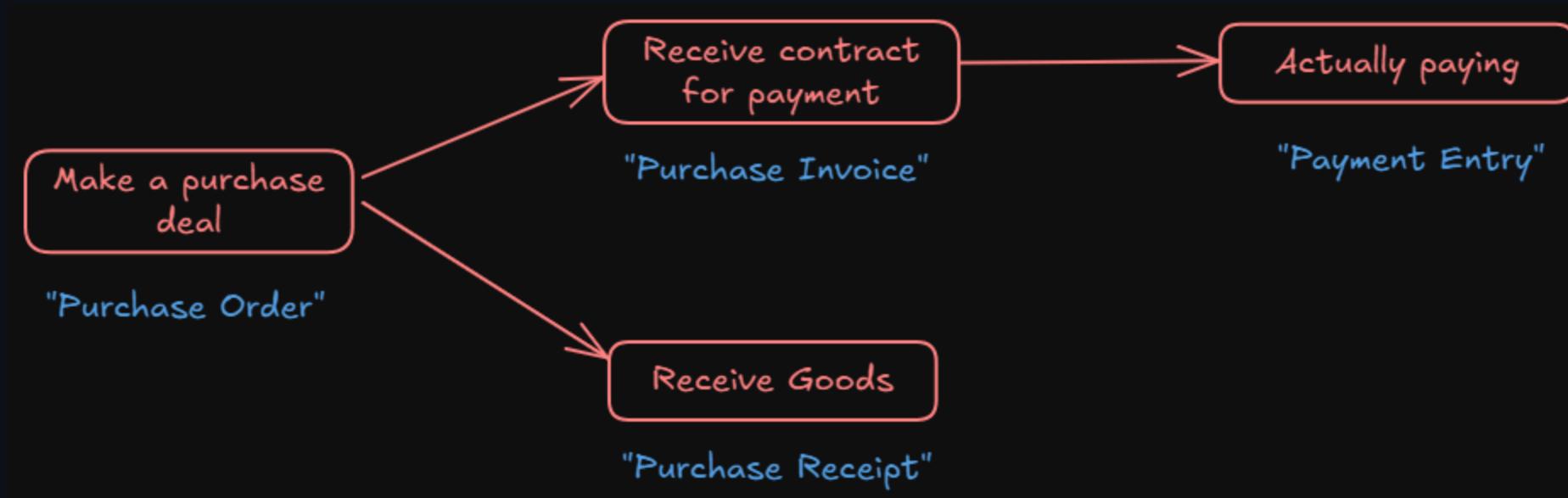
ลำดับ	รายการงาน	ระยะเวลาโดยประมาณ	หมายเหตุ
1	วิเคราะห์ระบบเดิม & ออกแบบการใช้งาน	10 วัน	วิเคราะห์ข้อมูลจากระบบเดิม
2	ปรับแบบฟอร์ม Payment / Receive Voucher	30 วัน	ตามฟอร์มเดิมของ PHP และ Express
3	เอกสาร 50 หน้า (PDF แบบไทย)	10 วัน	สร้างแบบฟอร์มที่ออกแบบเจ้อในไวริ่ง
4	รายงาน Billing, รับชำระ, Aging, ภาษี	10 วัน	สร้าง Dashboard และรายงาน
5	ກារបันທຶກ出入 DR/CR តັດໂນມືດີ	10 วัน	ตรวจสอบกับผู้ใช้งานจริง
6	รายงานເກີຍກັບ ຂອງ	15 วัน	รวม Excel และฐานข้อมูล PHP
7	ระบบจัดซื้อ (Purchasing) - เลือก Approve Vendor ตาม Raw Material - ກາරັດກາຮສິນທີ່ພໍໃນມຸດຄ່າ / ໄນນັ້ນ ມຸດຄ່າ)	15 วัน	ระบบจัดซื้อแบบນີ້ເຈັບໃໝ່
8	ระบบขาย (Sales) - Import csv ອອກ Sale Invoice & ຕັດສຕືກ - ຖະແນນເອກສາຮ: IV (ໃນ/ອກປະເທດ), CN, DN, ໃນເກາຂາຍ, ໃນເນັກຕົວຢ່າງ - ແນໄບອນຫຼາຍເຊີງ + ເຕືອນໜົມຄອບຍູ້ (ຍົກເລີກ: ໃນປະໜັກຄ່ອງ)	20 วัน	ตาม Flow ຂອງຄຸນ Jeng
9	Localization ระบบນັ້ນທີ່ໄດ້	5 วัน	COA, ภาษีທັກ ປີ່ຈ່າຍ ຍາລຸ
10	ทดสอบระบบ (UAT) และแก้ไขความຜລ	20 วัน	ให้ທີ່ມີຄູກຄ້າທີ່ສອບຈົງ
11	อบรม และ Go-live	10 วัน	ພ້ອມຄູນເກີຍກັບຜູ້ໃຊ້ງານ
12	สำรองເຕີມ Support / ปรับປຸງເພີ່ມເຕີມ	0-20 วัน	ເນື່ອເວລາໃຫ້ຮັບເຕີມ

รวมเวลาทั้งหมด โดยประมาณ: 155 วัน

ราคาทั้งหมด: 400,000 บาท

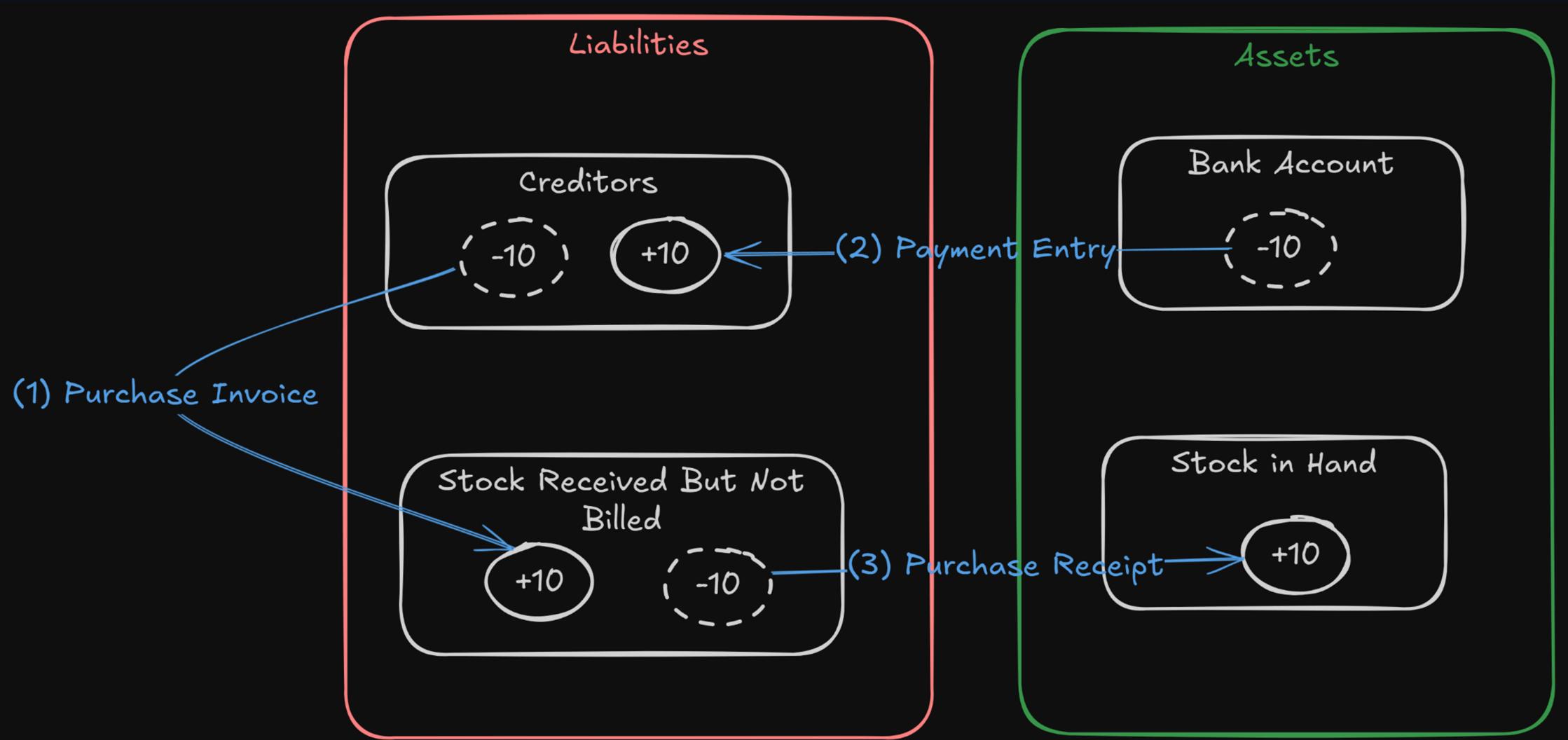
# **Purchase Module**

# Purchase Flow



# Practice

- Create pen item
- Create a supplier
- Buy 10 pen for 50 THB/pcs.



## **Exercises (1)**

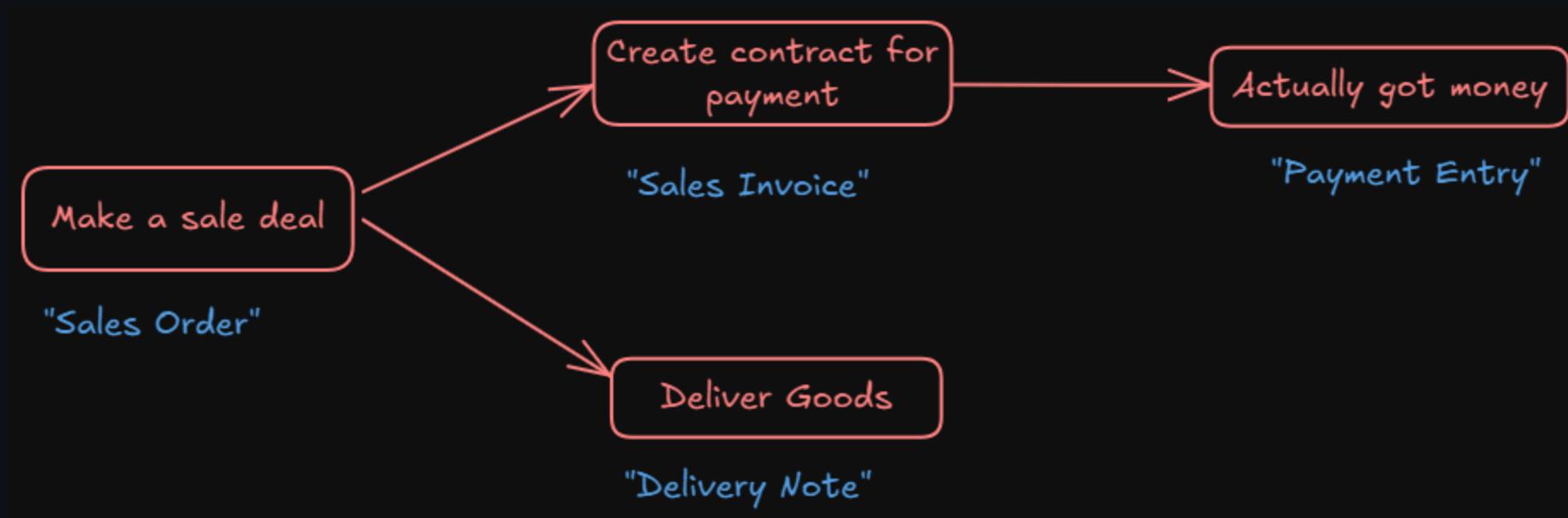
- Purchase more pens.
- Purchase other items.
- You may create more supplier.

## **Exercises (1)**

- Buy 1,000 pens with two payments/deliveries
- Create 2 purchase invoices
  - 400 pens
  - 600 pens
- Create 2 purchase receipts
  - 400 pens
  - 600 pens

# **Sales Module**

# Sales Flow



# Practice

- Create customer
- Buy and sell more items until you have profit

