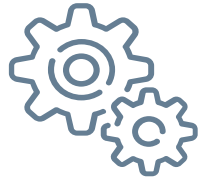


Final Test Week I

version 1.0

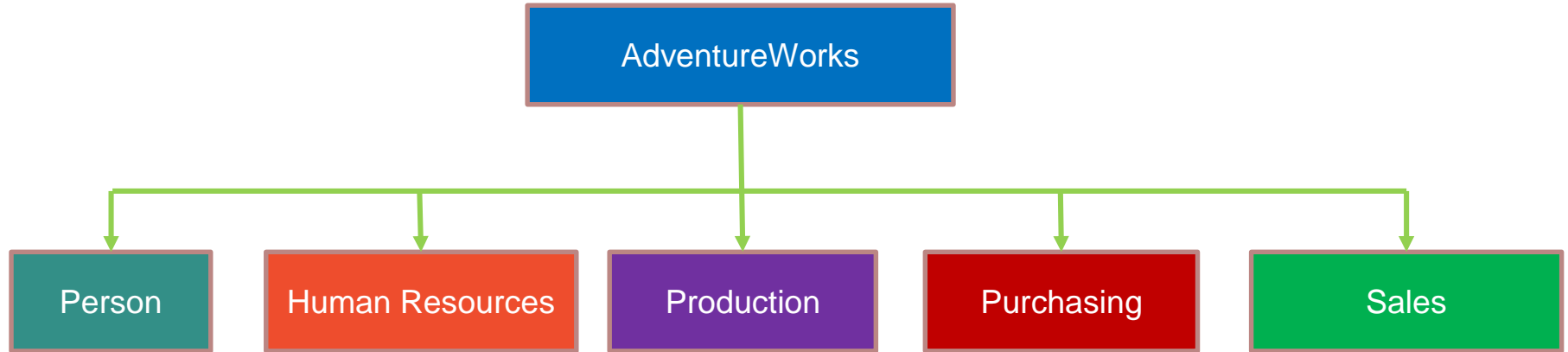
Author : Kang Dian



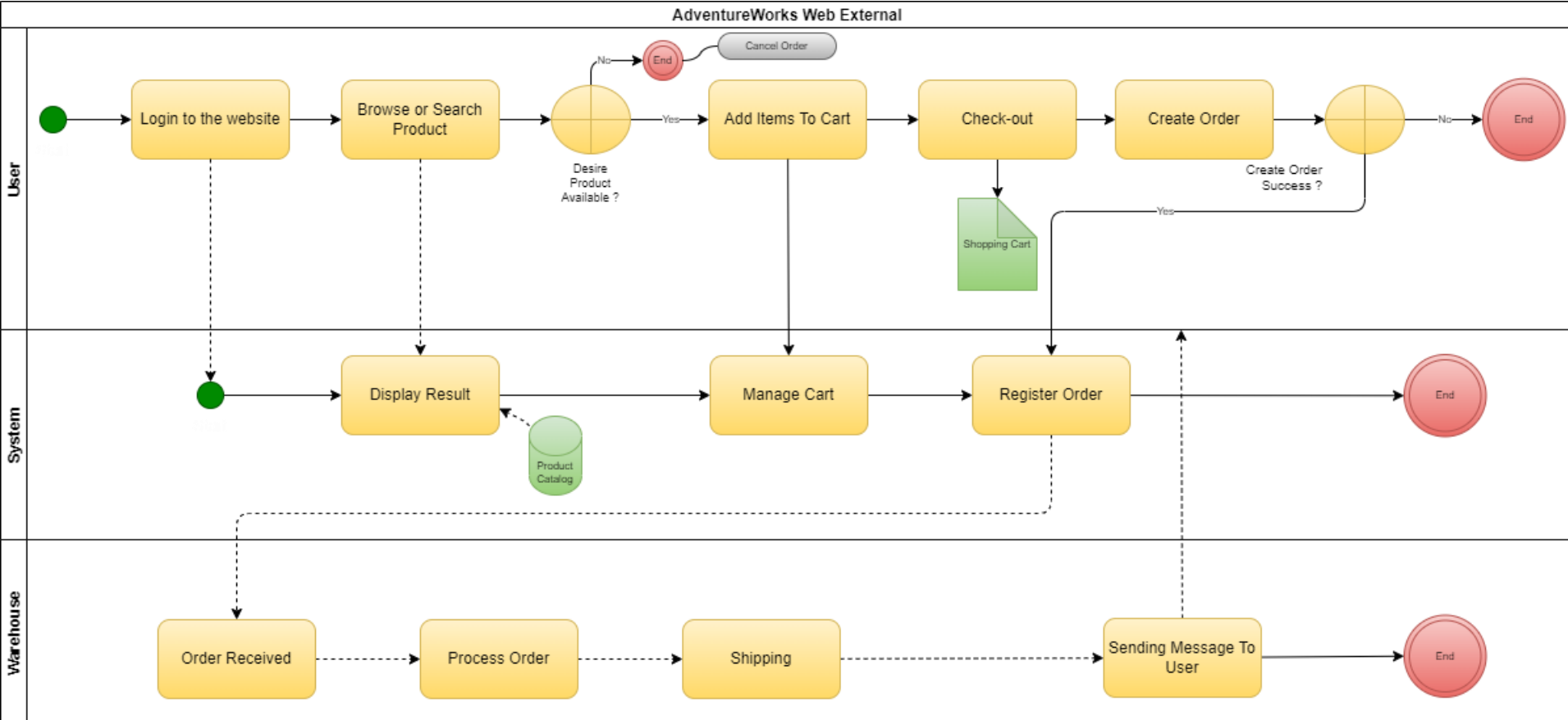
Overview AdventureWork ERP System

- Adventure Work Cycle (AWC) adalah perusahaan manufacture sepeda fiktif ber-skala besar, yang beroperasi di Bothell Washington Amerika, memiliki 290 employee dan memiliki tim penjualan (Sales Person) yang tersebar di seluruh regional pasar mereka.
- Perusahaan memproduksi dan merakit sepeda, lalu menjualnya ke pasar komersial di Amerika Utara, Eropa dan Asia.
- Untuk memenuhi permintaan pasar, AWC membeli pabrik kecil Neptuno untuk memproduksi beberapa subkomponen penting untuk lini produk AWC, dan subkomponen yang dibuat Neptuno ini dikirim ke Bothell untuk perakitan terakhir. Neptuno menjadi satu-satunya produsen dan distributor group product sepeda bagi AWC.
- Karena kesuksesannya, AWC melakukan ekspansi untuk memperluas pasar dan mentargetkan penjualan produk mereka melalui web eksternal, dimana user atau customer bisa melakukan pembelian produk AWC secara online.

AdventureWork Modules



Business Process Workflow

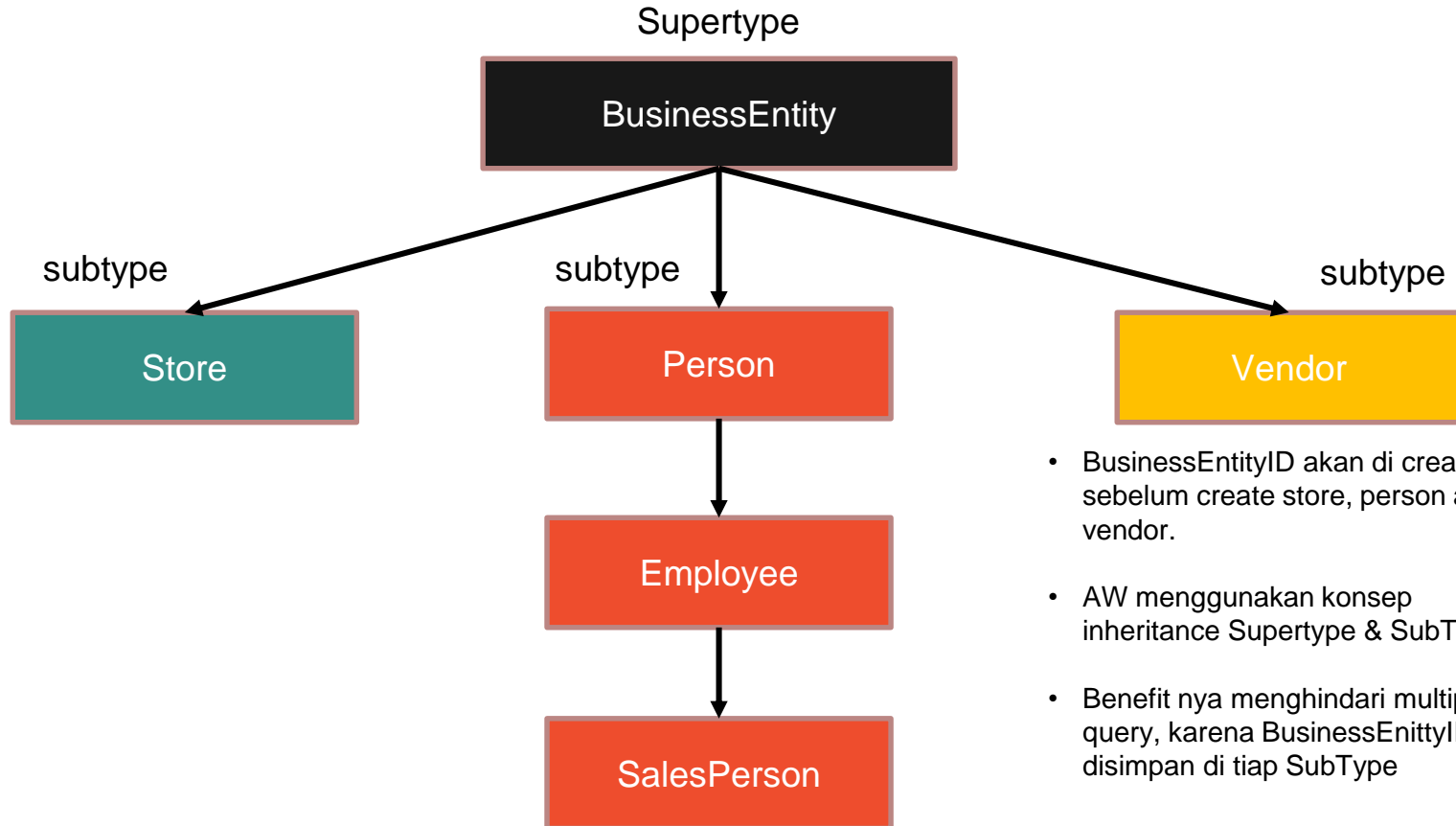


MODULE PERSON

Scenario Module Person

- Mencatat dan menyimpan informasi Person seperti Profile Person, Password, Contact Person, EmailAdress, Phones & Address
- Person yang di-create di database bisa memiliki role atau entity sebagai Employee, Sales Person atau Individual Customer

Relation Business Entity



- BusinessEntityID akan di create dulu sebelum create store, person atau vendor.
- AW menggunakan konsep inheritance Supertype & SubType
- Benefit nya menghindari multiple join query, karena BusinessEntityID disimpan di tiap SubType

Task 1 : Person-Signup

A Web Page

http://adventureworks.com/signup

Signup

Profile

Username

FirstName MiddleName LastName Suffix (Junior,Phd)

Email PhoneNumber PersonType

Password Confirm Password

☐ Send email monthly for our product

1 Signup Cancel

2

List PersonType

PersonType	Description
EM	Employee
SP	Sales Person
IN	Individual Customer
SC	Store Contact
VC	Vendor Contact
GC	General Contact

Signup as customer
maka default
personType = 'IN'

Ketika data berhasil
insert ke table
dbo.AspNetUser, maka
push data untuk insert
ke table Person,
EmailAddress,
PersonPhone, Password

Task 1 : Signup

- Perhatikan Mockup di slide sebelumnya, buat stored procedure untuk meng-handle inputan form seperti di mockup.
- Untuk field Username, Password & Confirm Password di exclude.
- Buat nama stored procedure Person.Signup dan tentukan data type nya

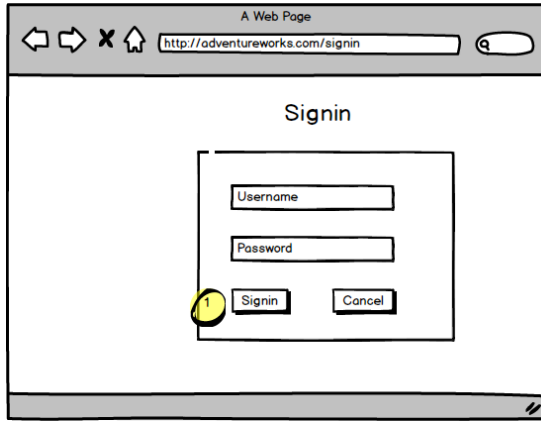
`Person.Signup(FirstName,MiddleName,LastName,Suffix,Email,PhoneNumber,PersonType)`

- Notes : untuk mendapatkan BusinessEntityId bisa insert terlebih dahulu ke table Person.BusinessEntity

```
-- insert new BusinessEntityId
INSERT INTO Person.BusinessEntity(rowguid) VALUES (default);

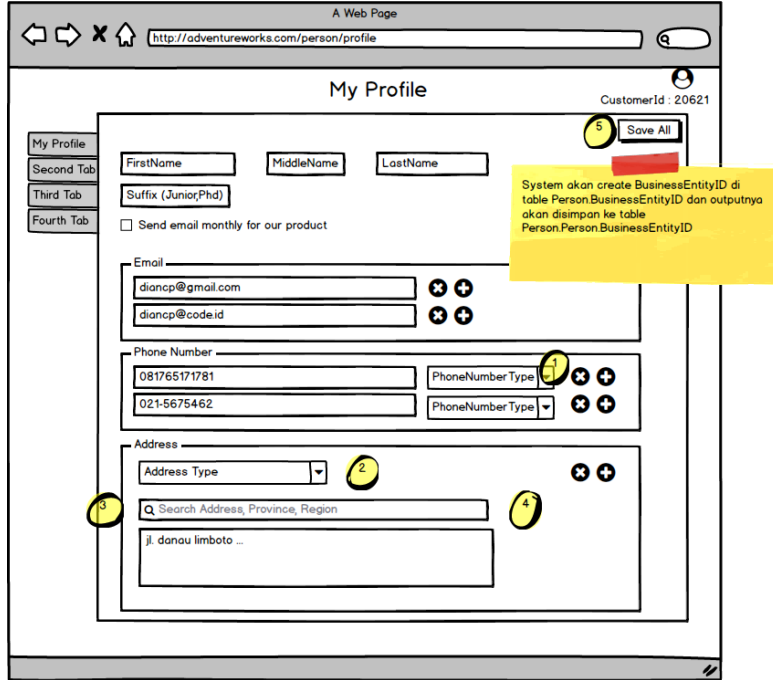
-- get BusinessEntityId already insert
SELECT IDENT_CURRENT('PERSON.BUSINESSENTITY') AS [IDENT_CURRENT]
```

Task 1 : Signing



- Create stored procedure name : Signin
`Person.SignIn (...)`

Task 2 : Person-Profile



The mockup shows a web browser window with the URL `http://adventureworks.com/person/profile`. The page title is "My Profile" and the user is logged in as "CustomerId : 20621". On the left, there is a tabbed interface with "My Profile" selected. The form contains the following fields and controls:

- Personal Information:** `FirstName`, `MiddleName`, and `LastName` text boxes.
- Suffix:** A dropdown menu with "Junior(Phd)" selected.
- Email:** Two text boxes containing "diancp@gmail.com" and "diancp@code.id", each with add (+) and remove (-) buttons.
- Phone Number:** Two text boxes containing "08176517181" and "021-5675462", each with a "PhoneNumber Type" dropdown and add (+) and remove (-) buttons.
- Address:** An "Address Type" dropdown, a search bar with the placeholder "Search Address, Province, Region", and a text box containing "jl. danau limboto ...".
- Footer:** A checkbox labeled "Send email monthly for our product" and a "Save All" button.

Annotations on the mockup:

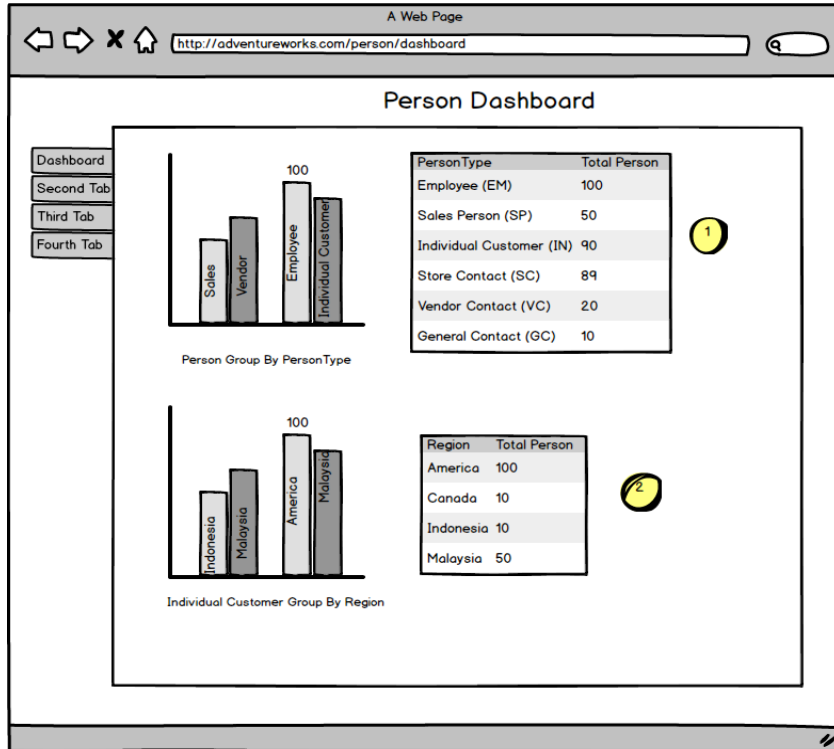
- 1:** Points to the "PhoneNumber Type" dropdown in the second phone number field.
- 2:** Points to the "Address Type" dropdown.
- 3:** Points to the search bar in the address section.
- 4:** Points to the address text box.
- 5:** Points to the "Save All" button.

A yellow callout box contains the text: "System akan create BusinessEntityID di table Person.BusinessEntityID dan outputnya akan disimpan ke table Person.Person.BusinessEntityID".

- Buat method `UpdateProfile` untuk handle form seperti di mockup
- Asumsi record yang dikirim ke parameter hanya satu record
- Create stored procedure name : `UpdateProfile`

`Person.UpdateProfile (...)`

Task 3 : Person Dashboard



- Buat function return ref cursor untuk menampilkan person dashboard

MODULE HUMAN RESOURCES

Scenario Module HumanResource

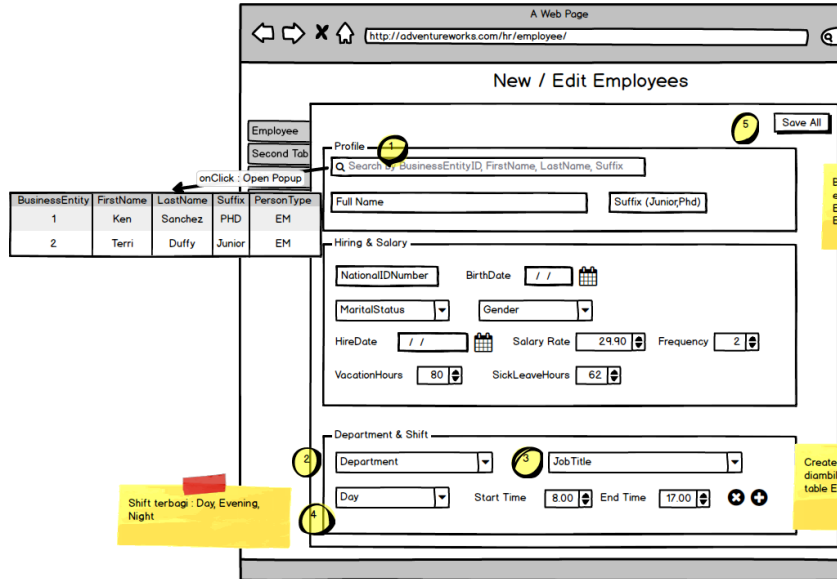
- Berfungsi mencatat dan menyimpan data Employee, Department, DepartmentHistory, Shift dan EmployeePayHistory
- Data Employee memiliki relasi one-to-one ke Person dan SalesPerson
- Hanya employee yang sudah tercatat yang bisa melakukan transaksi purchasing ke vendor.
- Employee bisa juga di assign menjadi role Sales dan di assign di deparment tertentu.

Soal 2 : Create New Employee

- Buat stored procedure untuk create new & Update employee berdasarkan mockup di samping

`HumanResources.CreateNewEmployee(...)`

`HumanResources.UpdateNewEmployee(...)`



BusinessEntity	FirstName	LastName	Suffix	Person Type
1	Ken	Sanchez	PHD	EM
2	Terri	Duffy	Junior	EM

Shift terbagi : Day, Evening, Night

A Web Page

http://adventureworks.com/hr/employee?search

Search Employee

1 search by Department, JobTitle, BirthDate, FirstName, Lastname, Name

2

NationalID	FirstName	LastName	Email	PhoneCall	JobTitle	BirthDate	HireDate	Department
295847284	Dian	Permana	diancp@code.id	08131398777	Account Manager	24-03-2000	22-01-2022	Sales

3

Rows Contains

<Prev 1 2 3 Next>

Add

3

Buat API Searching dan tambahkan fitur pagination & Order

Buat function return ref-cursor untuk menampilkan data pagination di gambar

Buat function return ref-cursor untuk menampilkan data searching

MODULE PRODUCTION

Scenario Module Production

Sebagai perusahaan manufaktur sepeda, Adventure Works Cycles memiliki empat lini produk, yaitu :

- Sepeda yang diproduksi di perusahaan Adventure Works Cycles.
- Suku cadang komponen sepeda, seperti roda, pedal, atau rakitan rem.
- Pakaian olahraga sepeda yang dibeli dari vendor untuk dijual kembali kepada pelanggan Adventure Works Cycles.
- Aksesori sepeda yang dibeli dari vendor untuk dijual kembali kepada pelanggan Adventure Works Cycles.

Semua proses kegiatan lini product diatas akan di catat di database, berikut main process yang akan dicatat :

- Bill of material, berkaitan dengan daftar produk yang digunakan atau terkandung dalam produk lain.
- Work Order, berkaitan dengan perintah produksi berdasarkan pusat kerja.
- Location, berkaitan dengan area manufaktur dan gudang (inventory), seperti pembentukan bingkai, pengecatan, subassembly, dan sebagainya. Manufaktur dan instruksi perakitan produk ditentukan dari pusat.
- Product Inventory: Lokasi fisik suatu produk di gudang atau area manufaktur, dan jumlah yang tersedia di area itu.
- Engineering Documentation: Spesifikasi teknis dan dokumentasi perawatan untuk sepeda atau komponen sepeda.

Task 1 : Add & Edit Product

A Web Page
http://adventureworks.com/production/product/add

Add/Edit Product

Form Product

Name ProductNumber Color

SafetyStockLevel ListPrice StandardCost

Size UnitMeasure WeightMeasure

Weight : 5.5 DayToManufacture : 2 ProductLine

Class Style SubCategory

ProductModel ☐ MakeFlag : 0 ☐ FinishedGoodFlag : 0

SellStartDate SellEndDate

DiscontinueDate

Media

+ Add Product Image

ProductImage ProductImage ProductImage

☐ Set Primary ☐ Set Primary ☐ Set Primary

Document

DocumentNode

Title Level Owner

FileName

Buat API CRUD Product

MakeFlag
0 = Product is purchased
1 = Product is manufactured in house

FinishedGoodFlag
0 = Product is not a salable item
1 = Product is salable

ProductLine
R = Road
M = Mountain
T = Touring
S = Standar

Class
H = High
M = Medium
L = Low

Style
W = Women
M = Men
U = Universal

Hanya satu image yang bisa menjadi primary image

Hanya DocumentNode yang diinsert ke table ProductDocument

- Buat stored procedure untuk create new product berdasarkan mockup di samping
- Untuk Product Image di exclude

`Production.AddProduct(...)`

Task 2 : Create Work Order

A Web Page

http://adventureworks.com/product

WorkOrder Product Manufacturing

Product Information

ProductID: Name: ProductNumber:

DayToManufacture: 2 ListPrice: 1349.00

WorkOrder

OrderQty: 4 StockedQty: 4

StartDate: EndDate: DueDate:

WorkOrder Routing

OperationSeq	LocationID	ScheduleStartDate	ScheduleEndDate	ActualStartDate	ActualEndDate	ActualResourceHours	PlannedCost	ActualCost
1	10	2011-06-03	2011-06-14	2011-06-03	2011-06-19	4.100	92.25	92.25
2	20	2011-06-03	2011-06-14	2011-06-03	2011-06-19	3.500	87.50	87.50
3	30	2011-06-03	2011-06-14	2011-06-03	2011-06-19	1.000	14.50	14.50
4	40	2011-06-03	2011-06-14	2011-06-03	2011-06-19	2.000	31.50	31.50
5	50	2011-06-03	2011-06-14	2011-06-03	2011-06-19	3.000	36.75	36.75
6	60	2011-06-03	2011-06-14	2011-06-03	2011-06-19	4.000	49.00	49.00

Scrap Reason

ReasonID: Name:

Allocate To Inventory

Q LocationId: 6 Shelf: D 17 Quantity: 2

Q LocationId: 50 Shelf: G 6 Quantity: 2

ProductListPrice menentukan WorkorderRouting operational sequence. if ListPrice <500 then fetch data location dari locationId between 50 & 60

if ListPrice >= 500 then fetch data between locationId between 10 & 60

ActualStartDate tidak boleh melebihi 3 hari dari ScheduleStartDate

ActualEndDate = ScheduleEndDate - ScheduleStartDate

ActualResourceHours = ActualEndDate - ActualStartDate

PlannedCost = ActualResourceHours * ProductionLocation CostRate

Scrap Reason hanya bisa diisi jika workorder sudah completed

Allocation To Inventory only allowed when workorder is completed

- Buat stored procedure untuk create WorkOrder & WorkOrderRouting
- Untuk Scrap Reason & Allocate To Inventory di exclude

Production.CreateWorkOrderRouting(...)

- Buat store procedure untuk update ScrapReason (tombol Save Reason)
- Buat store procedure untuk insert allocate to location (tombol Save Inventory)

Task 3 :

A Web Page

http://adventureworks.com/production/product

Buat API Searching dan tambahkan fitur pagination & Order

Search Product

1

2

ProductID	Name	ProductNumber	SafetyStockLevel	StandardCost	ListPrice	Category/SubCategory	DaysToManufacture	Discontinued	Action
514	LL Mountain Seat Assen	SA-M198	500	98.77	133.34	14	1	null	⋮

WorkOrder ...

Rows Contains

3

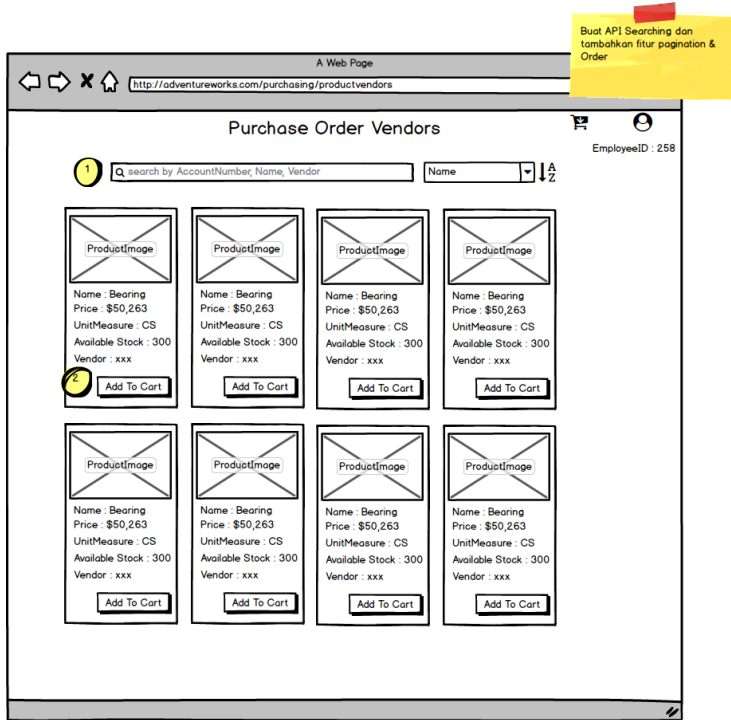
- Buat function return ref cursor untuk menampilkan data paging
- Buat function return ref cursor untuk menampilkan searching

MODULE PURCHASING

MODULE PURCHASING

- At Adventure Works Cycles, the purchasing department buys raw materials and parts used in the manufacture of Adventure Works Cycles bicycles.
- Adventure Works Cycles also purchases products for resale, such as bicycle apparel and bicycle add-ons like water bottles and pumps.
- The information about these products and the vendors from whom they are obtained is stored in the AdventureWorks sample database.

Task 1 : Add To Cart



- Buat stored procedure untuk create AddToCart
- Saat di trigger, pastikan check dulu di table PurchasingOrderHeader apakah ada PO yang statusnya masih Open dengan Employeeid tertentu, jika ada, maka update atau insert data ke table PurchaseOrderDetail, jika sebaliknya, maka create new PO dan insert item ke order detail

`Purchasing.AddToCart(...)`

Task 2 : Update Status PO

A Web Page

http://adventureworks.com/purchasing/listOrder/vendor=?

Cart Purchase Items Vendors

Purchase Order Number : 1 Vendor Account Number : AUSTRALI0001
Order Date : 30-04-2011 Vendor Name : Australia Bike Retailers

Product Vendor	Product Name	Order Qty	Unit Price	Line Total	
	Product Name	4	50.26	201.04	✖
	Product Name	3	45.12	135.36	✖

+ Add ShipMethod ✖ Cancel SubTotal : 436.40
TaxAmt : 16.0832
Freight : 6.098
Total Due : 222,1492

Q ShipMethodID ZY-Express
ShipBase : 9.95 ShipRate : 1.99

ShipDate / /

Rejected Approve Ship

Status PO :
1 = Pending, masih bisa kita tambah, kurang qty
2 = Approve
3 = Rejected
4 = Complete

Saat approve ubah status po = 2
rejected ubah status po = 3
ship ubah status po = 4

Saat onclick Ship, maka data productid di table
purchaseOrderDetail akan update ke table
ProductVendor

- Buat stored procedure untuk UpdateStatusPO

`Purchasing.UpdateStatusPO(...)`

- Buat stored procedure untuk insert data ke table Vendor dan Product Vendor

A Web Page
http://adventureworks.com/purchasing/vendor/ Create CRUD API Vendor

New / Edit Vendor

Vendor

AccountNumber

Vendor Name

PurchasingWebServiceURL

☐ Preferred Vendor Status ☐ Set Active Vendor

Save Save All

System akan create BusinessEntityID di table Person.BusinessEntityID dan outputnya akan disimpan ke table PurchasingVendor.BusinessEntityID

Product Vendor

Product ID	StandardPrice	MinOrderQty	MaxOrderQty	OnOrderQty	UnitMeasure
Q Product Name	47.87	1	5	3	CS
Q Product Name	39.92	100	1000	300	CS

onClick : Open Popup

ProductID	Name	ProductNumber	SafetyStockLevel
1	Adjustable Race	AR-5381	1000
2	Bearing Ball	BA-8327	800

MODULE SALES

MODULE SALES

Customer and sales-related information is a significant part of the AdventureWorks sample database. This topic provides details about the customers that are represented in the sample database, a schema of the major customer and sales tables and sample queries that demonstrate table relationships.

Customers Types

As a bicycle manufacturing company, Adventure Works Cycles has two types of customers:

- Individuals. These are consumers who buy products from the Adventure Works Cycles online store.
- Stores. These are retail or wholesale stores that buy products for resale from Adventure Works Cycles sales representatives.

The **Customer** table contains one record for each customer. The column **CustomerType** indicates whether the customer is an individual consumer (**CustomerType= 'I'**) or a store (**CustomerType= 'S'**). Data specific to these customer types is maintained in the **Individual** and **Store** tables, respectively.



- Buat stored procedure untuk create AddToCart
 - Saat di trigger, pastikan check dulu di table SalesOrderHeader apakah ada Order yang statusnya masih Open dengan CustomerId/SalesPerson tertentu, jika ada, maka update atau insert data ke table SalesOrderDetail, jika sebaliknya, maka create new SalesOrderHeader dan insert item ke SalesOrderDetail
- Sales.AddToCart(...)**

Task 2 : Update Status Sales Order Header

A Web Page

http://adventureworks.com/sales/product/cartitems

Cart Items

Customer : Karen Perry Address : 7791 Black Pine Lane, Coronado
AccountNumber : AW00021929 PhoneNumber : 141-555-0111

Product Name	Order Qty	Unit Price	Line Total	
Product Name	4	50.26	201.04	✕
Product Name	3	45.12	135.36	✕

SubTotal : 436.40
TaxAmt : 16.0832
Freight : 6.098
Total Due : 222,1492

2 Checkout

- Buat stored procedure untuk UpdateSalesOrderHeader
- Saat checkout ubah status SalesOrderHeader menjadi = 5 (Shipping)

`Sales.UpdateStatusSOHeader(...)`

A Web Page

http://adventureworks.com/sales/salesperson

Buat API Searching dan tambahkan fitur pagination & Order

Search Sales Person

1

2

FullName	JobTitle	Email	SalesQuota	Bonus	CommissionPct	SalesYTD	SalesLastYear	Territory	Actions
Jared Bustamante	Sales Representatif	jared@gmail.com	NULL	0.00	0.00	559697.5639	0.00	North America	⋮

Rows Contains

3

- Buat function return ref cursor untuk menampilkan data pagination disamping