Employee

🔑 **Id**	**char(8)**	**U**
SupervisorId	*char(8)*	N U
DepartmentId	*int*	N U
Password	varchar(255)	
FirstName	varchar(50)	
LastName	varchar(50)	
MiddleInitial	char(1)	N
StreetAddress	varchar(255)	
City	varchar(255)	
Province	varchar(255)	
PostalCode	varchar(7)	
DOB	datetime	
SIN	varchar(11)	U
SeniorityDate	datetime	
JobStartDate	datetime	
JobAssignment	varchar(255)	
WorkPhone	varchar(12)	
CellPhone	varchar(12)	
EmailAddress	varchar(255)	
OfficeLocation	varchar(255)	
RecordVersion	rowversion	

Department

🔑 **Id**	**int**	**U**
Name	varchar(128)	U
Description	varchar(512)	
InvocationDate	datetime	
RecordVersion	rowversion	

1 or many Employees can belong to 1 Supervisor, but can belong to 0 supervisor if the employee is CEO

1 or many employees can belong to 1 department but an employee can belong to 0 department if the employee is the CEO

PurchaseOrder

🔑 **PurchaseOrderNumber**	**char(8)**	**U**
EmployeeId	*char(8)*	
Status	varchar(20)	
DateCreated	datetime	
RecordVersion	rowversion	
EmployeeLoginusername	char(8)	N

PurchaseOrderItem

🔑 **Id**	**int**	
PurchaseOrderNumber	*char(8)*	
Quantity	int	
Justification	varchar(255)	
PurchaseLocation	varchar(255)	
ItemStatus	varchar(10)	
Name	varchar(255)	
Description	varchar(255)	
Price	money	
RecordVersion	rowversion	

Name	Sprint 1 HR & PO ERD
Designed by	Mohammad Rashed, JG
Sprint	Sprint 1
Project	NBCC - Capstone Project
Version	1.3

Service

IEmployeeService
-repo : EmployeeRepo
+GetAll() : List<EmployeeDTO>
+GetAsync(id : string) : EmployeeDTO
+CreateAsync(emp : EmployeeDTO) : Employee
+UpdateAsync(emp : EmployeeDTO) : Employee
+DeleteAsync(id : string) : Employee
+SearchAsync(params : EmployeeSearchDTO) : List<EmployeeSearchResultDTO>
+GetEmployeeSupervisor(id : string) : EmployeeDTO
+GetEmployeeDetails(id : string) : EmployeeDTO
+GetSupervisedEmployees(supervisorId : string) : List<EmployeeDTO>
+GetEmployeeAccessLevel(id : string) : AccessLevels
+Validate(emp : Employee) : void
+IsLegalAge(empId : string) : bool

IDepartmentService
-repo : DepartmentRepo
+GetAll() : List<DepartmentDTO>
+GetAsync(id : int) : DepartmentDTO
+CreateAsync(dept : DepartmentDTO) : Department
+UpdateAsync(dept : DepartmentDTO) : Department
+DeleteAsync(id : int) : Department
+Validate(dept : Department) : void

IPurchaseOrderService
-repo : PurchaseOrderRepo
+GetAll() : List<POSummaryDto>
+GetAsync(purchaseOrderId : string) : PODetailsDto
+CreateAsync(dto : POCreateDto) : PurchaseOrder
+SearchAsync(criteria : POSearchDto) : List<POSummaryDto>
+SearchAsync(employeeId : string, criteria : POSearchDto) : List<POSummaryDto>
+DeleteAsync(purchaseOrderId : string) : PurchaseOrder
+Validate(po : PurchaseOrder) : void
+CalculateSubTotal(po : PurchaseOrder, items : List<PurchaseOrderItem>) : decimal
+CalculateTaxTotal(po : PurchaseOrder, items : List<PurchaseOrderItem>) : decimal
+CalculateGrandTotal(po : PurchaseOrder, items : List<PurchaseOrderItem>) : decimal

ILoginService
-repo : LoginRepo
+Login(params : LoginDTO) : Employee

IPurchaseOrdemItemService
-repo : PurchaseOrderItemRepo
+GetByPOAsync(poId : string) : List<ItemDetailsDto>
+Get(itemId : int) : ItemDetailsDto
+CreateAsync(purchaseOrderId : string, dto : ItemCreateDto) : PurchaseOrderItem
+DeleteAsync(PurchaseOrderItemId : int) : PurchaseOrderItem
+UpdateAsync(PurchaseOrderNumber : string, dto : ItemUpdateDto) : PurchaseOrderItem
+Validate(poItem : PurchaseOrderItem) : void

Model

Entities

<<enumeration>> Jobs
CEO
HR Manager
Project Manager
Product Manager
Developer Manager
Infrastructure Manager
Systems Analyst
Solution Architect
Software Engineer
Network Engineer
Database Administrator
Cybersecurity Specialist
QA Engineer
Technical Support Engineer
Business Analyst
DevOps Engineer
UI/UX Designer

<<enumeration>> AccessLevels
CEO
HR Supervisor
Regular Supervisor
HR Employee
Regular Employee

Employee
+Id : string
+SupervisorId : string?
+DepartmentId : int
+Password : string
+FirstName : string
+LastName : string
+MiddleInitial : char?
+StreetAddress : string
+City : string
+Province : string
+PostalCode : string
+DateOfBirth : datetime
+SocialInsuranceNumber : string
+SeniorityDate : datetime
+JobStartDate : datetime
+JobAssignment : Jobs
+WorkPhone : string
+CellPhone : string
+EmailAddress : string
+OfficeLocation : string
+RecordVersion : byte[]?

Department
+Id : int
+Name : string
+Description : string
+InvocationDate : datetime
+RecordVersion : byte[]?

0 or many employees can belong to 1 department but an employee can belong to 0 department if the employee is the CEO

BaseEntity
-Errors : List<ValidationError>
+AddError(error : ValidationError)

ValidationError
-Description : string
+ValidationError(desc : string)

1 or 10 Employees can belong to 1 Supervisor, but an employee can belong to 0 supervisor if the employee is CEO

PurchaseOrder
+PurchaseOrderId : string
+DateCreated : DateTime
+Status : PurchaseOrderStatus
+Employee : Employee
+Subtotal : decimal
+TaxTotal : decimal
+GrandTotal : decimal
+RecordVersion : byte[]?

<<enumeration>> PurchaseOrderStatus
Pending
Under review

PurchaseOrderItem
+Id : int
+PurchaseOrderId : string
+Name : string
+Description : string
+Quantity : int
+Justification : string
+PurchaseLocation : string
+Status : PurchaseOrderItemStatus
+Price : decimal
+RecordVersion : byte[]?

<<enumeration>> PurchaseOrderItemStatus
Pending
Under review

A POItem can belong to 1 PO and a PO can have multiple POItems

DTOs

EmployeeSearchDTO
+FirstName : string
+LastName : string
+WorkPhone : string
+OfficeLocation : string
+Position : string

EmployeeSearchResultDTO
+FirstName : string
+EmployeeId : string
+LastName : string

DepartmentListDTO
+Department : Department
+Name : string

EmployeeDTO
+Id : string
+Password : string
+FirstName : string
+LastName : string
+MiddleInitial : char?
+StreetAddress : string
+City : string
+Province : string
+PostalCode : string
+DateOfBirth : datetime
+SocialInsuranceNumber : string
+SeniorityDate : datetime
+JobStartDate : datetime
+JobAssignment : Jobs
+SupervisorId : string?
+DepartmentId : int
+WorkPhone : string
+CellPhone : string
+EmailAddress : string
+OfficeLocation : string

DepartmentDTO
+Id : int
+Name : string
+Description : string
+InvocationDate : datetime

LoginDTO
+username : string
+password : string

POSummaryDto
+PurchaseOrderId : string
+DateCreated : DateTime
+Employee : string
+Status : PurchaseOrderStatus
+Subtotal : decimal
+TaxTotal : decimal
+GrandTotal : decimal

POSearchDto
+StartDate : DateTime?
+EndDate : DateTime?
+PurchaseOrderId : string?
+DepartmentId : List<int>

POCreateDto
+EmployeeId : string
+Items : List<ItemCreateDto>

ItemCreateDto
+Name : string
+Description : string
+Price : decimal
+Quantity : int
+Justification : string
+PurchaseLocation : string
+Status : PurchaseOrderItemStatus

PODetailsDto
+PurchaseOrderId : string
+DateCreated : DateTime
+EmployeeFullName : string
+DepartmentName : string
+SupervisorFullName : string
+Status : PurchaseOrderStatus
+Items : List<ItemDetailsDto>
+Subtotal : decimal
+TaxTotal : decimal
+GrandTotal : decimal

ItemDetailsDto
+Id : int
+Name : string
+Quantity : int
+Description : string
+Price : decimal
+Justification : string
+PurchaseLocation : string
+Status : PurchaseOrderItemStatus
+ItemSubtotal : decimal
+ItemTaxTotal : decimal
+ItemGrandTotal : decimal

ItemUpdateDto
+Name : string
+Quantity : int
+Justification : string
+PurchaseLocation : string
+Description : string

Name	Sprint 1 HR & PO UML
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