

# Database Tables and Relationships

## ApplicationUser

Column	Type	Notes
Id	string (PK)	IdentityUser PK
UserName	string	Identity
Email	string	Identity
FullName	nvarchar(150)	Required
Address	nvarchar(300)	Nullable
DateOfBirth	date	Nullable
TotalSpent	decimal(18,2)	Default 0
IsPremiumCustomer	bit	Default false
LoyaltyPoints	int	Default 0
IsDeleted	bit	Default false
DeletedAt	datetime	Nullable
DeletedById	string (FK → ApplicationUser.Id)	Nullable
CreatedAt	datetime	Default UtcNow

## AuditLog

Column	Type	Notes
AuditLogId	bigint (PK)	Identity
EntityName	nvarchar(100)	Required
EntityKey	nvarchar(100)	Required
Action	nvarchar(20)	Required
OldValues	nvarchar(max)	Nullable
NewValues	nvarchar(max)	Nullable
PerformedById	string (FK → ApplicationUser.Id)	Nullable

Column	Type	Notes
PerformedAt	datetime	Default UtcNow

## SystemSetting

Column	Type	Notes
Key	nvarchar(100) (PK)	Primary Key
Value	nvarchar(4000)	Required

## Cart

Column	Type	Notes
CartId	int (PK)	Identity
CustomerId	string (FK → ApplicationUser.Id)	Required
Status	int	Enum (0=Active,1=Converted,2=Abandoned)
CreatedAt	datetime	Default UtcNow

## CartItem

Column	Type	Notes
CartItemId	int (PK)	Identity
CartId	int (FK → Cart)	Required
ProductId	int (FK → Product)	Required
Quantity	int	Required
UnitPrice	decimal(18,2)	Required
AppliedProductDiscountType	int (enum)	Nullable
AppliedProductDiscountValue	decimal(18,2)	Nullable

## Product

Column	Type	Notes
ProductId	int (PK)	Identity
Name	nvarchar(150)	Required
SKU	nvarchar(50)	Required
Description	nvarchar(500)	Nullable
UnitPrice	decimal(18,2)	Required
CurrentStock	int	Default 0
LowStockThreshold	int	Default 5
IsDeleted	bit	Default false
DeletedAt	datetime	Nullable
DeletedById	string (FK → ApplicationUser.Id)	Nullable

## ProductDiscount

Column	Type	Notes
ProductDiscountId	int (PK)	Identity
ProductId	int (FK → Product)	Required
DiscountType	int (enum)	Required
DiscountValue	decimal(18,2)	Required
StartDate	datetime	Required
EndDate	datetime	Nullable
IsActive	bit	Default true

## Purchase

Column	Type	Notes
PurchaseId	bigint (PK)	Identity
InvoiceNumber	nvarchar(30)	Required
CustomerId	string (FK → ApplicationUser.Id)	Required
PurchaseDate	datetime	Default UtcNow

Column	Type	Notes
Subtotal	decimal(18,2)	Required
EffectiveInvoiceDiscountPercent	decimal(9,4)	Required
InvoiceDiscountAmount	decimal(18,2)	Required
LoyaltyRedeemed	int	Required
LoyaltyRedeemedAmount	decimal(18,2)	Required
TaxableAmount	decimal(18,2)	Required
TotalTax	decimal(18,2)	Required
GrandTotal	decimal(18,2)	Required
WasTop5DiscountApplied	bit	Required
WasBirthdayDiscountApplied	bit	Required
Status	int (enum)	Default Completed

## PurchaseItem

Column	Type	Notes
PurchaseItemId	bigint (PK)	Identity
PurchaseId	bigint (FK → Purchase)	Required
ProductId	int (FK → Product)	Required
UnitPrice	decimal(18,2)	Required
AppliedProductDiscountType	int (enum)	Nullable
AppliedProductDiscountValue	decimal(18,2)	Nullable
DiscountedUnitPrice	decimal(18,2)	Required
Quantity	int	Required
LineTotal	decimal(18,2)	Required

## PurchaseTax

Column	Type	Notes
PurchaseTaxId	bigint (PK)	Identity

Column	Type	Notes
PurchaseId	bigint (FK → Purchase)	Required
TaxName	nvarchar(20)	Required
TaxRate	decimal(9,4)	Required
TaxAmount	decimal(18,2)	Required

## LoyaltyTransaction

Column	Type	Notes
LoyaltyTransactionId	bigint (PK)	Identity
CustomerId	string (FK → ApplicationUser.Id)	Required
Type	int (enum: Earn,Redeem,Adjust)	Required
Points	int	Required
Amount	decimal(18,2)	Required
RelatedPurchaseId	bigint (FK → Purchase)	Nullable
Remarks	nvarchar(250)	Nullable
OccurredAt	datetime	Default UtcNow

## TopSpenderSnapshot

Column	Type	Notes
SnapshotDate	datetime (PK composite)	PK
CustomerId	string (FK → ApplicationUser.Id, PK composite)	PK
Rank	int	Required
Rolling12MonthSpend	decimal(18,2)	Required