Mapping Inheritance – Table per Hierarchy

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Overview

Table-per-Hierarchy

Table-per-Type

Table-per-Concrete-Type

TPH, TPT, and TPC Inheritance mapping with EF Core

https://www.youtube.com/watch?v=HaL6DKW1mrg

.NET Data Community Standup

New Items Model

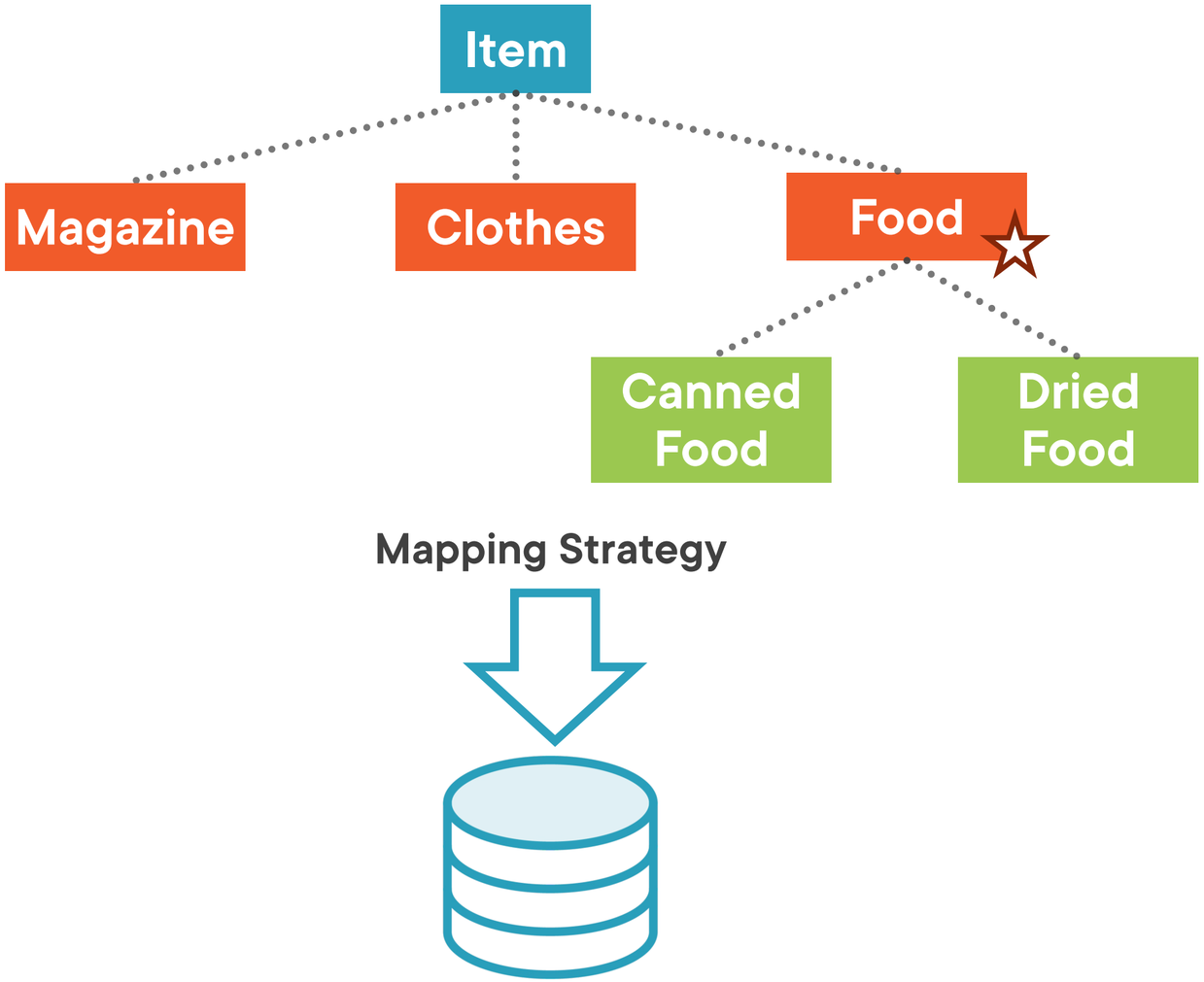


Table-per-Hierarchy

All types in hierarchy in one table

EF Core's default

Discriminator column specifies type

Discriminator

We can configure type, name, values

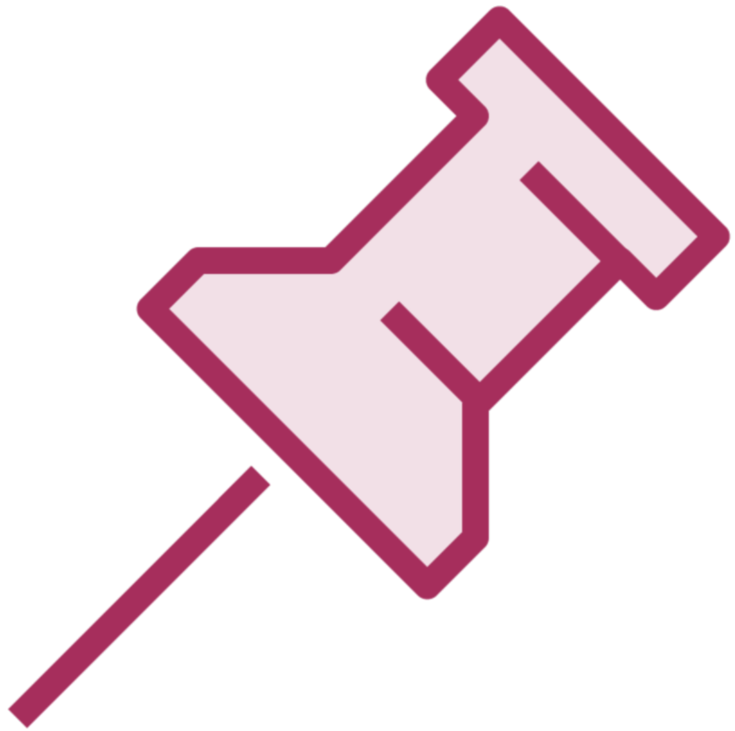
Or let EF Core create the discriminator for us

Set up using Fluent API

Either implicitly as shadow property

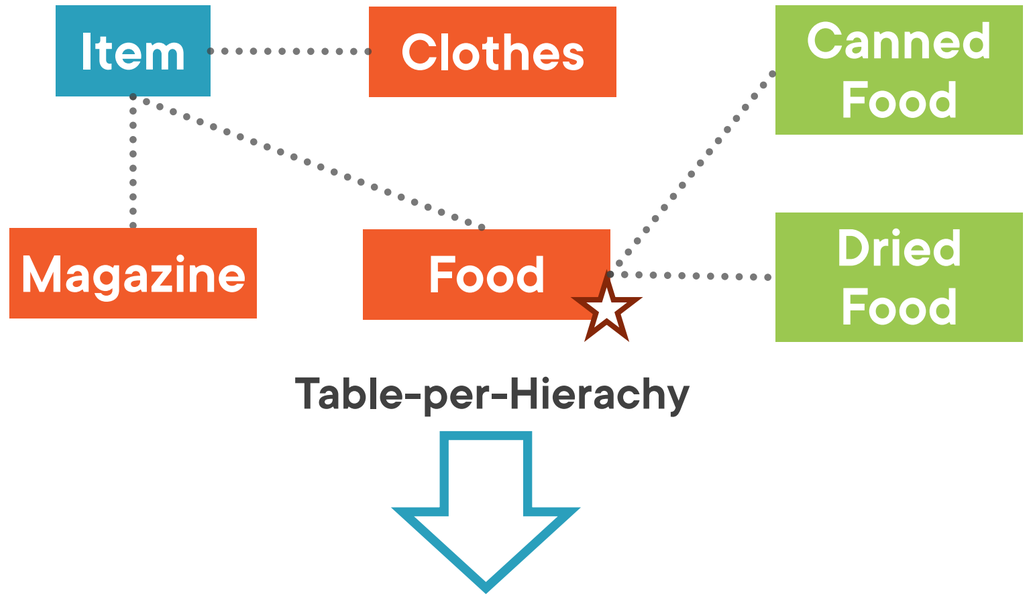
Or explicitly as property on base entity

Things to Note



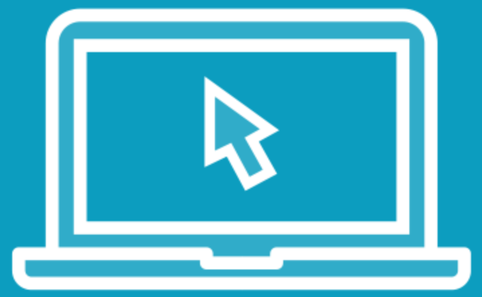
- Leads to empty columns
- SQL Server sparse columns
- Changes in type hierarchy requires update of entity table
- Sibling entities can be mapped to shared columns
- Only types which are part of our data model are mapped – this goes for all three strategies

Interpreting Our Model with Table-per-hierachy



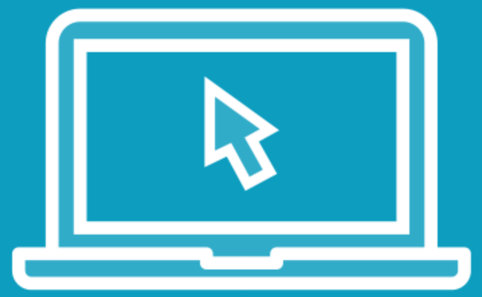
Id	Description	UnitPrice	UnitWeight	CanningMaterial	DateOfExpiry	Fabric	ProductionDate	PublicationFrequency	ItemTypeDiscriminator
1027	Canned Tomato Soup	10	5	Steel	29-11-2025	NULL	29-11-2021	NULL	CannedFoodItem
1028	Hiking Shoes	40	15	NULL	NULL	Leather	NULL	NULL	ClothesItem
1029	Dried Tomato Soup	7	3	NULL	29-11-2032	NULL	29-11-2021	NULL	DriedFoodItem
1030	Knotting Rope	3	2	NULL	NULL	NULL	NULL	NULL	UncategorizedItem
1031	Climber's Quarterly	15	2	NULL	NULL	NULL	NULL	Quarterly	MagazineItem

Demo



Configuring the Table-per-Hierarchy strategy

Demo



Interacting with the Table-per-Hierarchy strategy

What Did We Just Do?

- Mapped model to the database
- Using Table-per-Hierarchy
- Added entries to the items table
- Fetched derived entities
- Explored generated SQL statements

Summary

- Mapping inheritance
- Table-per-Hierarchy
- Maps inheritance hierarchy to a single table