



Architect's Guide to Data Modeling

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Thank you





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Introduction

Importance of Data Modeling

Important in
real life and for
those on your
CTA journey!

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Data Model is the
foundation of your
solution.



A bad data model will result in:

- ✓ Technical debt
- ✓ Missing out of box features
- ✓ Negative impact on other technical areas i.e. integrations, security, user experience
- ✓ Increased license & project cost
- ✓ Unhappy stakeholders!

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The Fundamentals

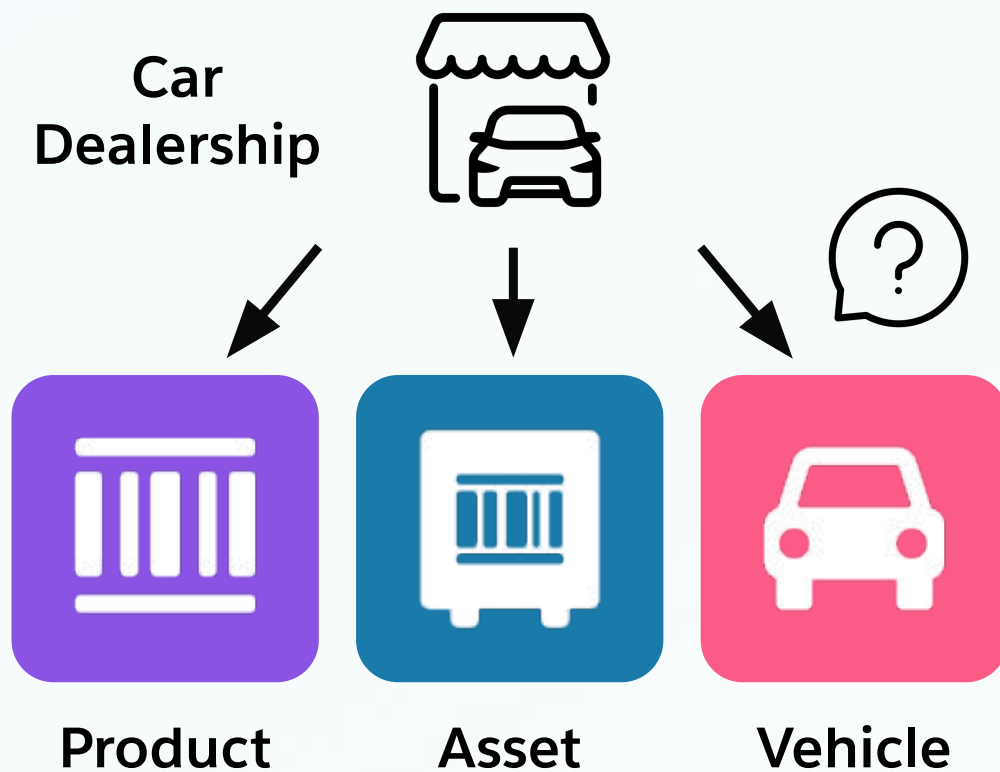


Types of Objects

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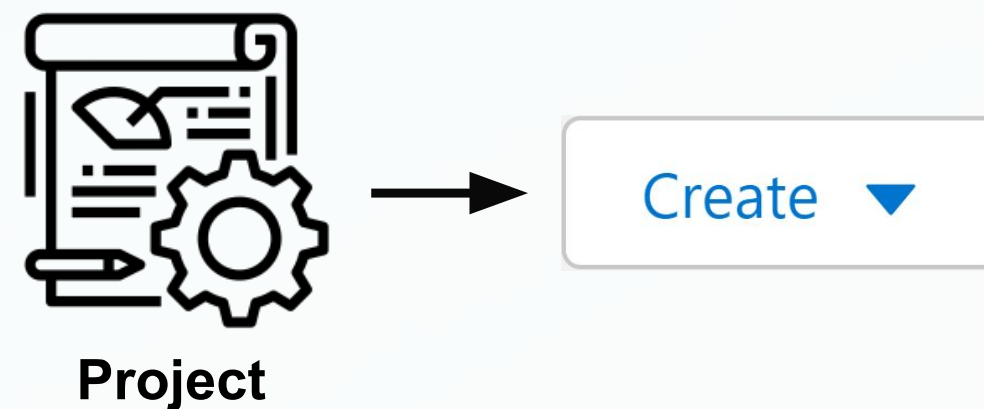
Standard Objects

Objects that are available out of the box in a standard Salesforce org.



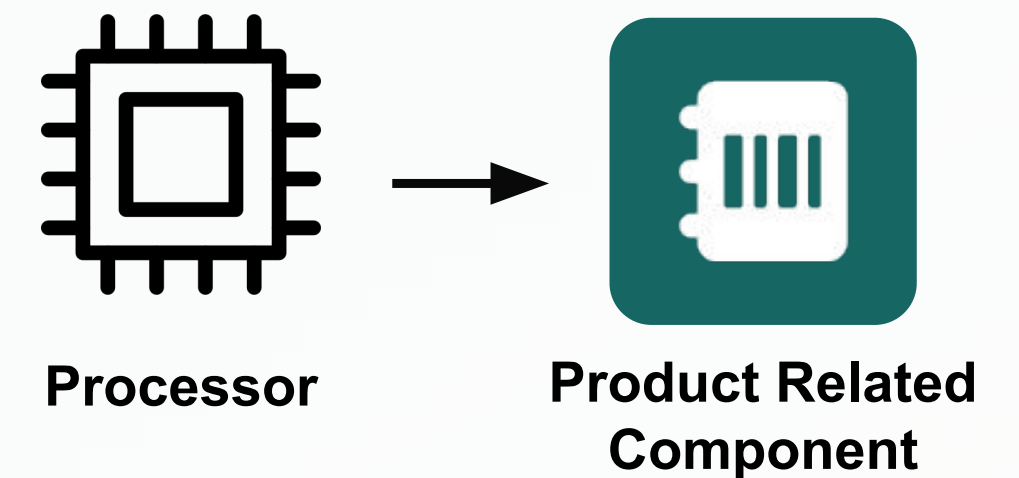
Custom Objects

Objects that are not available out of box and are created custom by the implementation team for your specific Salesforce org.

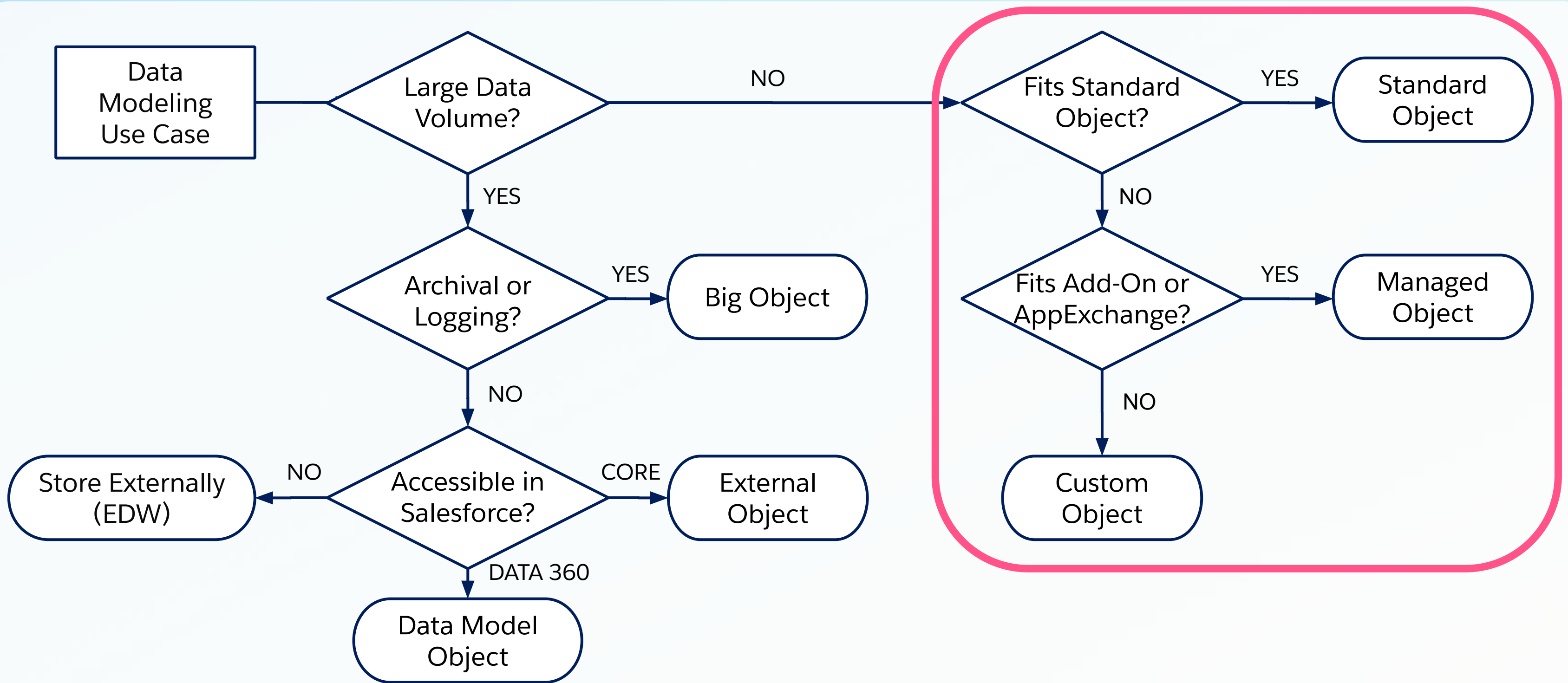


Managed Objects

Objects that are not available out of the box, but are included in a Salesforce Add-On or other Managed Package.



Decision Making





Canonical Data Model

First-Party Standard Objects



Key First-Party Standard Objects

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Leads

Potential customers aka prospects



Accounts

Entities we do business with (customers, partners)



Contacts

Individuals we do business with



Opportunities

Sales deals that generate revenue



Cases

Customer support issue, enquiry, or feedback

Customer Journey

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Marketing

- Campaigns
- Leads

Sales

- Accounts
- Contacts
- Opportunities
- Quotes
- Contracts

Fulfilment

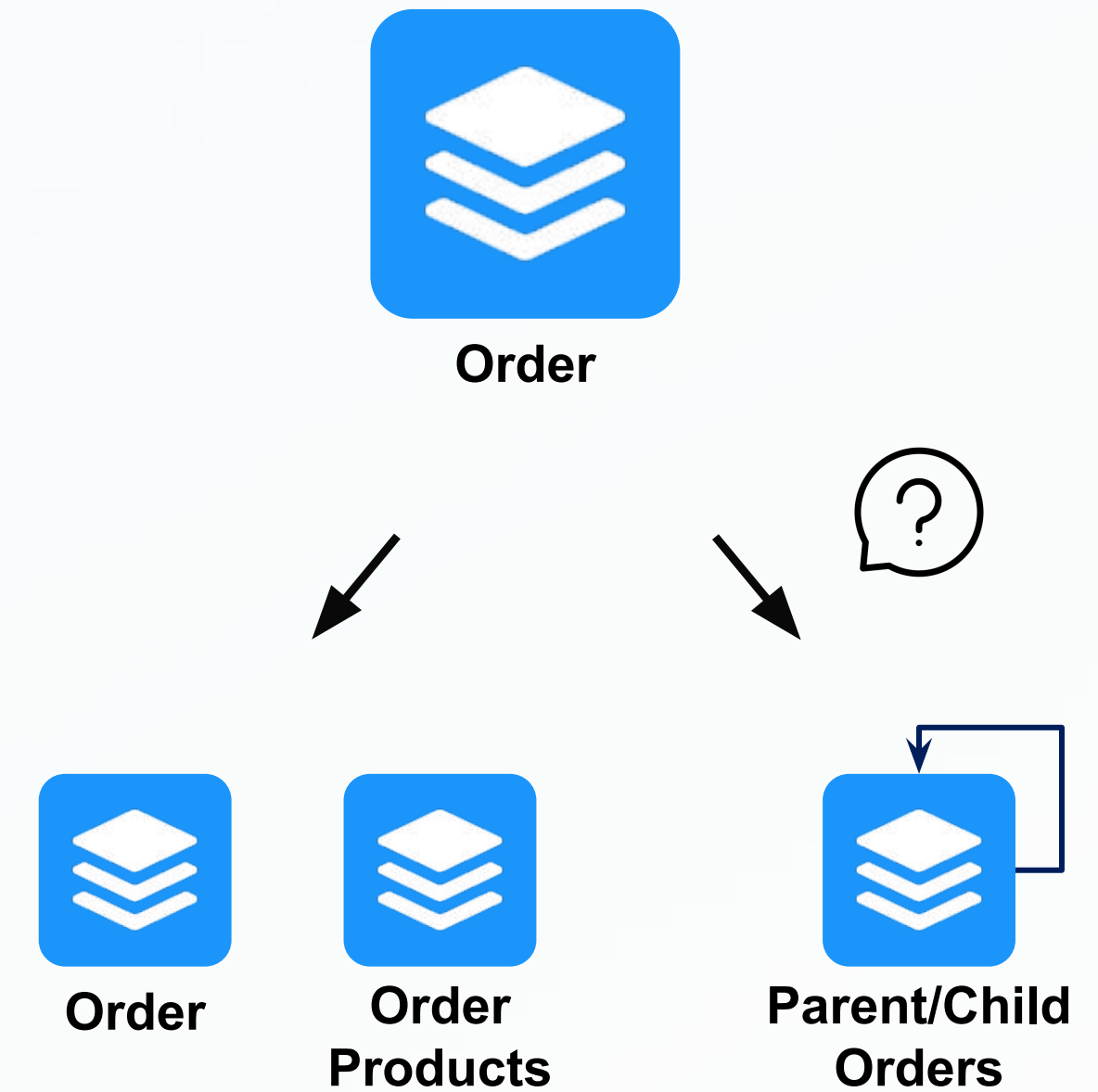
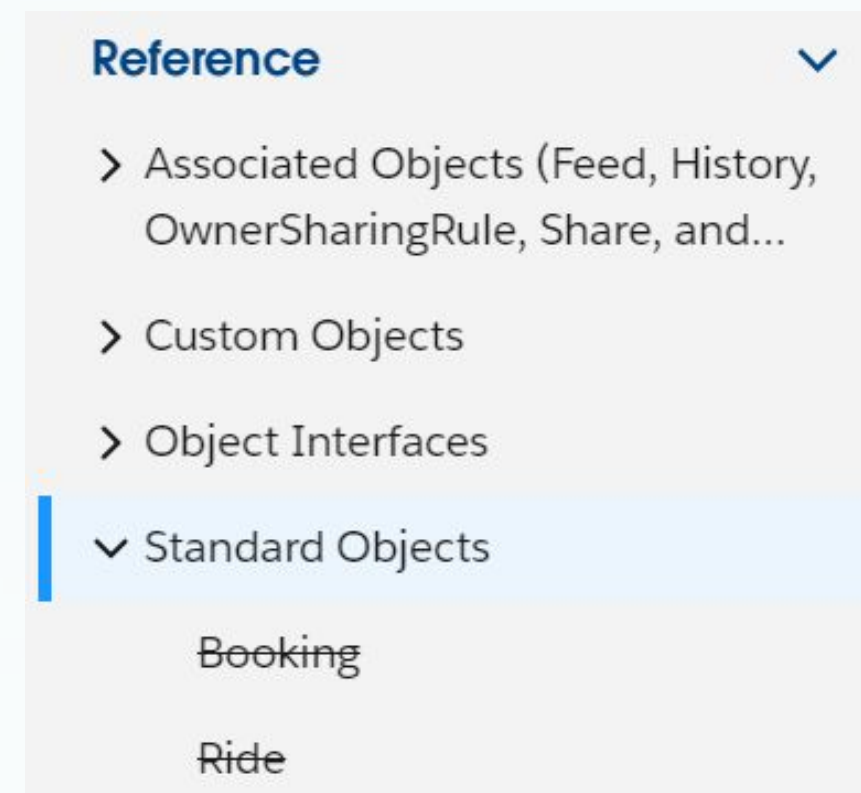
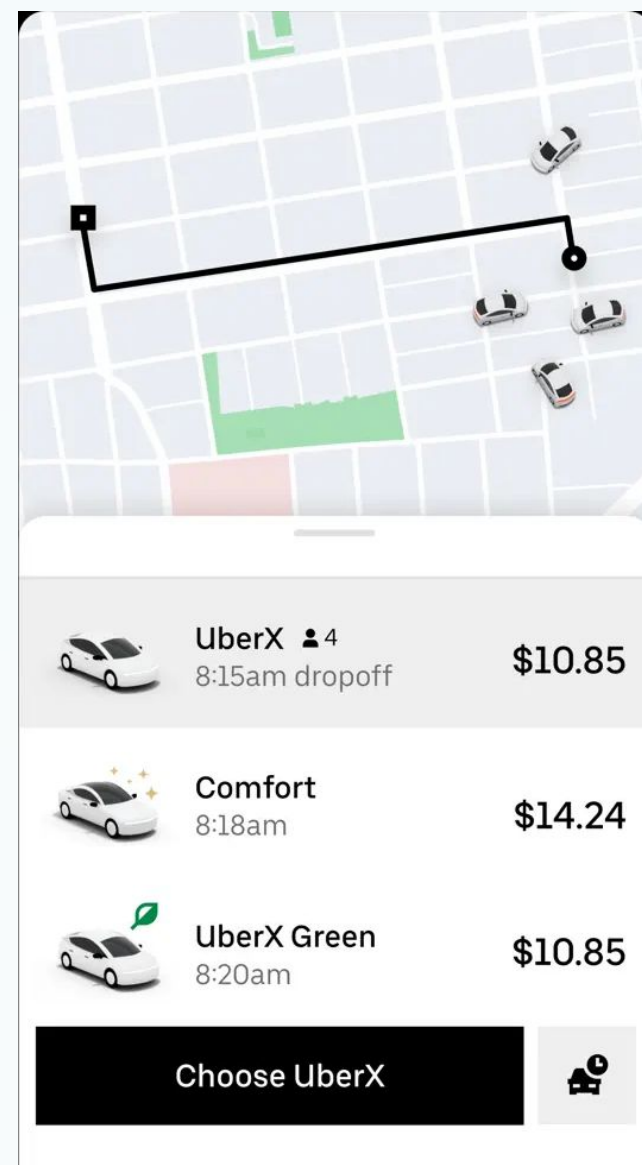
- Orders
- Assets

Service

- Cases
- Work Orders
- Service Appointments
- Service Contracts

Example

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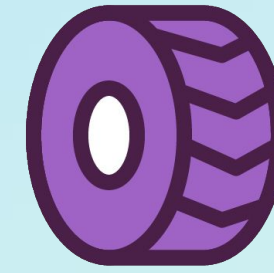


Custom Objects

Considerations & Solution Patterns



Don't Reinvent the Wheel



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Considerations & Solution Patterns

Ensure there isn't a **Standard Object** that fits your use case.

You lose **OOTB capability** when opting for a **Custom object over a potential Standard object**.

Examples: Lead Conversion, Forecasting, Milestones with Entitlement Management (SLA)

Opt for Standard over Custom where possible.

Convert Lead

> Account ☒ Create New Account - OR - ☐ Choose Existing Account
Get Cloudy West No active duplicate rule

> Contact ☒ Create New Contact - OR - ☐ Choose Existing Contact
Aparna Bosu No active duplicate rule

∨ Opportunity ☒ Create New Opportunity - OR - ☐ Choose Existing Opportunity
* Opportunity Name
Get Cloudy West-50 Custom Stratus X11 Sneakers
0 Opportunity Matches
☐ Don't create an opportunity upon conversion

Case: Malfunctioning Solar Panel

+ Follow Edit Delete Change Owner

Feed Related

Post Poll

Share an update... Share

Sort by: Most Recent Activity

Search this feed...

Maria Jimenez created this case. 3m ago

00001028

View more details

Details

Milestones

Resolution Time
3 hr 55 min 46 sec remaining
Mark Completed

Case Owner: Maria Jimenez Status: New

Case Number: 00001028 Priority: High

Contact Name: Contact Phone:

Account Name: DreamHouse Realty Contact Email:

Type: Case Origin: Phone

Case Reason:

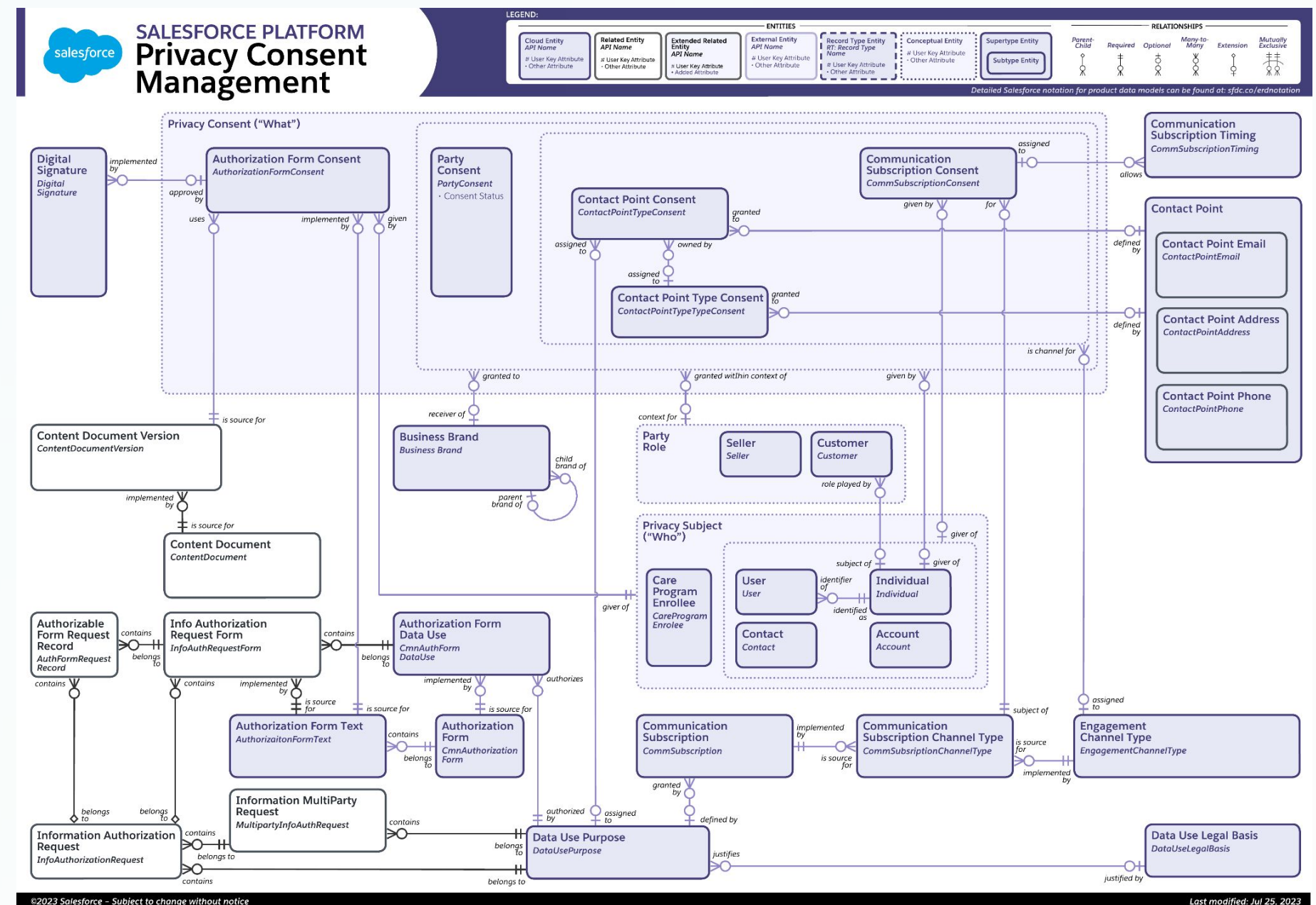
Industry References?

Considerations & Solution Patterns

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Check the Salesforce Architect's Template gallery to see if any of the **Industry Reference Data Models** fit your use cases:

For example: **Privacy & Consent Management Model**, **App Scheduling**, or **Billing & Service Accounts** - can be applicable across industries!



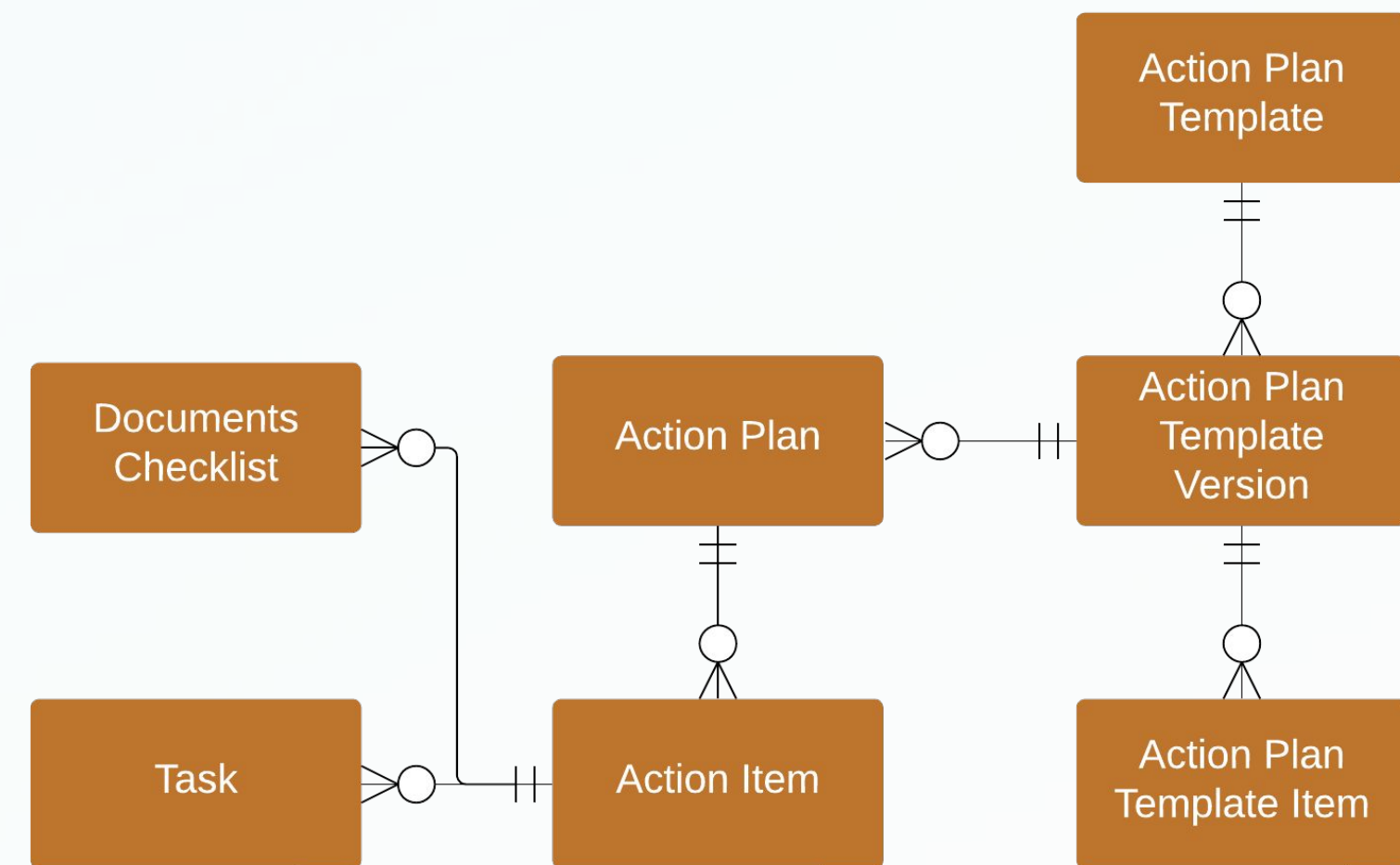
Borrow from Add-Ons

Considerations & Solution Patterns

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Add-ons like **Revenue Cloud**, **Field Service Cloud**, and **Salesforce Industry Clouds** have amazing data models designed by industry experts.

If you only need one / few of the features offered by an add-on, **consider referencing the data model & custom building the functionality** to optimize license cost.



Data Storage

Considerations & Solution Patterns

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Assets, Products and Price Books do **not count against data storage**.

Used for products catalogs & pricing and storing **purchased goods and services (Assets)**.

Consider using these **Standard Objects** to minimize the **additional data storage** requirements.



x 2KB



Assets



Products



Price Book

Shadow Objects

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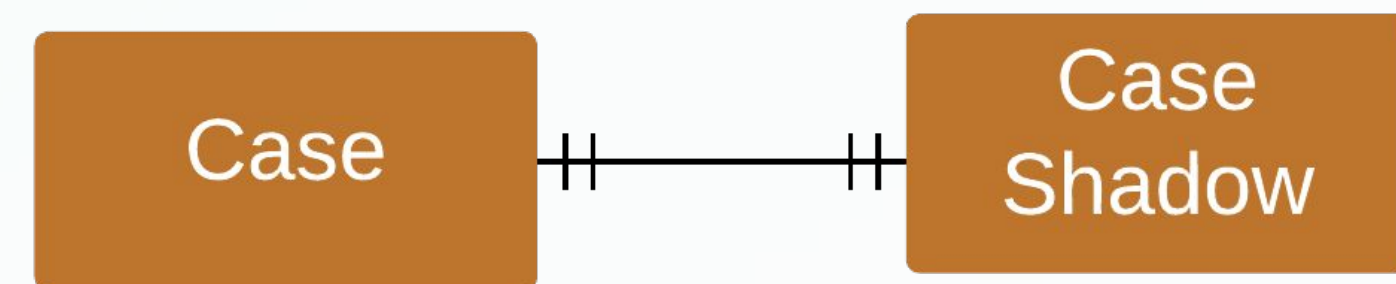
Considerations & Solution Patterns

Shadow Objects are a concept of creating a Custom Object, where records will have a **1:1 mapping to its parent**.

Useful to **differentiate sharing settings** (i.e org-wide settings, preventing rolling-up via Role Hierarchy) on the shadow object.

Expand per-object **governor limits** like number of fields or lookups fields to optimize license cost by using Shadow objects.

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UE



Normalization & Denormalization

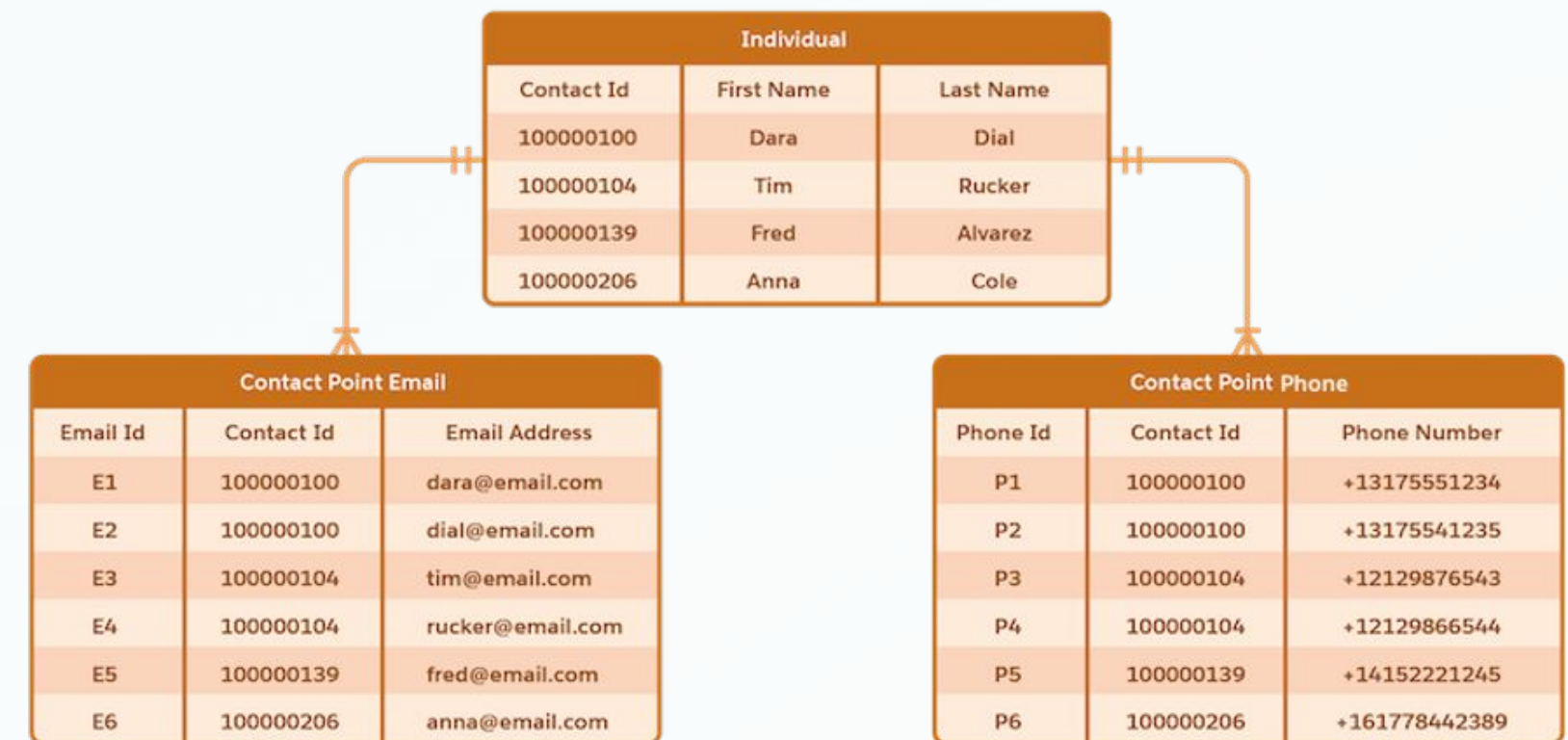
Considerations & Solution Patterns

Normalization: technique that involves organizing data into **multiple tables** to **reduce data redundancy**.

Used in Online Transaction Processing (OLTP) systems (e.g. Salesforce Platform) to **speed up writes**.

Denormalization: data is **centralized**, stored on the **same object**, to remove or simplifying table joins, but duplicates data.

Used in Online Analytical Processing (OLAP) systems (e.g. Tableau) to **speed query & analytics**.



Customer Id	First Name	Last Name	Home Phone No	Mobile Phone No	Work Phone No
100000100	Dara	Dial	+13175551235	+13175551234	+14155551234
100000104	Tim	Rucker	+12129876544	+12129876543	+14259876543
100000139	Fred	Alveraz	+14152221256	+14152221245	+15102221245
100000206	Anna	Cole	+161778442378	+161778442389	+165078442389

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AI for Data Modeling

Reshaping schema design and architecture decisions



AI to Turbo Charge Salesforce Data Modeling



Four ways AI supports the modeling work architects own end to end

Create New Fields & Objects

- Describe the objects or fields in plain English
- Matches standard objects first; suggests names and data types
- Impact analysis flags duplicate fields

"Add a contract value field to Opportunity"



Opportunity

Contract_Value__c · Currency

Data Governance

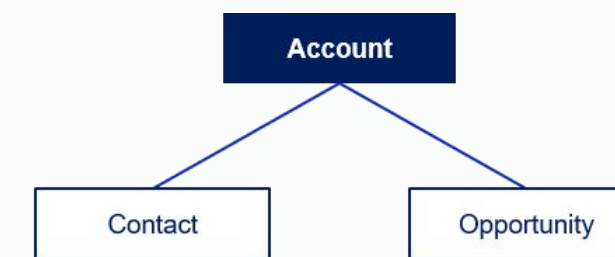
- Naming conventions, help text and descriptions
- Field-level security patterns
- Record-type and picklist rules
- Keeps the schema consistent across teams

Account

- ✓ Naming convention
- ✓ Help text & description
- ✓ Field-level security

ERD Export

- Extracts org's schema as ERD and data dictionary
- Supports onboarding, audits and governance reviews
- No tedious maintenance



ERD + data dictionary, generated

Data Modeling Review

- Flags redundant objects, missing relationships, LDV and sharing risks
- Catches issues before they become technical debt
- Org compare

Production

Amount
Stage

Sandbox

Amount
Stage

Region__c ← drift

Closing Thoughts



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Justification

Critical to convince your CTA judges and stakeholders. A good architect **thinks critically** with or without AI. The justification is just as important as the solution itself.



AI-First Mindset

Think about how AI can streamline your data modeling activities. Reduce manual work but always keep your architect hat on and think of the big picture!



Start with Standard Objects

Review business requirements and map them to the closest fitting Standard Object or Managed Object if possible. Remember the Customer Journey!



Custom Objects: Use Wisely

If you don't find a good fit and/or can't mitigate gaps, then go with a custom object.



Other Types of Objects

Remember there are many other types of objects and a lot of nuance. Think through the other options before finalizing.



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Session summaries available soon

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Contact information



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Q&A



Thank you

