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Database Design

8-4

Drawing Conventions for Readability

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Objectives

- This lesson covers the following objectives:
  - Apply the Oracle drawing conventions to a data model diagram
  - Identify high volume entities in a data model diagram and explain their significance to the business
  - Redraw a given data model diagram to increase clarity and readability
  - Recognize the usefulness of dividing a complex ERD into a number of functional sub-diagrams

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Purpose

- What if all shoemakers made up their own sizes?
- What if every architect used a different system to draw plans for a building?
- Following the same conventions makes it easier to work as part of a team

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Conventions in everyday life are most often “learned” along the way. For example, the fork goes on the left and knife on the right, people shake hands when meeting others, there are three numbers on each row on a telephone, the cold water faucet is on the right, etc. Of course these conventions vary between different countries and cultures.
These conventions make things easier for us as they tell us what to expect and help us behave appropriately.

Large ERD Drawing Conventions

- The bigger and more complicated an ERD gets, the more challenging it becomes to lay out the pieces in a clear and readable format
- There are two drawing conventions that are widely in use:
  - one that places high volume entities towards the top left of the page, and one that places high volume entities towards the bottom right of the page
- It is not important which convention you follow, but chose one and try to use it consistently
- A High-volume entity is an entity that will have a large number of instances

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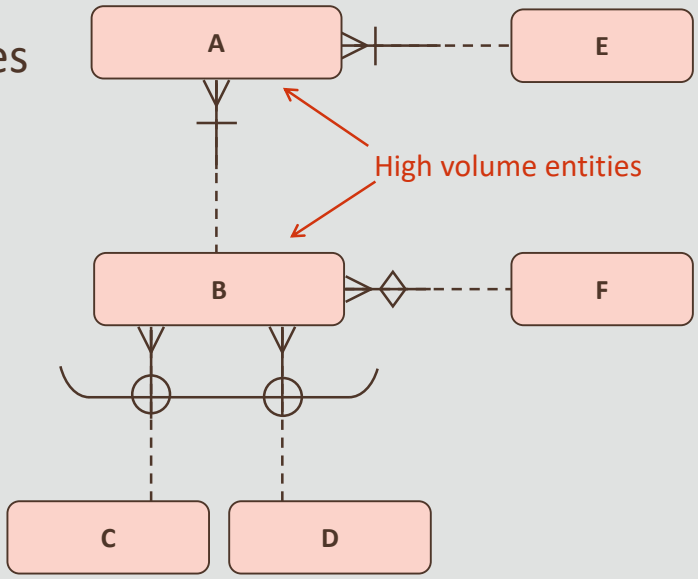
Large ERD Drawing Conventions

- High volume entities are often the “central” or more important entities in an ERD
- They will have the highest number of relationships to other entities, and most of the business functions will affect the data stored in these entities



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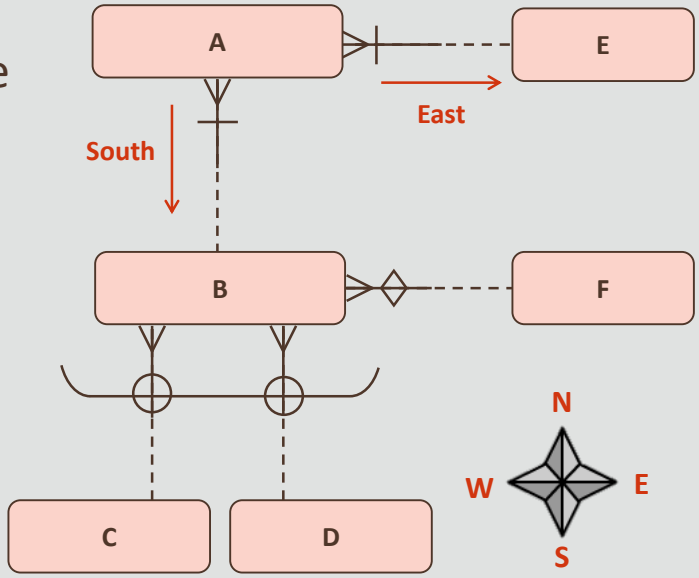
Large ERD Drawing Conventions

- When high volume entities are on the upper left portion of the ERD, the crows feet will tend to point south and east



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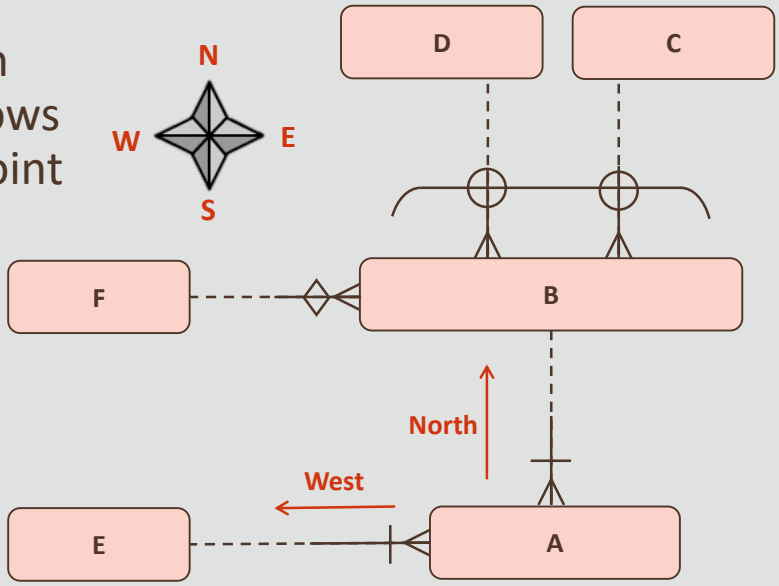
Large ERD Drawing Conventions

- When high volume entities are on the lower right portion of the ERD, the crows feet will tend to point north and west



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Clarity is Key

- Use conventions sensibly
- The major goal of creating the diagram is to give a representation of the model that can be used for communication purposes
- This means that you must never let a convention interfere with readability and clarity
- Often you will have a mix of conventions, depending on the amount of space you have and your own preference
- Clarity and readability are the main criteria

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Clarity is Key

- For clarity and readability in an ERD:
  - Avoid crossing relationship lines
  - Avoid entities that overlap
  - Avoid relationship lines that cross entities
  - Use plenty of “white space”
  - Split larger ERDs into smaller sub-diagrams if required

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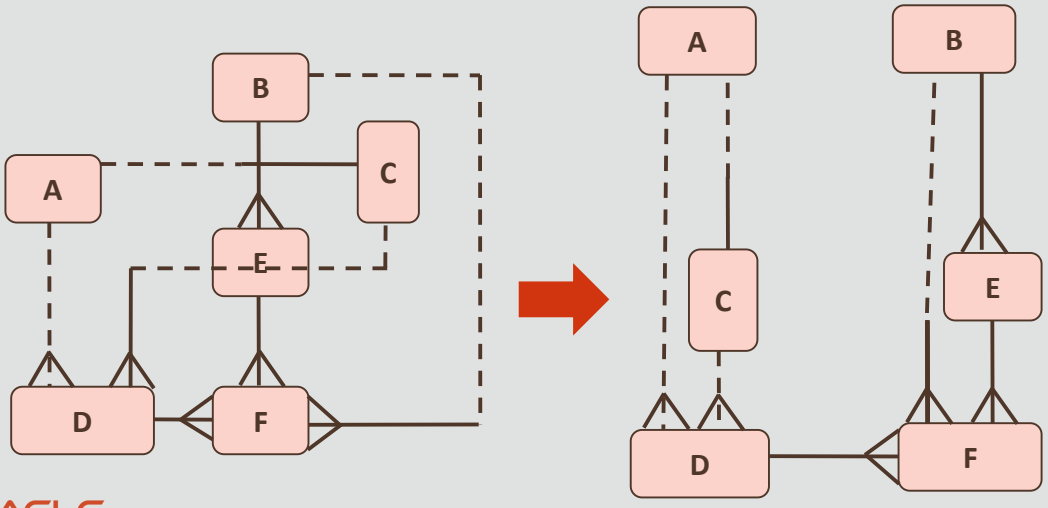
White space: Space on a page or poster not covered by print or graphic matter.

Space is Needed

- Readability takes space and is subject to taste
- The use of white space helps clarify an ERD



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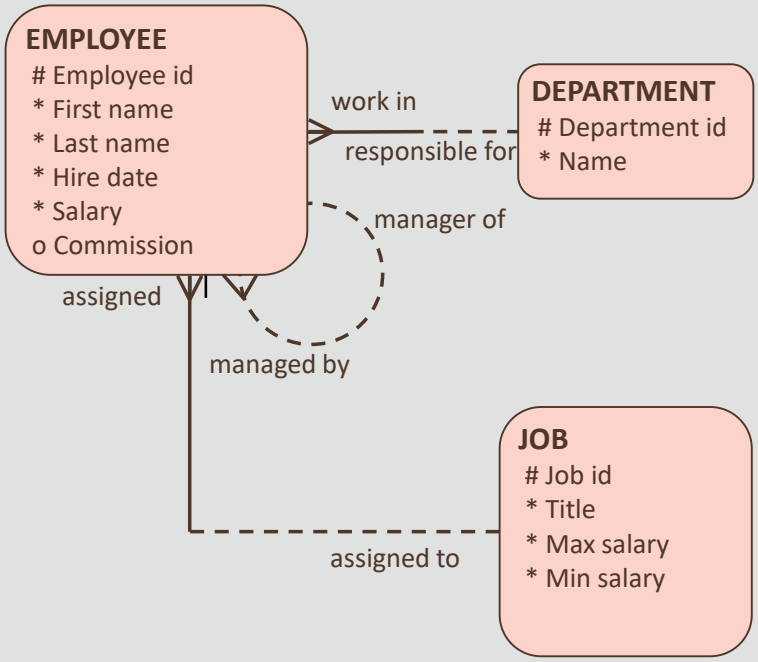
These diagrams convey the same information, but the one on the right is more readable. Do not sacrifice readability for space.

Use Sub-Diagrams

- When you have a very large diagram, it may also help to break it up into smaller diagrams of functionally related entities



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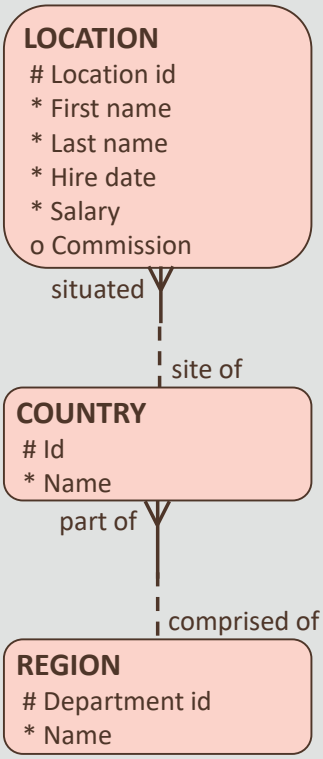
Use Sub-Diagrams

- You could use the smaller sub-diagrams when presenting to different groups within the customer's company
- It is still important to have a big diagram that shows the whole picture (even if it has to be printed on a plotter or taped together from smaller pieces of paper)
- There may be relationships between entities in different sub-models, and these must be represented somewhere



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Smaller sub-diagrams can be useful during physical modeling and application development as well as during conceptual-modeling discussions with the client.

Terminology

- Key terms used in this lesson included:
  - High volume entity
  - White space

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Summary

- In this lesson, you should have learned how to:
  - Apply the Oracle drawing conventions to a data model diagram
  - Identify high volume entities in a data model diagram and explain their significance to the business
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