# Data modeling levels and techniques

In this reading, you will learn about data modeling and some different types of data models. Data models help keep data consistent and give us a map of how data is organized. This makes it easier for analysts and other stakeholders to make sense of their data and use it in the right ways. As a junior data analyst, you will probably be working with the data models your organization already has in place — but understanding how data models work can help you make sense of other models you might come across on the job.

## **What is data modeling?**

Data modeling is the process of creating diagrams that visually represent how data is organized and structured. These visual representations are called data models. You can think of data modeling as a blueprint of a house. At any point, there might be electricians, carpenters, and plumbers using that blueprint. Each one of these builders has a different relationship to the blueprint, but they all need it to understand the overall structure of the house. Data models are similar; different users might have different data needs, but the data model gives them an understanding of the structure as a whole.

## Data-modeling techniques

There are a lot of approaches when it comes to developing data models, but two common methods are the Entity Relationship Diagram (ERD) and the Unified Modeling Language (UML) diagram. ERDs are a visual way to understand the relationship between entities in the data model. UML diagrams are very detailed diagrams that describe the structure of a system by showing the system's entities, attributes, operations, and the relationships. As a junior data analyst, you will need to understand that there are different data modeling techniques, but in practice, you will probably be using your organization’s existing model.

You can read more about ERD, UML, and data dictionaries in this [data modeling techniques article](https://dataedo.com/blog/basic-data-modeling-techniques).

## Data analysis and data modeling

Data modeling can help you explore the high-level details of your data and how it is related across the organization’s information systems. Data modeling sometimes requires data analysis to understand how the data is put together; that way, you know how to map the data. And finally, data models make it easier for everyone in your organization to understand and collaborate with you on your data. This is important for you and everyone on your team!