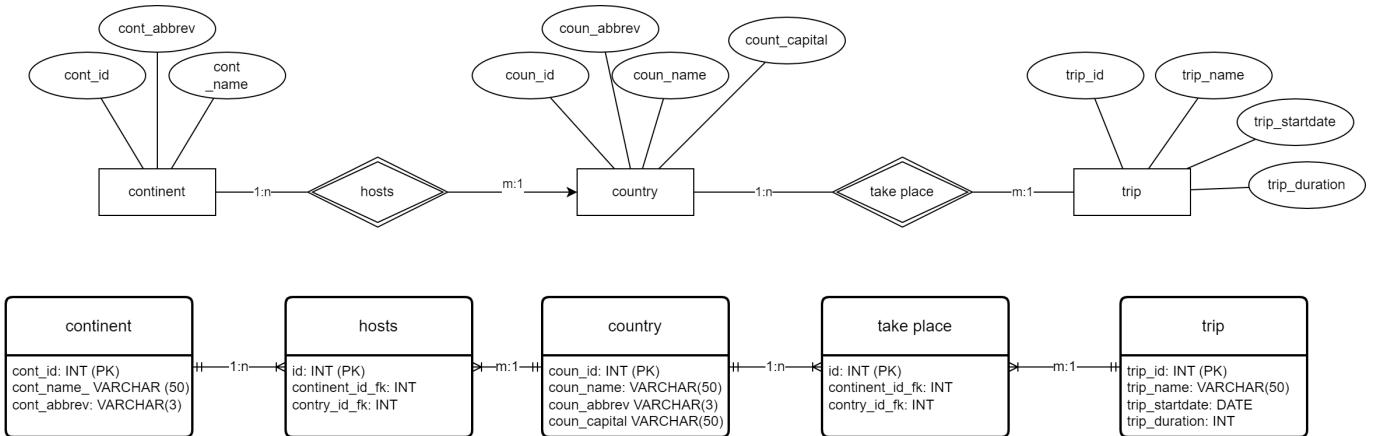


# LU03.S04 - ERD: Travel DB

- The attribut must be taken over and added with data-types and constraints (primary keys)
- The relations must be realized as relation tables, that connect the base tables
- The attributes of the relation tables are: id, and the primary key of each base table as foreign key
- Finally, the cardinalities must be added, which show how the relationships between the tables actually are.
- The attribut must be taken over and added with data-types and constraints (primary keys)



## Case Study

The relation between **Countries** and **Continents** is a so called **many-to-many-relation = n:m-relation**. In the following illustration, we can see, that one continent consists of several countries. For some countries, however, this relationship applies in both directions, e.g. Turkey and Russia, which are located in both Asia and Europe.

| Entity       | Continents     |  |  |  |  | Entity     | Countries    |
|--------------|----------------|--|--|--|--|------------|--------------|
| Continent_ID | Continent_Name |  |  |  |  | Country_ID | Country_Name |
| 1            | Asien          |  |  |  |  | 1          | Switzerland  |
| 2            | Europa         |  |  |  |  | 2          | Australia    |
| 3            | Nord-America   |  |  |  |  | 3          | USA          |
| 4            | Südamerica     |  |  |  |  | 4          | Russia       |
| 5            | Africa         |  |  |  |  | 5          | Germany      |
| 6            | Ozeanien       |  |  |  |  | 6          | New Zealand  |
| 7            | Antarktis      |  |  |  |  | 7          | Turkey       |
|              |                |  |  |  |  | 8          | ...          |

| Explanation                 | Hosts ID | Cont ID FK | Country:ID FK |
|-----------------------------|----------|------------|---------------|
| Asia hosts Russia           | 1        | 1          | 4             |
| Asia hosts Turkey           | 2        | 1          | 7             |
| Europe hosts Switzerland    | 3        | 2          | 1             |
| Europe hosts Germany        | 4        | 2          | 5             |
| Europe hosts Turkey as well | 5        | 2          | 7             |
| Euroe hosts Russia, too     | 6        | 2          | 4             |
|                             | 7        | ...        | ...           |

## Vocabulary

| English    | German                   |
|------------|--------------------------|
| constraint | Einschränkung, Bedingung |

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| English    | German                  |
|------------|-------------------------|
| given      | gegebene, vorausgesetzt |
| case study | Fallbeispiel            |



Volkan Demir

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