SPARTNERS

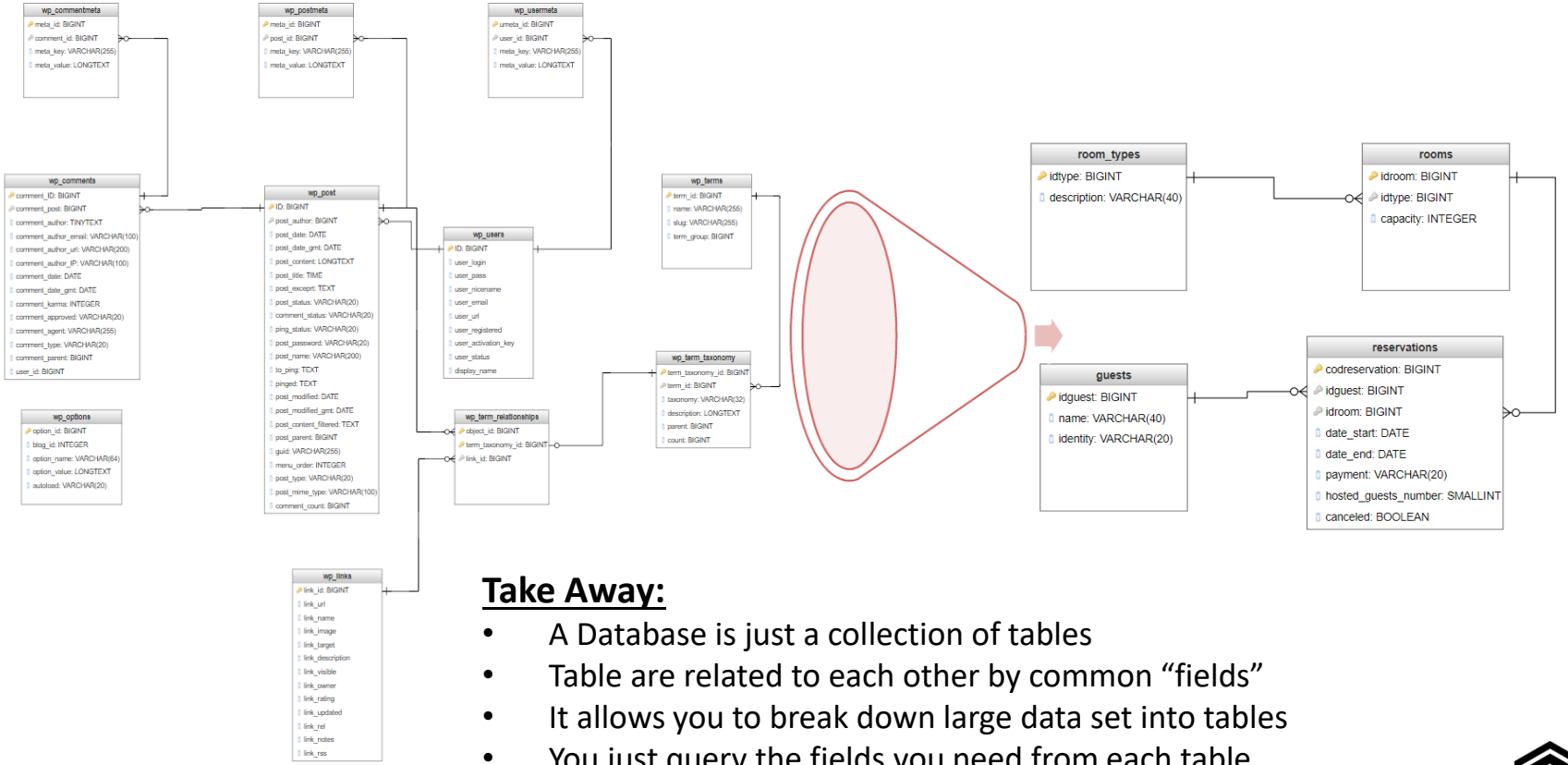
Algorithmic Trading

Cryptocurrencies Trading Bot

Part II

Setting up a Relational Database

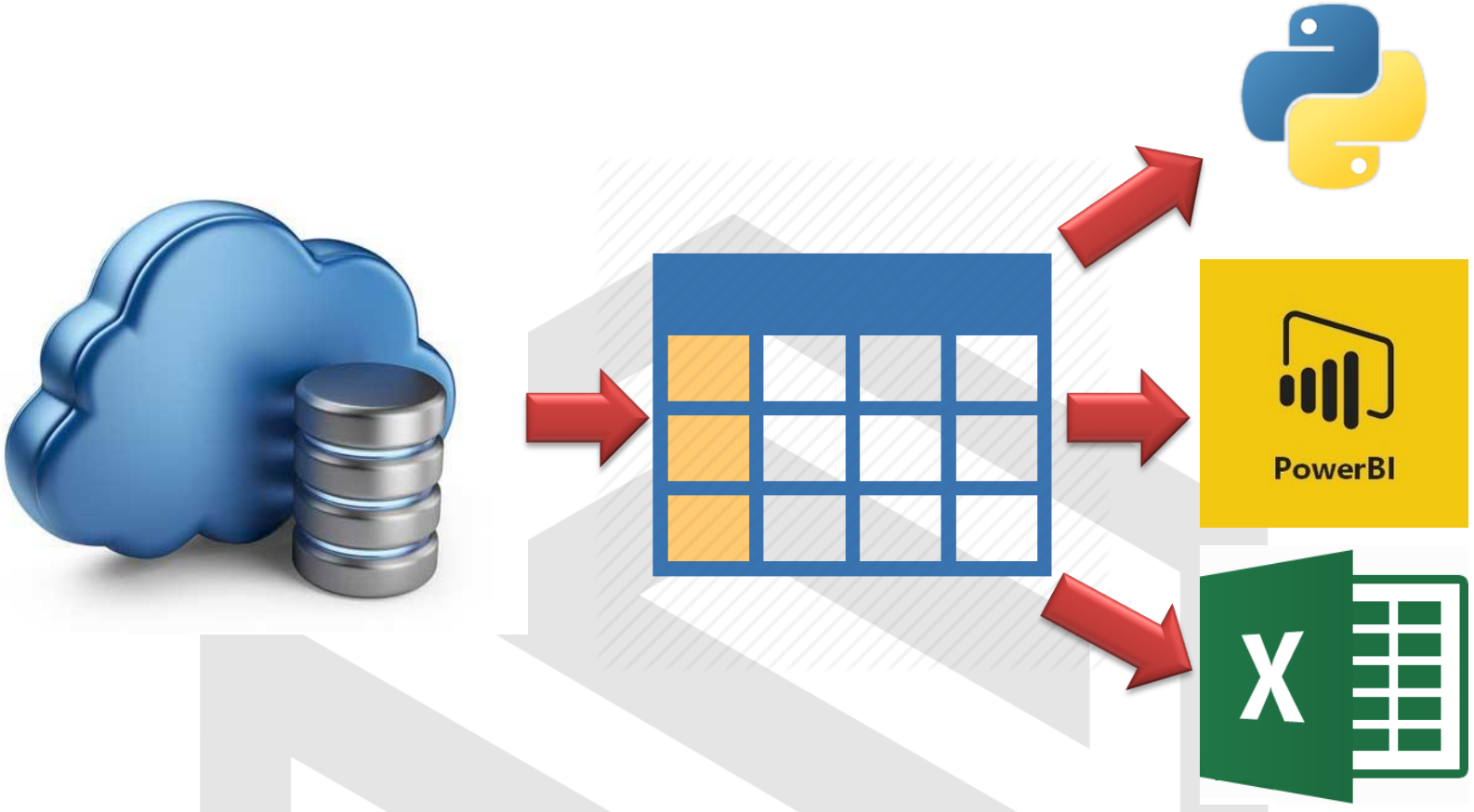
What is a Relational Database ? (In English….)



Take Away:

- A Database is just a collection of tables
- Table are related to each other by common “fields”
- It allows you to break down large data set into tables
- You just query the fields you need from each table

Get what you need and move to what you know



Resources

Useful Links

1. https://github.com/mscandizzo/sqlbasics → All what we saw today + code files
2. www.joes2pros.com → Great place if you truly want to learn to code in SQL
3. https://www.w3schools.com/sql/ → Great if you just want to here and there look for code references
4. https://www.w3schools.com/sql/sql_join.asp → Check different types of Joins
5. https://www.mysql.com/downloads/ → Get MySQL server
6. https://www.microsoft.com/en-us/sql-server/sql-server-downloads → Get Microsoft SQL Server
7. https://dev.mysql.com/doc/refman/5.7/en/data-types.html → Learn about Data types
8. https://dev.mysql.com/downloads/windows/excel/ → Add plugin to excel to work with MySQL
9. https://plot.ly/ → Find new ways to visualize data and publish on the web using SQL , Python ,etc.

Coming Next

1. Email Alerts with Python

Database Structure

One to One relationship: Foreign key in one table references primary key on a different table
One to Many relationship: Multiple elements in a table reference the a single element on a different table.
Example: if you have an array of elements related to an specific element on a table you create a new table where on each row has one element of the array and its related to the unique element in the original table
Many to many relationship: To be able to relate 2 tables with many to many relationships a bridge table is constructed linking pairs of elements together.(use the one to many table as bridge)
Normal Form rules
First Normal Form

1. Each row should be independent, stand alone record, and not follow any specific order
2. Each row should be unique in terms of the meaningful data it holds
3. Every column of every row should hold one 1 logical value (avoid arrays or lists objects in one column)

Second Normal Form

1. It deals with compound primary keys. The important point here is that if a compound key is used each column with data should be related to the compound key and not to only a part of it.

Example: Conference room in a campus. A compund key could be a mix of building_name & room_number. A column with seating capacity would relate to the compound key, however a column with building_address would break the form since it only relates to the building_name but it does not require the room_number.

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