



**Session:**

## **Relational vs Document Databases**

**PRESENTED BY**

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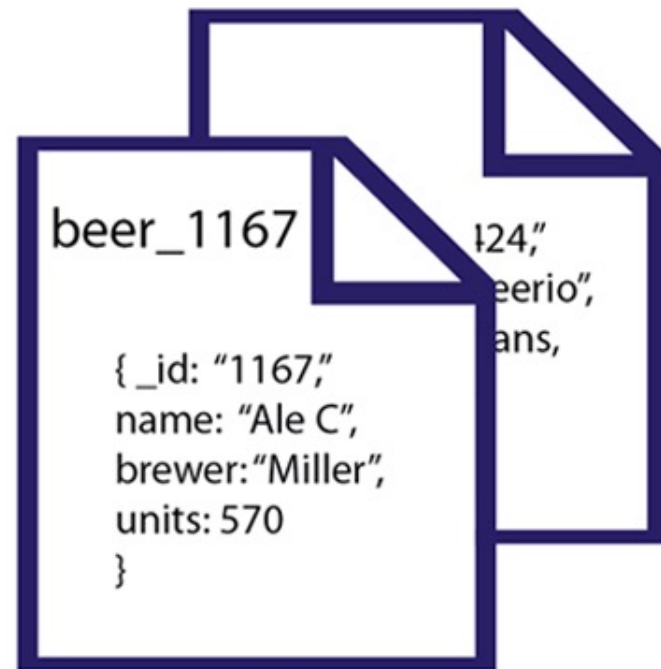
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Beers Table

1167	Ale C	Miller	570
3424	Beerio	Ians	340
5612	Amstel	Amtel	121
2409	Colt's	BeerCo	98

Beer Documents



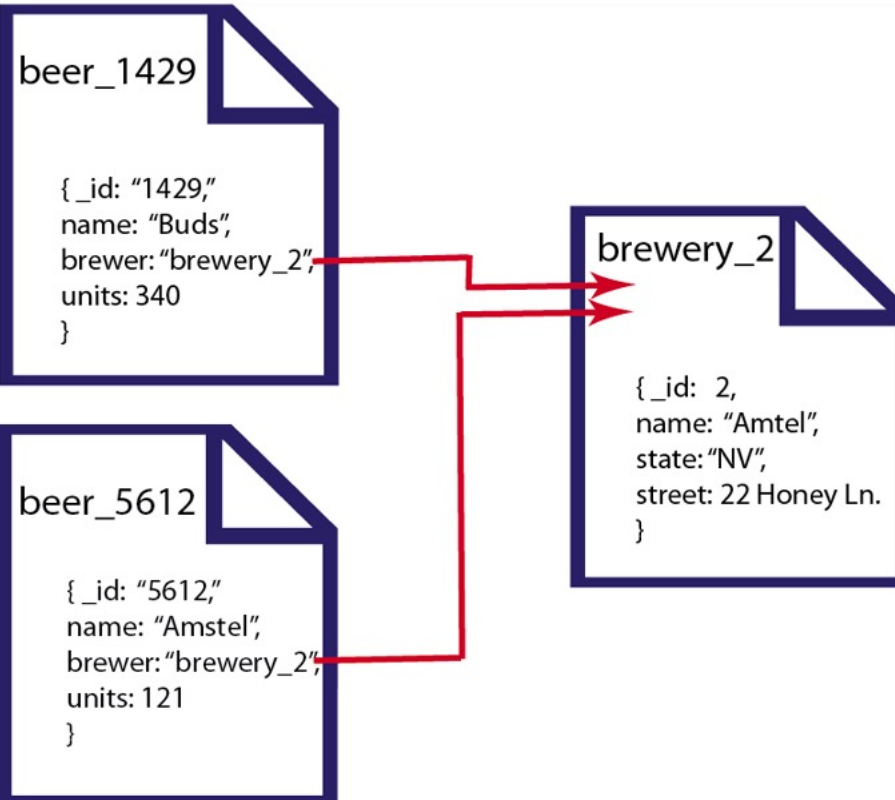
Beers Table

1167	Ale C	Miller	570
1429	Buds	Amtel	340
5612	Amstel	Amtel	121
2409	Colt's	BeerCo	98

Brewery Table

1	Abe's	MA
2	Amtel	NV
3	Bubba	TX





# Data Models: Relational to Document

## Relational

Person:

Pers_ID	Surname	First_Name	City
0	Miller	Paul	London
1	Ortega	Alvaro	Valencia
2	Huber	Urs	Zurich
3	Blanc	Gaston	Paris
4	Bertolini	Fabrizio	Rom

Car:

Car_ID	Model	Year	Value	Pers_ID
101	Bentley	1973	100000	0
102	Rolls Royce	1965	330000	0
103	Peugeot	1993	500	3
104	Ferrari	2005	150000	4
105	Renault	1998	2000	3
106	Renault	2001	7000	3
107	Smart	1999	2000	2

no relation



## MongoDB Document

```
{  
  first_name: 'Paul',  
  surname: 'Miller',  
  city: 'London',  
  location: [45.123,47.232],  
  cars: [  
    { model: 'Bentley',  
      year: 1973,  
      value: 100000, ... },  
    { model: 'Rolls Royce',  
      year: 1965,  
      value: 330000, ... }  
  ]  
}
```





## Relational Model



## Document Model

```
{
  "_id" : "rp-prod132546",
  "name" : "Marvel T2 Athena",
  "brand" : "Pinarello",
  "category" : "bike",
  "type" : "Road Bike",
  "price" : 2949.99,

  "size" : "55cm",
  "wheel_size" : "700c",
  "frameset" : {
    "frame" : "Carbon Toryaca",
    "fork" : "Onda 2V C"
  },
  "groupset" : {
    "chainset" : "Camp. Athena 50/34",
    "brake" : "Camp."
  },
  "wheelset" : {
    "wheels" : "Camp. Zonda",
    "tyres" : "Vittoria Pro"
  }
}
```



## Relational Model

```
SELECT * FROM (
  SELECT
    ce.sku,
    ea.attribute_id,
    ea.attribute_code,
    CASE ea.backend_type
      WHEN 'varchar' THEN ce_varchar.value
      WHEN 'int' THEN ce_int.value
      WHEN 'text' THEN ce_text.value
      WHEN 'decimal' THEN ce_decimal.value
      WHEN 'datetime' THEN ce_datetime.value
      ELSE ea.backend_type
    END AS value,
    ea.is_required AS required
  FROM catalog_product_entity AS ce
  LEFT JOIN eav_attribute AS ea
    ON ce.entity_type_id = ea.entity_type_id
  LEFT JOIN catalog_product_entity_varchar AS ce_varchar
    ON ce.entity_id = ce_varchar.entity_id
    AND ea.attribute_id = ce_varchar.attribute_id
    AND ea.backend_type = 'varchar'
  LEFT JOIN catalog_product_entity_text AS ce_text
    ON ce.entity_id = ce_text.entity_id
    AND ea.attribute_id = ce_text.attribute_id
    AND ea.backend_type = 'text'
  LEFT JOIN catalog_product_entity_decimal AS ce_decimal
    ON ce.entity_id = ce_decimal.entity_id
    AND ea.attribute_id = ce_decimal.attribute_id
    AND ea.backend_type = 'decimal'
  LEFT JOIN catalog_product_entity_datetime AS ce_datetime
    ON ce.entity_id = ce_datetime.entity_id
    AND ea.attribute_id = ce_datetime.attribute_id
    AND ea.backend_type = 'datetime'
  WHERE ce.sku = 'rp-prod-1234'
) AS tab
WHERE tab.value != '';
```

## Document Model

```
products.findById("rp-prod-1234")
```



