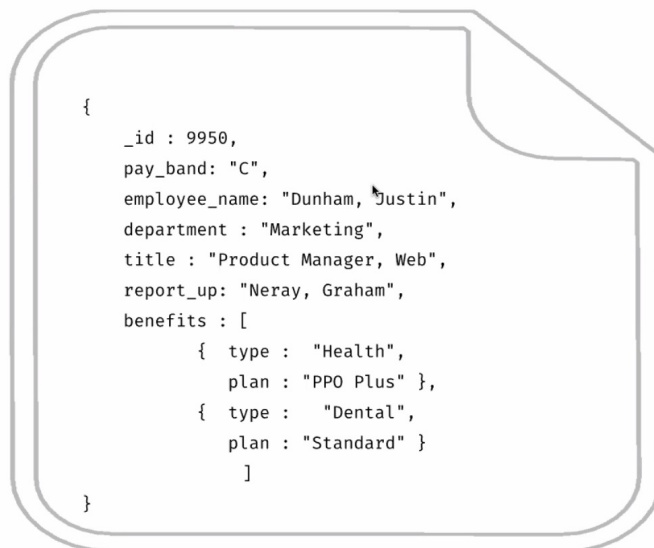


MongoDB教育訓練-01

mongodb 儲存格式 是 Bson

BSON is not JSON



```
<00000789>
<10>_id<00><10><000026de>
<02>employee_name<00><0000000f>Dun
ham, Justin<0>
.
.
.
<0>
```

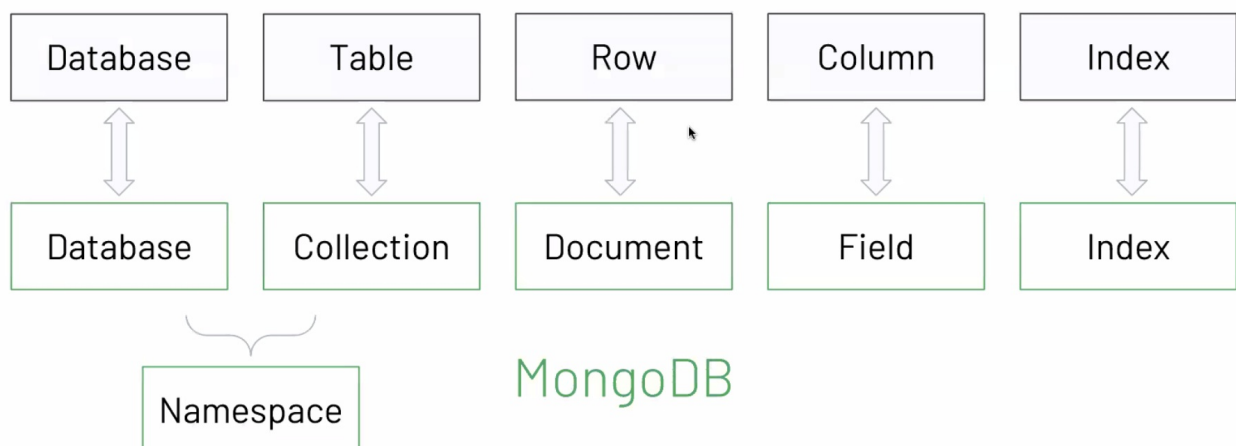
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Slide 9

MongoDB 與關連式資料庫結構對照

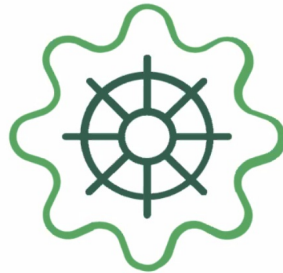
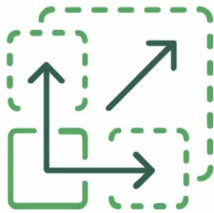
Terminology

RDBMS



MongoDB - Enterprise Tooling

- Enterprise Management Tools.
 - Atlas - MongoDB Database as A Service
 - Ops Manager - Monitor/Alert/Manage/Backup your own servers.
 - Cloud Manager - Ops Manager hosted in the cloud.
 - Kubernetes Operator to deploy in containers.
 - Terraform Provider from Hashicorp.



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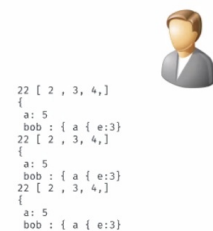
Slide 15

何時使用MongoDB

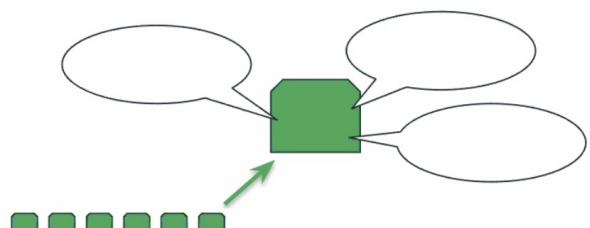
- 需要存取資料
- 需要很大的數據
- 需要快速迭代開發
- 需要經常異動結構的資料
- 需要水平擴展

When MongoDB should be used

- When you need **high-speed access to complex objects**
 - Atomic partial updates
 - Fast retrieval
 - Secondary indexes
 - Aggregation capabilities
- When you want to **store larger data structures together.**
 - Large Arrays
 - Text Fields
 - Binary Data

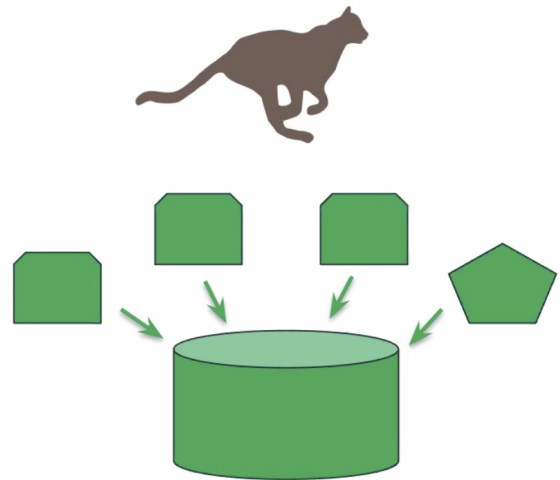


```
22 [ 2, 3, 4, ]  
{  
  a: 5  
  bob: { a { e:3 }  
22 [ 2, 3, 4, ]  
{  
  a: 5  
  bob: { a { e:3 }  
22 [ 2, 3, 4, ]  
{  
  a: 5  
  bob: { a { e:3 }
```



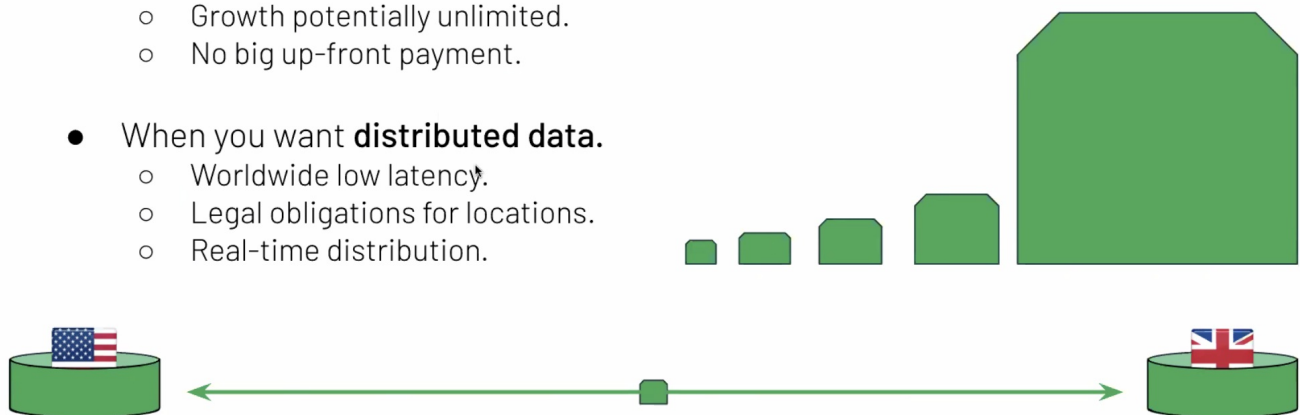
When MongoDB should be used (Cont.)

- When you value **rapid development**
 - Interaction by Objects
 - Application-defined schemas
 - Rich functionality.
- Where you need to store **structures of varying shapes**.
 - Application-defined schemas
 - Heterogeneous schemas.



When MongoDB should be used (Cont.)

- When you have **large data volumes**.
 - Data volumes **growing**
 - Growth potentially unlimited.
 - No big up-front payment.
- When you want **distributed data**.
 - Worldwide low latency.
 - Legal obligations for locations.
 - Real-time distribution.



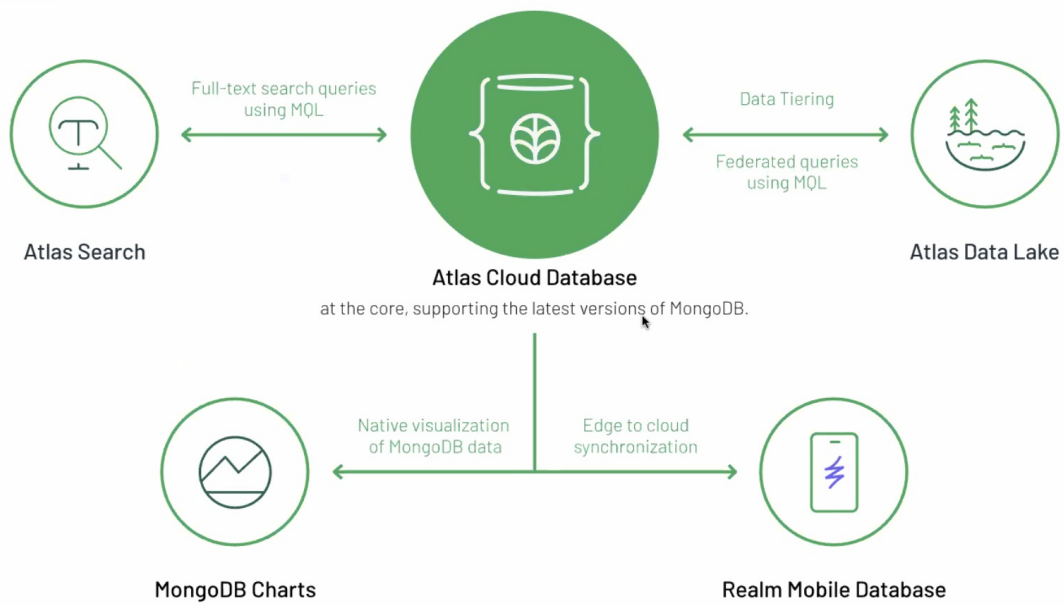
With an RDBMS

- Schemas matter and are rigidly enforced by the server.
- All fields have a defined data type (String, Integer, Date, etc.).
- Data is stored in an efficient binary form on the disk.
- You can index and query any field or set of fields.
- You join data together for querying and retrieval.
- You can perform atomic updates to one or more records.
- You can update parts of records without retrieving them first.
- You can compute aggregates and summaries on the server.
- You can query with SQL.

With MongoDB

- Schemas matter and **can be** rigidly enforced by the server.
- All **values** have a defined data type (String, Integer, Date, etc.).
- Data is stored in an efficient binary form on the disk.
- You can index and query any field or set of fields.
- You **can** join data together for querying and retrieval.
- You can perform atomic updates to one or more records.
- You can update parts of records without retrieving them first.
- You can compute aggregates and summaries on the server.
- You can query with SQL using the BI connector add-on.

The MongoDB Atlas Platform



🕒 修訂版本 #7

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