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Spring Boot 9AM
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*) Scaling:-

It is a process of increase service capacity for System/Application.
This is two types,

- a. Horizontal Scaling : creating same copy of current instance
is called as Horizontal Scaling.
- b. Vertical Scaling : Increase System Hardware Configuration is called
as vertical scaling.

For NoSQL we can manage multiple database instances in
Microservices

Ex: OrderDatabase
ProductsDatabase
UserDatabase

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Q) What is Server Thread Model ?

A)

=> Server creates one object for a servlet (singleton class)
=> Server creates one Servlet thread for servlet object
that will process request and gives response.

** If any I/O (Database call exist) then Thread will be in
WAITING (Blocked) state, until data comes back to server.
Then it will be unblocked.

=> Converting Blocking-Unblocking process to better resource
utilization using mediator 'EventLoop', in that case
DB and threads will be come independent and process
parallel request, such process is supported by NoSQLDBs
only.

*)Do not write instance variables inside servlet class.
Bcoz it is singleton-multithread design, problem with
Data Synchronization.

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Q) Can we insert a row in SQLDB without creating table?

A) No. First we should design schema (over all tables with relation)
then we can perform CRUD Operations.
We need to modify schema for additional data insert.

=> SQL DBs are entirely depends on schema ie called Structured
Database.

=> In MongoDB such creation is not required directly insert,
it auto-creates its schema (Unstructured Database).

SQL Database
Table
Row

NoSQL Database
Collection
Document (JSON)

Column

KEY

SQLDB: emptab(table)

```
+-----+-----+-----+
|  eid  |  ename |  esal |
+-----+-----+-----+
|  10   |   A   |  2.2  |
|  11   |   B   |  2.3  |
|  12   |   C   |  2.4  |
+-----+-----+-----+
```

NoSQL Employee (Collection)

```
[
  {"eid":10,"ename":"A","esal":2.2},
  {"eid":11,"ename":"B","esal":2.3},
  {"eid":12,"ename":"C","esal":2.4},
]
```

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Download MongoDB:

1. <https://www.mongodb.com/try/download/community>

2. Details

Version : 3.6

OS : Windows

Package : MSI

3. Click on Download

(mongodb-win32-x86_64-2008plus-ssl-3.6.23-signed.msi)

4. Double click > next > next > Finish

(uncheck > MongoDB Compass option while installing)

*) SET PATH in ENVIRONMENT VARIABLE:

C:\Program Files\MongoDB\Server\3.6\bin

*) create folder system in drive (C:/data/db create this folder)

C:\

data\

db\

*) Execute commands

> mongod (server)

> mongo (client)

> show dbs;

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