

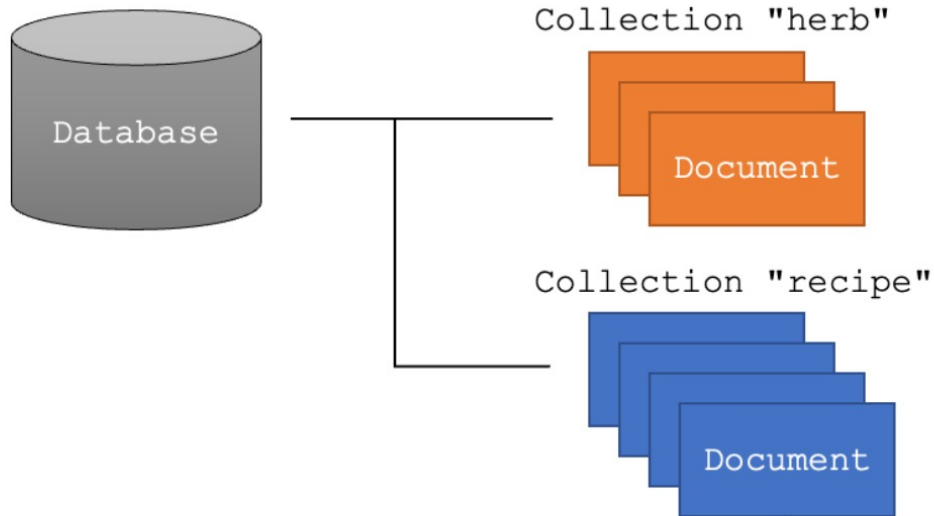


Brief: Cloud and Database

Asst. Prof. Natawut Nupairoj, Ph.D.
Department of Computer Engineering
Chulalongkorn University
natawut.n@chula.ac.th

What is MongoDB?

- There are 2 types of database: relational (or SQL) and NoSQL
- MongoDB is a Document Store, which is one type of NoSQL database
 - Database – Collections – Documents
- Each document can have fields with values, which can be string, number, list, and object
- Your application can perform CRUD (create, read, update, delete) operations on documents
- You will learn more about both databases in database class



Document

```
{
  _id: ObjectId("507f191e810c19729de860ea"),
  name: "Pad Thai",
  cuisine: "Thai",
  category: "Noodle",
  rating: 4.7,
  votes: 9301,
  ingredients: [
    { item: "noodle", quantity: "125", unit: "g" },
    { item: "chicken", quantity: "150", unit: "g" },
    { item: "brown sugar", quantity: "3", unit: "tbsp" }
    ...
  ]
}
```

Document in MongoDB

object

fields

```
{
  _id: ObjectId("507f191e810c19729de860ea"),
  name: "Pad Thai",
  cuisine: "Thai",
  category: "Noodle",
  rating: 4.7,
  votes: 9301,
  ingredients: [
    { item: "noodle", quantity: "125", unit: "g" },
    { item: "chicken", quantity: "150", unit: "g" },
    { item: "brown sugar", quantity: "3", unit: "tbsp" },
    ...
  ]
}
```

string

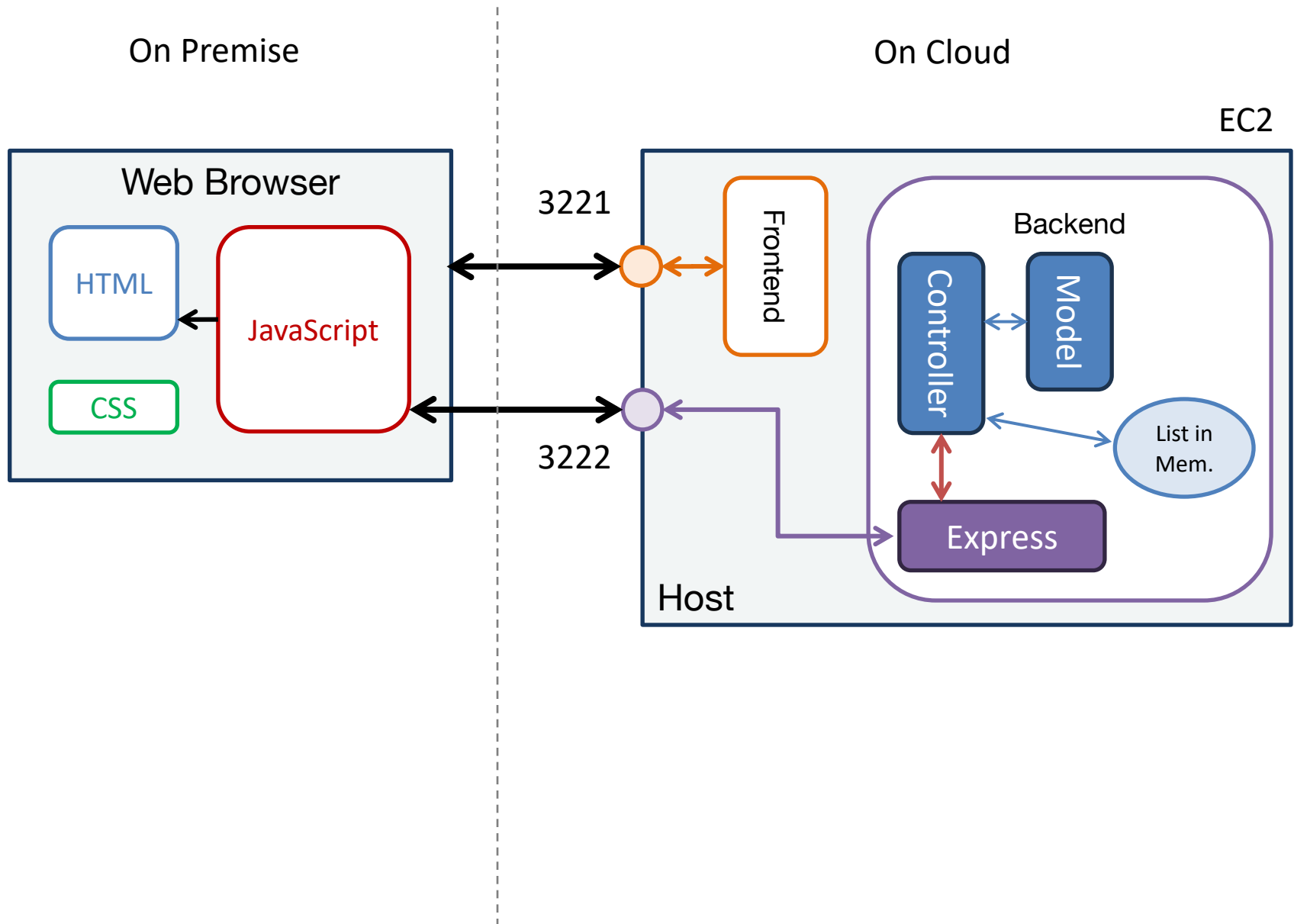
numbers

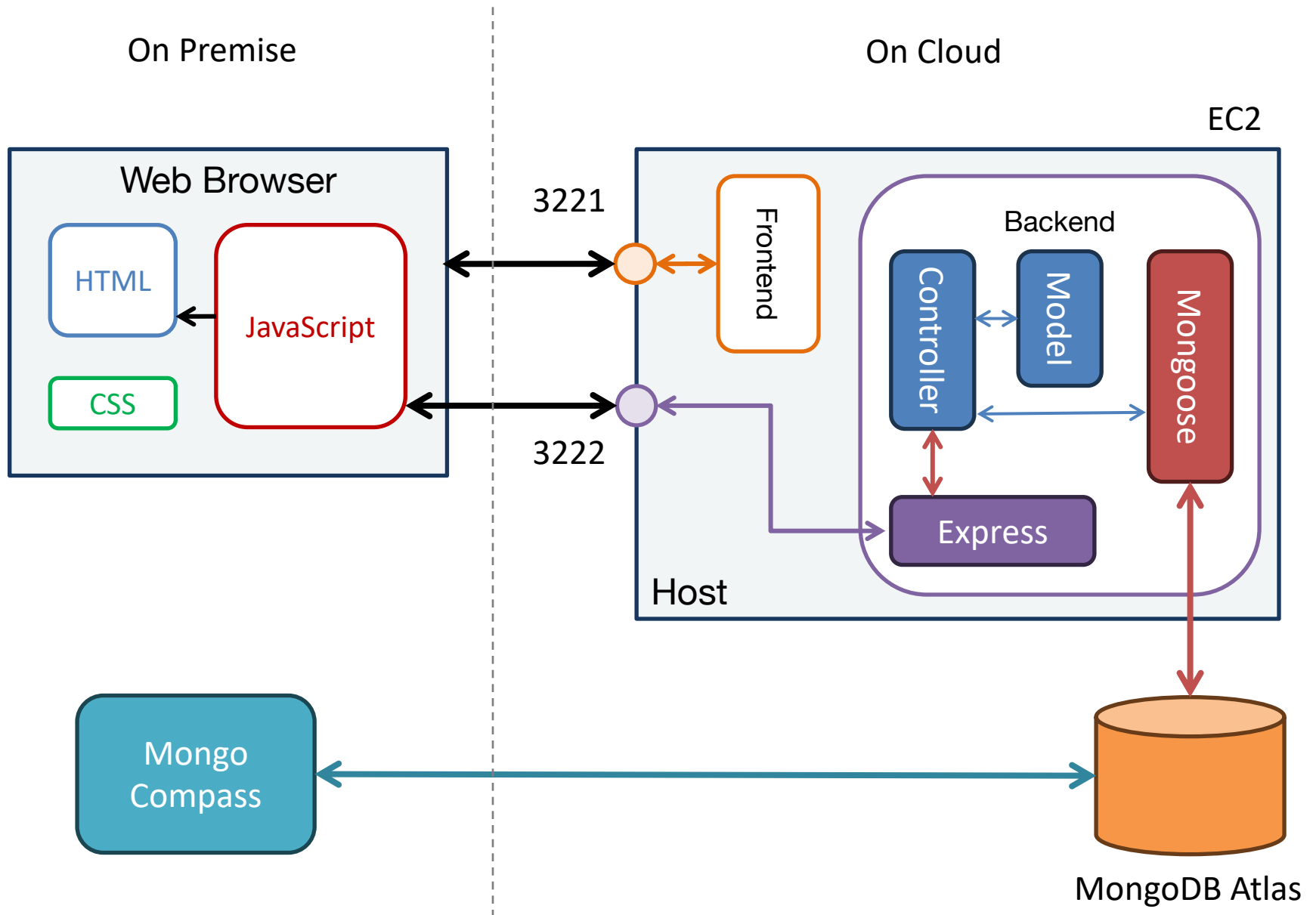
object

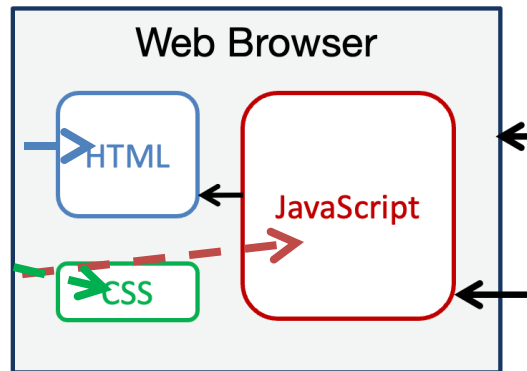
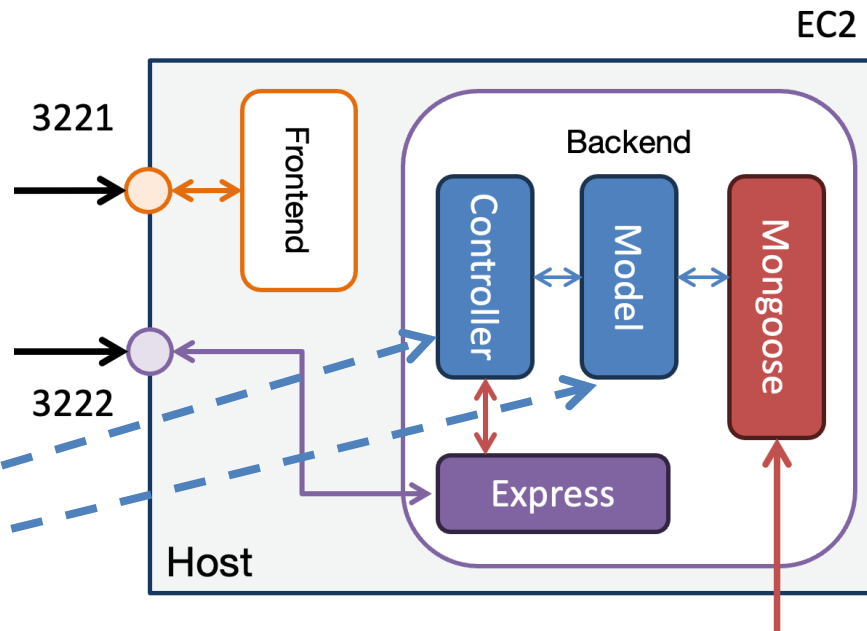
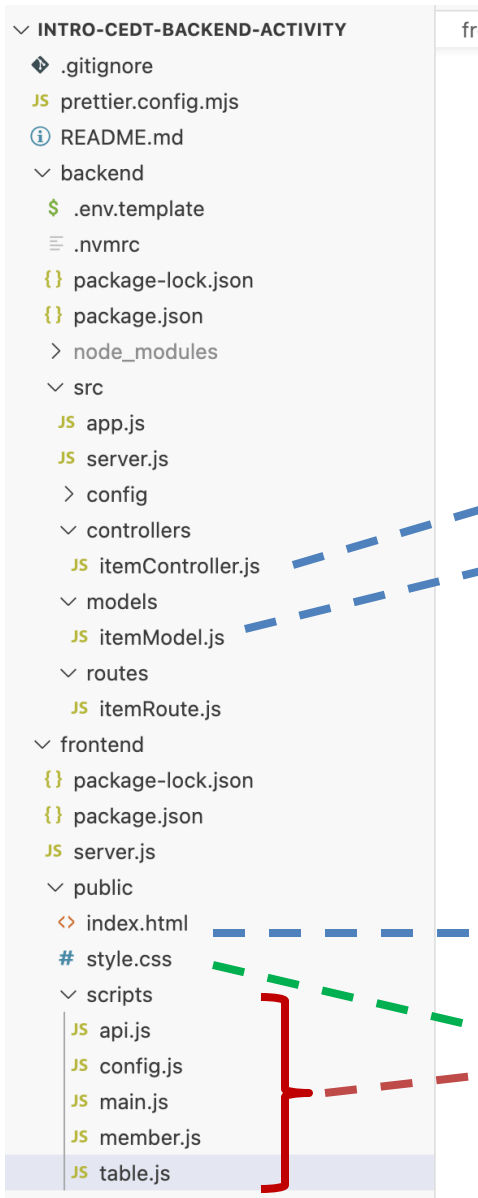
list

Part 1 and Part 2

- You will use mongo Compass to do activities in both parts
- Part 1: Understand how to add and query documents
 - Practice with small data (part1.json)
 - Learn how to add and query documents in mongodb
 - Add and import data
 - Simple query
 - Numerical query (\$gt, \$lt, etc.)
 - AND query
 - OR query
- Part 2: Play with Bigger Data
 - Comic character data (part2.json)
 - Practice how we query documents in mongodb







Part 3: Demonstrate the integrated application and implement a “delete” method

- Implement delete method in the controller
- You may have to research how to use “findByIdAndDelete” function in Mongoose
- Hint: you can use edit item function in the controller as an example
- Connect your backend to the database
- Demonstrate to TA by click delete and show results on both web UI and mongo Compass