ITIS 5166 Network-Based Application Development

MongoDB

MongoDB

- Each data record is stored as a document
- A document is composed of field-and-value pairs

```
{
  name: "sue",
  age: 26,
  status: "A",
  groups: [ "news", "sports" ]
}
```

- Documents are stored in collections
  - Collections are analogous to tables in relational databases.
- A database contains a set of collections

BSON vs. JSON

- Documents are viewed in JSON format

```
{
  name: "sue",
  age: 26,
  status: "A",
  groups: [ "news", "sports" ]
}
```

- Documents are stored in BSON format
- BSON is a binary representation of JSON
  - Faster to parse and lighter to store than JSON
  - Supports more data types than JSON

BSON data types

_id field

- Every document has a unique _id field, acting as the primary key
- The _id field can be of any type other than array
- If the _id field is not provided when a document is inserted, MongoDB automatically adds an _id field with a unique ObjectId value
- ObjectId values are 12 bytes in length
  - 4-byte timestamp value
  - 5-byte random value
  - 3-byte increment counter

Mongo Shell

- The mongo shell is an interactive JavaScript interface to MongoDB, which can be used to access MongoDB
- The mongo shell is included as part of the MongoDB installation
- To start mongo shell, type mongo in a terminal window

Working with the mongo shell

Mongo shell quick reference

Insert documents Query documents

Update documents Delete documents

Demo: Access MongoDB through Mongo Shell