2019 Global Azure BOOTCAMP

PUG Pune User Group

ACCESSING AZURE COSMMOSDB USING NODE.JS
NEXT LEVEL SERVER SIDE JAVASCRIPT

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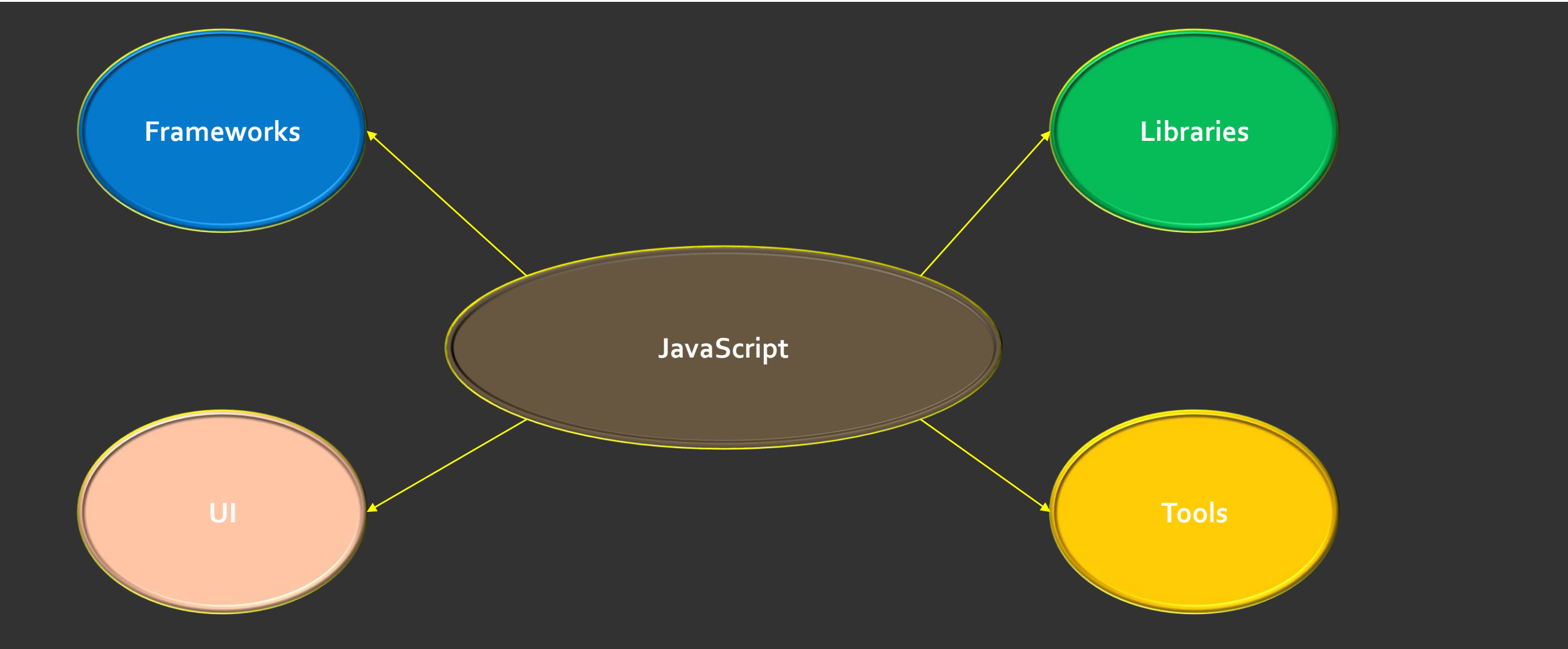
CONSUMER ORIENTED APPLICATIONS

- Apps designed for
  - All devices
  - All Browsers
  - Partner App Integration
  - Consumer App Integration
  - Client-Side Processing Capabilities
  - Security

WORLD OF JAVASCRIPT



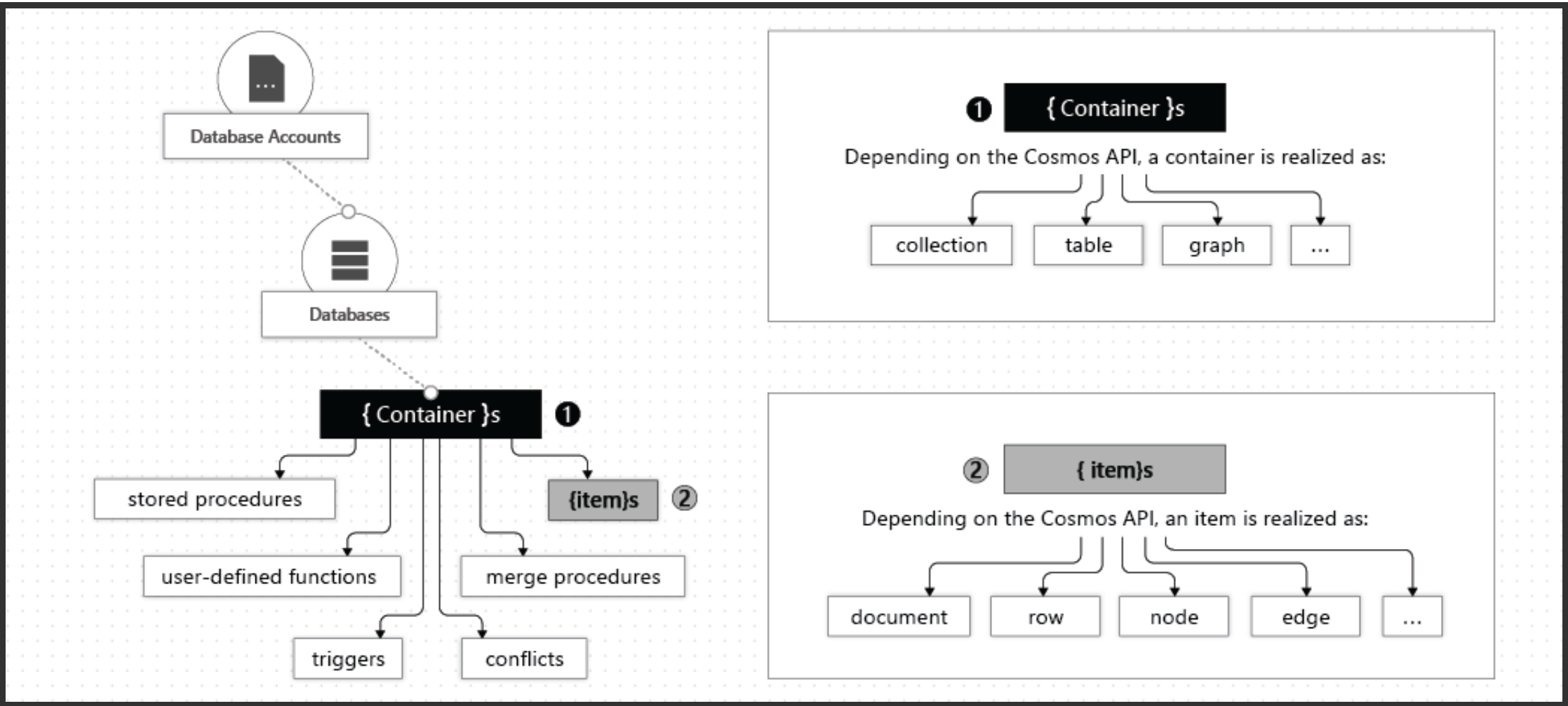
CLOUD BASED NOSQL DATABASE

- Databases are a tricky part of servers: it's easy to get started with a traditional MySQL database hosted locally on your web server.
- But, once the app grows bigger, the database server quickly reaches enormous resource requirements.
- Scaling is difficult and changing the database structure of a production system is risky.
- For innovative products that quickly evolve based on user centered design, it can be difficult to continually adapt a traditional relational database.
- If new versions of your app need new columns in a table, you need to upgrade the schema – potentially causing problems for older versions of your app.
- NoSQL databases that store data as JSON are typically easier to adapt to new requirements.
- Scaling the server resources to match growing demand is done through a single click with cloud-based databases.

CLOUD BASED NOSQL DATABASE

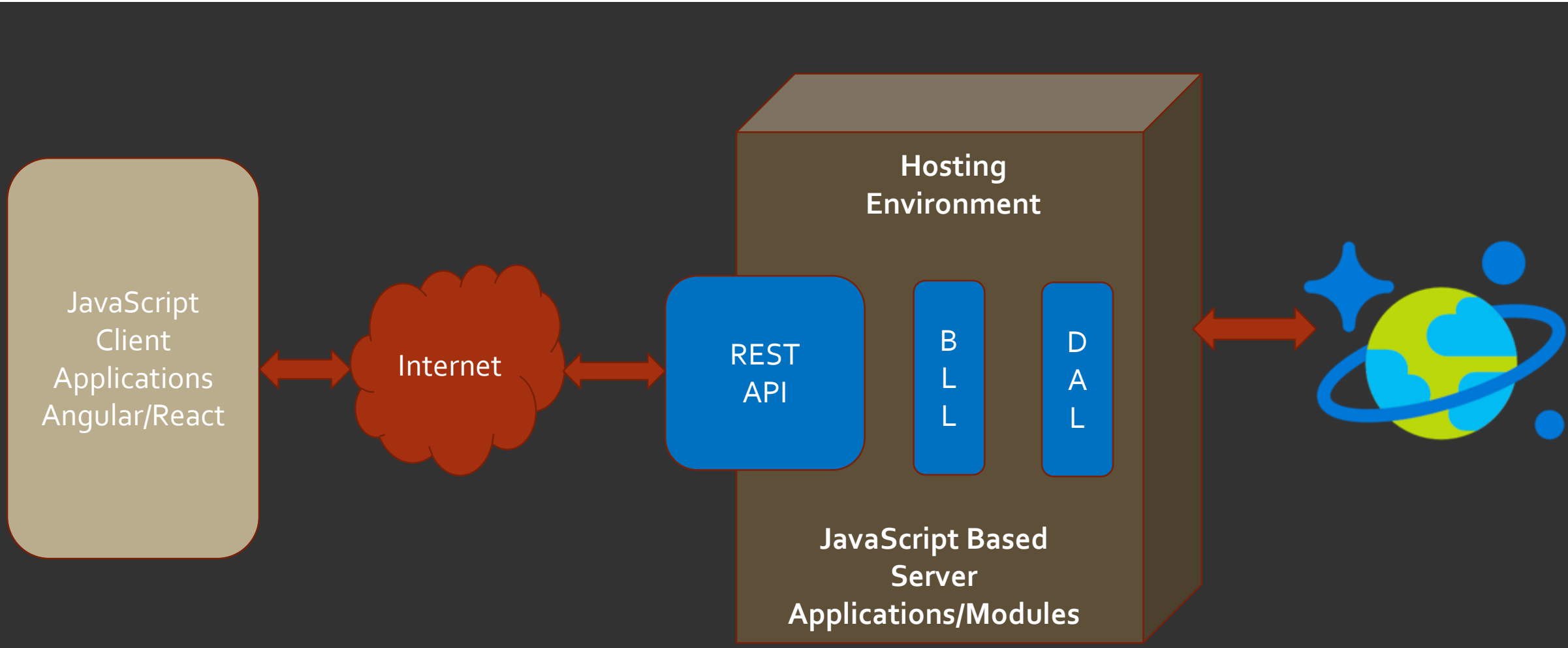
- The Azure Cosmos DB is a flexible backend, as it supports multiple protocols.
- It doesn't lock you in to a specific API – you can choose whichever best matches your demands.
- Simple operations are directly handled by JavaScript methods through ready-made APIs.
- In addition, you can use queries based on SQL, MongoDB, Apache Cassandra and more.

AZURE COSMOSDB
DATABASES, CONTAINERS, AND ITEMS

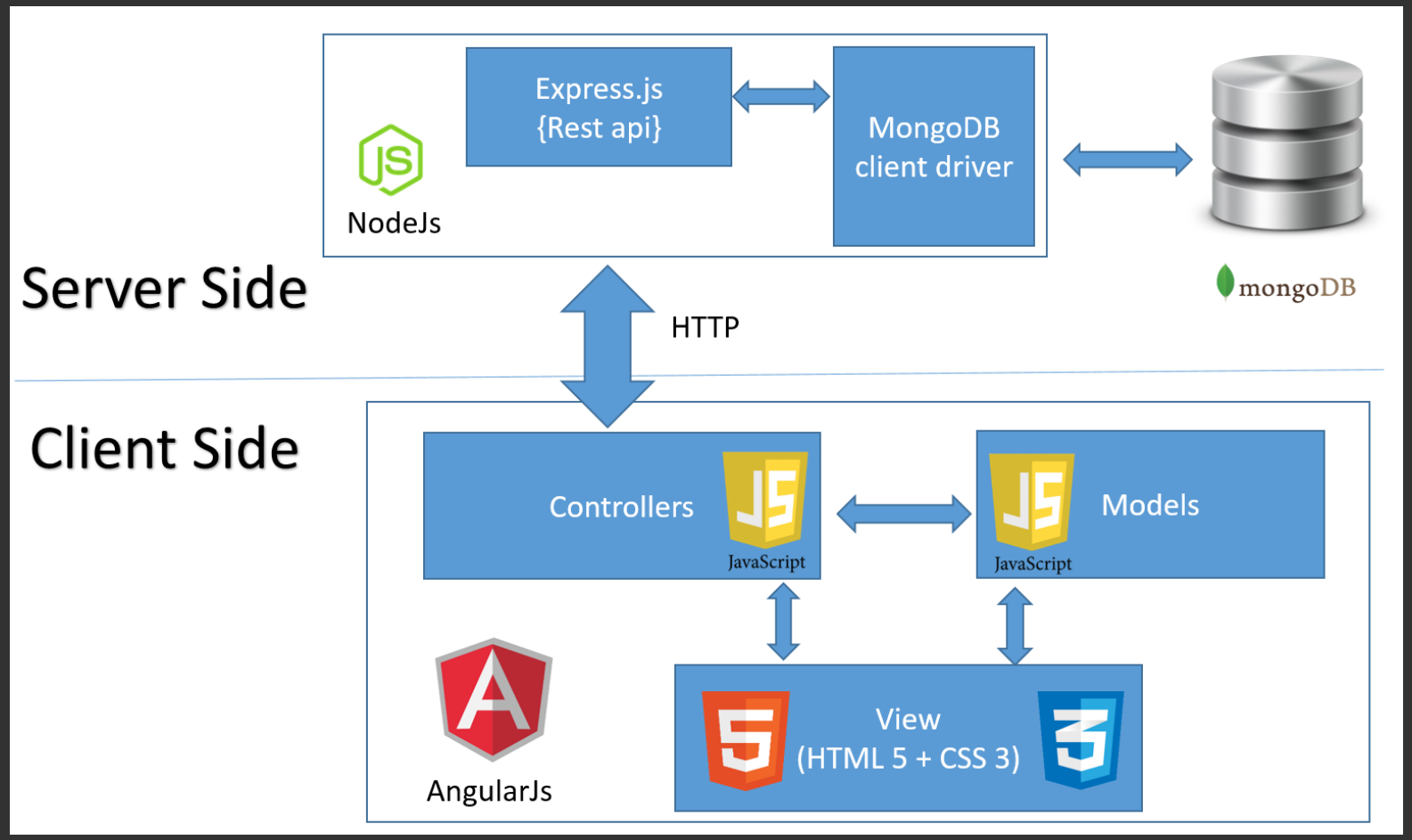


https://docs.microsoft.com/en-us/azure/cosmos-db/databases-containers-items

ISOMORPHIC APPLICATIONS



APPLICATION ARCHITECTURE WITH NODE.JS



http://chskr.blogspot.in/2016/01/crud-application-using-angularjs-nodejs.html

COSMOSDB WITH NODE.JS

```
"@azure/cosmos": "^2.1.5",
"async": "^2.6.2",
"cookie-parser": "~1.4.3",
"debug": "~2.6.9",
"express": "~4.16.0",
"http-errors": "~1.6.2",
```

COSMOSDB WITH NODE.JS

```
const config = {};
// the host Url
config.host = process.env.HOST ||
"https://msitsou.documents.azure.com:443/";
// the auth key with database and container
config.authKey =
process.env.AUTH_KEY ||
"WINQMhYjvrowmqkb85r3EXfFX804qWPlvQprtaNWyQiQsqwf6FGMAXlhOn0th8LjOu
T1rDI9nDUIyvYiDlmuiQ==";
config.databaseId = "ToDoList";
config.containerId = "Items";
```

COSMOSDB WITH NODE.JS

```
// 1. Creating CosmosClient
const CosmosClient = require("@azure/cosmos").CosmosClient;

// 2 Create CosmosClient instance with Db Configuration
const cosmosClient = new CosmosClient({
endpoint: config.host,
auth: {
masterKey: config.authKey
}
});
```

COSMOSDB WITH NODE.JS

```
const dbResponse = await
this.client.databases.createIfNotExists({
id: this.databaseId
});
this.database = dbResponse.database;

// create container if not exist
const coResponse = await this.database.containers.createIfNotExists({
id: this.collectionId
});
this.container = coResponse.container;
```

COSMOSDB WITH NODE.JS

```
async addItem(item) {
debug("Adding an item to the database");
item.date = Date.now();
item.completed = false;
const { body: doc } = await
this.container.items.create(item);
return doc;
}
```

COSMOSDB WITH NODE.JS

```
async updateItem(itemId) {
debug("Update an item in the database");
const doc = await this.getItem(itemId);
doc.completed = true;

const { body: replaced } = await
this.container.item(itemId).replace(doc);
return replaced;
}
```

COSMOSDB WITH NODE.JS

```
async find(querySpec) {
debug("Querying for items from the database");
if (!this.container) {
throw new Error("Collection is not initialized.");
}
const { result: results } = await this.container.items
.query(querySpec)
.toArray();
return results;
}
```

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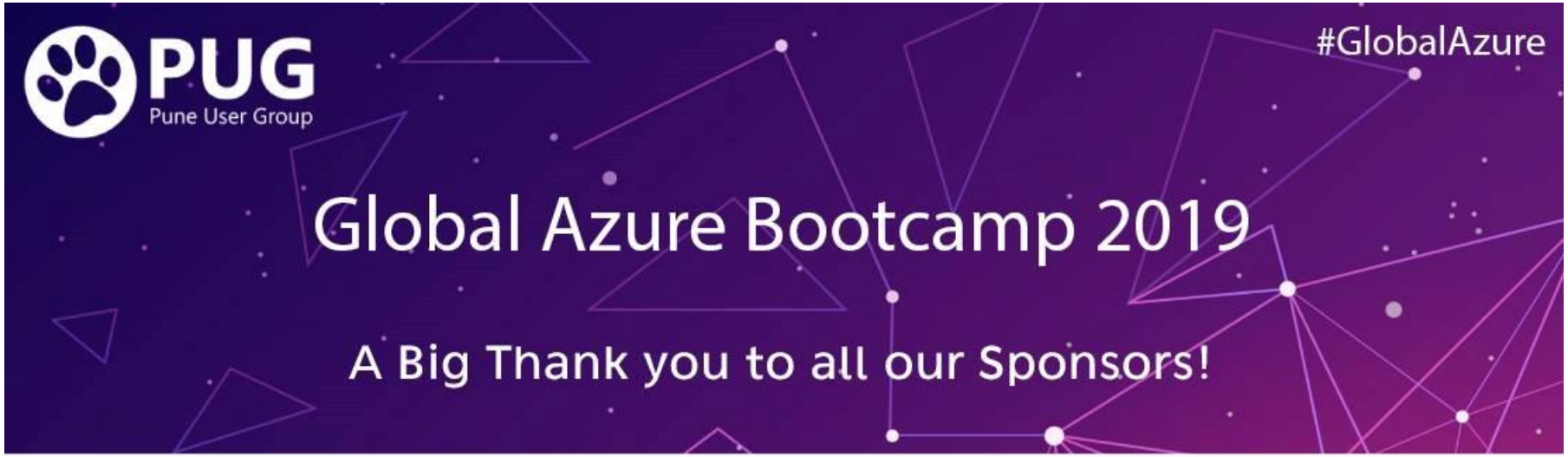

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