

## szoftverarchitektúrák gyakorlatok

### 1. standalone, konzolos alkalmazás telepítés

The screenshot shows a GitHub repository page for 'Training360/architecture-public'. A Windows Defender SmartScreen warning is displayed over the README file, stating: 'A Windows megvédte a számítógépét. A Microsoft Defender SmartScreen megakadályozta egy nem felismert alkalmazás elindulását. Az alkalmazás futtatása veszélyeztetheti a számítógépet. Alkalmazás: LocationsCli-1.0.0.exe. Gyártó: Ismeretlen kiadó.' The warning has two buttons: 'Futtatás mindenképpen' (Run anyway) and 'Futtatás mellőzése' (Skip). The README file is titled 'Szoftverarchitektúrák' and describes a 'Standalone konzolos alkalmazás'. It includes a list of commands to run in the terminal: 'C:\Program Files\LocationsCli> LocationsCli', '1. List locations', '2. Create location', '3. Edit location', '4. Delete location', '5. Exit', and 'Select a number, than press Enter!'. The repository also shows a 'Releases' section with version 1.0.0 and a 'Packages' section with no published packages.

### standalone, konzolos alkalmazás használat (listázás, adatbevitel, adatmódosítás, adattörlés)

The screenshot shows a Windows command prompt window running the 'LocationsCli' application. The prompt displays the following text: 'What is the coordinates of the location? Use 47.531605,21.627312 format! 1,0,1,3 Location has been created'. Below this, a menu is shown: '1. List locations', '2. Create location', '3. Edit location', '4. Delete location', '5. Exit'. The user has selected '1' and the application displays a table of locations:

Id	Name	Coordinates
1	Budapest	47,497912,19,040235
5	Győr	47,687457,17,650397
6	Home	1,100000,1,100000
8	Home	1,000000,1,300000
3	Miskolc	48,103478,20,778439
4	Veszprém	47,102809,17,909302

The prompt then asks 'Select a number, than press Enter!' and the user has selected '1'.

2. központi adatbázis indítása docker containerben. (Itt eltelt pár perc, mire rájöttem, hogy egyrészt elírtam az értéket és ezért ahogy elindítottam, le is állt a container, aztán hogy nem is azért állt le, hanem mert csupa nagybetűvel kell a környezeti változókat beírni. 😊)

The screenshot shows a Windows command prompt window with the following commands and output:

```
C:\WINDOWS\system32>robocopy E:\ H:\ /mit /e /r:2 /w:3 /eta /v /log:H:\naplo.txt
Log File : H:\naplo.txt
C:\WINDOWS\system32>robocopy E:\ H:\ * /e /r:2 /w:3 /eta /v /log:H:\naplo.txt
Log File : H:\naplo.txt
C:\WINDOWS\system32>docker run -d -e mysql_database=locations -e mysql_user=locations -e mysql_password=locations -e mysql_allow_empty_password=yes -p 3306:3306 --name locations-db mariadb
dad32cee74f122b5e96f8c40241909862c05c648931578439bcf42f6e3303e3
C:\WINDOWS\system32>
```

Below the command prompt, a web application interface is visible. It has a title "Központi adatbázis" and a subtitle "Amennyiben Docker telepítve van a gépedre, indítsd el az adatbázist a következő paranccsal:". It shows a code block with the command: `QI_PASSWORD=locations -e MYSQL_ALLOW_EMPTY_PASSWORD=yes -p 3306:3306 --name locations-dbclient-mariadb mariadb`. Below this, it says "Írd át az alkalmazás konfigurációs állományában, hogy az adatbázishoz kapcsolódjon! Ennek kell benne szerepelnie:" followed by a code block: `config.store = "db"
config.db.type = "mysql"
config.db.url = "mysql://locations:locations@localhost:3306/locations"
config.db.logging = false`. It then says "Majd indítsd el az alkalmazást!" and "SQL nyelv" with a bullet point "SQL konzol". At the bottom, it shows the command: `docker exec -it locations-dbclient-mariadb mysql locations`.

3. standalone, grafikus alkalmazás config.js állomány módosítás, hogy a containerben futó adatbázishoz kapcsolódjon

The screenshot shows a web application interface with a code editor. The code editor contains the following code:

```
const config = {}
config.db = {}
config.mongo = {}
config.rest = {}

//config.store = "inmemory"

config.store = "db"
config.db.type = "mysql"
config.db.url = "mysql://locations:locations@localhost:3306/locations"
config.db.logging = false

//config.store = "mongo"
//config.mongo.url = "mongodb://localhost:27017/locations"
//config.mongo.logging = true

//config.store = "rest"
//config.rest.url = "http://localhost:8080"
```

Below the code editor, the same web application interface is visible as in the previous screenshot, showing the "Központi adatbázis" title, the Docker command, the configuration code block, the instruction "Írd át az alkalmazás konfigurációs állományában, hogy az adatbázishoz kapcsolódjon! Ennek kell benne szerepelnie:", the "Majd indítsd el az alkalmazást!" instruction, the "SQL nyelv" section with the "SQL konzol" bullet point, and the Docker command at the bottom.

## adatbevitel grafikus felületen

The screenshot shows a web application interface for managing locations. A file explorer window is open, showing the application's file structure. A 'Locations' dialog box is open, allowing the user to create a new location. The dialog has fields for Name, Coordinates, Interesting at, and Tags. A 'Create location' button is visible. A console window shows a 'Successful post' message.

Locations

Name\*

work 1

Coordinates (format: 47.4979,19.0402, no spaces, max. 6 digits after decimal point)\*

1.1,2

Interesting at (format: 2019-09-11T15:31:04)

Tags (format: favourite, capital)

ez egy tag

Create location Cancel

Refresh table

Majd indítsd el az alkalmazást!

SQL nyelv

- SQL konzol

```
docker exec -it locations-database mariadb mysql locations
```

- SQL utasítások

```
desc location;
```

## 4. adatbevitel, módosítás, törlés SQL konzolon, containerben

The screenshot shows a web application interface for managing locations. A 'Locations' dialog box is open, showing a table of locations. A console window shows SQL commands being executed in a MariaDB container.

Locations

Location has been modified

Create location

Refresh table

ID	Name	Coordinates	Interesting at	Tags
1	work - 3	1, 1		otthon édes otthon
2	work 1	1.1, 2		ez egy tag
3	work 2	2.1, 3		

```
MariaDB [locations]> insert into location(name, lat, lon) values ('work 2', 2.1, 3);
Query OK, 1 row affected (0.022 sec)

MariaDB [locations]> select * from location
-> ;
+----+-----+-----+-----+-----+
| id | name  | lat | lon | interesting_at |
+----+-----+-----+-----+-----+
| 1  | Home  | 1   | 1   | NULL           |
| 2  | work 1 | 1.1 | 2   | NULL           |
| 3  | work 2 | 2.1 | 3   | NULL           |
+----+-----+-----+-----+-----+
3 rows in set (0.000 sec)

MariaDB [locations]> update location set name = 'work - 3' where ID = 1;
Query OK, 1 row affected (0.042 sec)
Rows matched: 1  Changed: 1  Warnings: 0

MariaDB [locations]>
```

A locations alkalmazásban sem törölhető a felvitt kedvenc hely, ha van tag hozzá.

Locations

Are you sure to delete location?

Delete location

Cancel

Refresh table

Id	Name	Coordinates	Interesting at	Tags
2	work 1	1.1, 2		ez egy tag

Console

top

Successful post locations.js:284  
Successful delete locations.js:316  
Uncaught (in promise) QueryFailedError: EN\_ROW\_ID\_REFERENCED\_2: Cannot delete or update a parent row: a foreign key constraint fails ('locations', 'tag', CONSTRAINT 'FK\_2da0ff15e4e9a12e4d979e4' FOREIGN KEY ('locationId') REFERENCES 'location' ('id') ON DELETE NO ACTION ON UPDATE NO ACTION) at new QueryFailedError (C:\architektura\locations-win32-64x\node\_modules\mysql\lib\Connection.js:111:28) at Query.\_callback (C:\architektura\locations-win32-64x\node\_modules\mysql\lib\Connection.js:488:16) at Query.Sequence.end (C:\architektura\locations-win32-64x\node\_modules\mysql\lib\protocol\sequences\Sequence.js:83:24) at Query.ErrorPacket (C:\architektura\locations-win32-64x\node\_modules\mysql\lib\protocol\sequences\Query.js:92:18) at Protocol.\_parsePacket (C:\architektura\locations-win32-64x\node\_modules\mysql\lib\protocol\sequences\Query.js:111:28)

C:\WINDOWS\system32>

MariaDB [locations]> select \* from location

id | name | lat | lon | interesting\_at |  
1 | Home | 1 | 1 | NULL |  
2 | work 1 | 1.1 | 2 | NULL |  
3 | work 2 | 2.1 | 3 | NULL |  
3 rows in set (0.000 sec)

MariaDB [locations]> update location set name = 'work - 3' where ID = 1;

Query OK, 1 row affected (0.002 sec)

Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [locations]>

NoSQL adatbázisok

MongoDB elindítása:

docker run -d -p27017:27017 --name locations-mongo mongo

Parancssoros kliens elindítása:

docker exec -it locations-mongo mongo locations

Parancsok:

db.location.find()

db.location.insert({name: "work", lat: 2, lon: 3})

előbb törölni kell a kapcsolt tábla (tag) megfelelő sorát, vagy sorait, utána a kedvenc hely is törölhető.

Locations

Location has been deleted

Create location

Refresh table

Id	Name	Coordinates	Interesting at	Tags
----	------	-------------	----------------	------

Console

top

Successful post locations.js:284  
Successful update locations.js:352  
Successful delete locations.js:316

MariaDB [locations]>

desc location;

select \* from location;

insert into location(name, lat, lon) values ('Work2', 3, 3);

update location set name = 'Work3' where id = 3;

delete from location where id = 3;

select \* from location left join tag on location.id = tag.locationId;

NoSQL adatbázisok

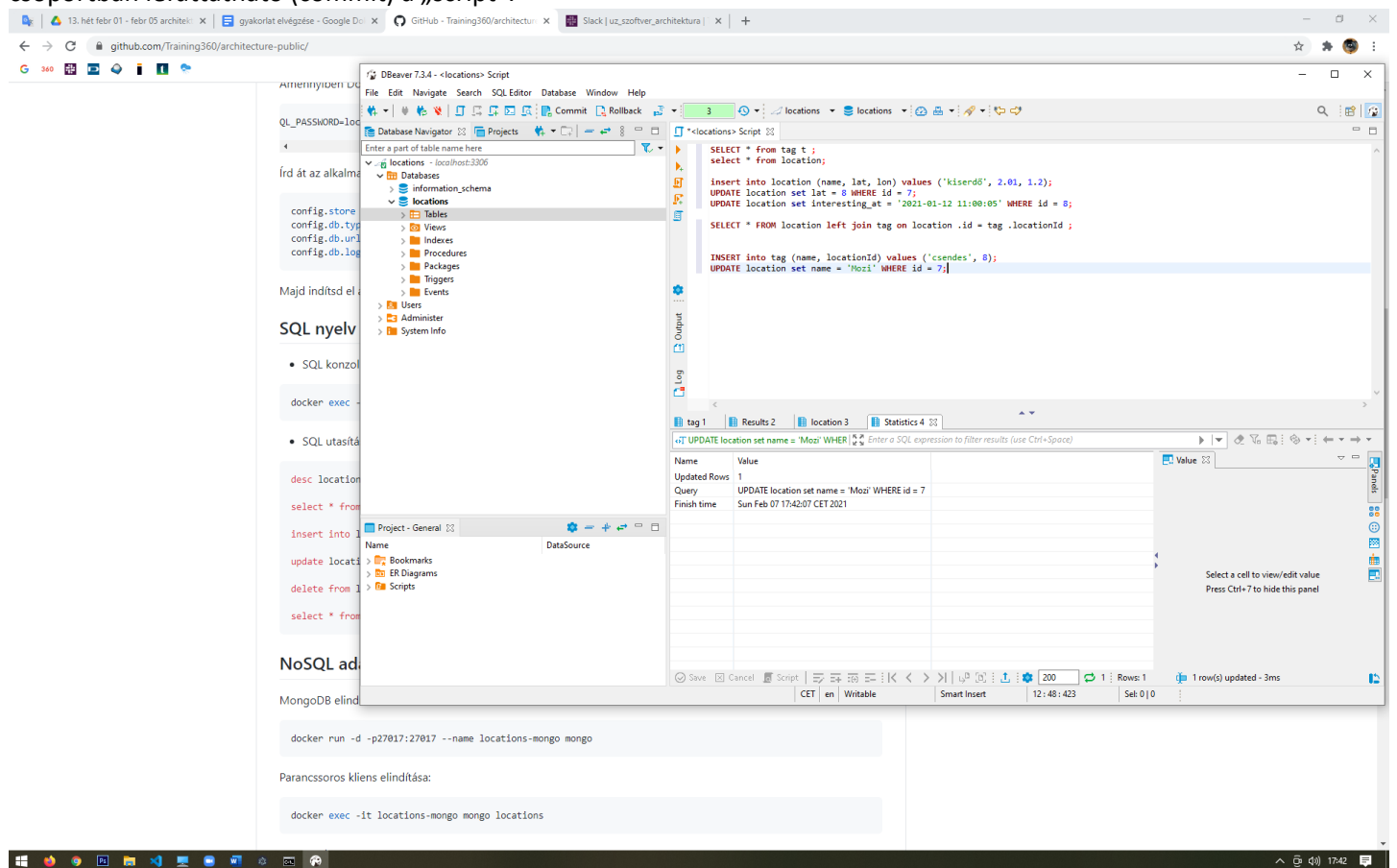
MongoDB elindítása:

docker run -d -p27017:27017 --name locations-mongo mongo

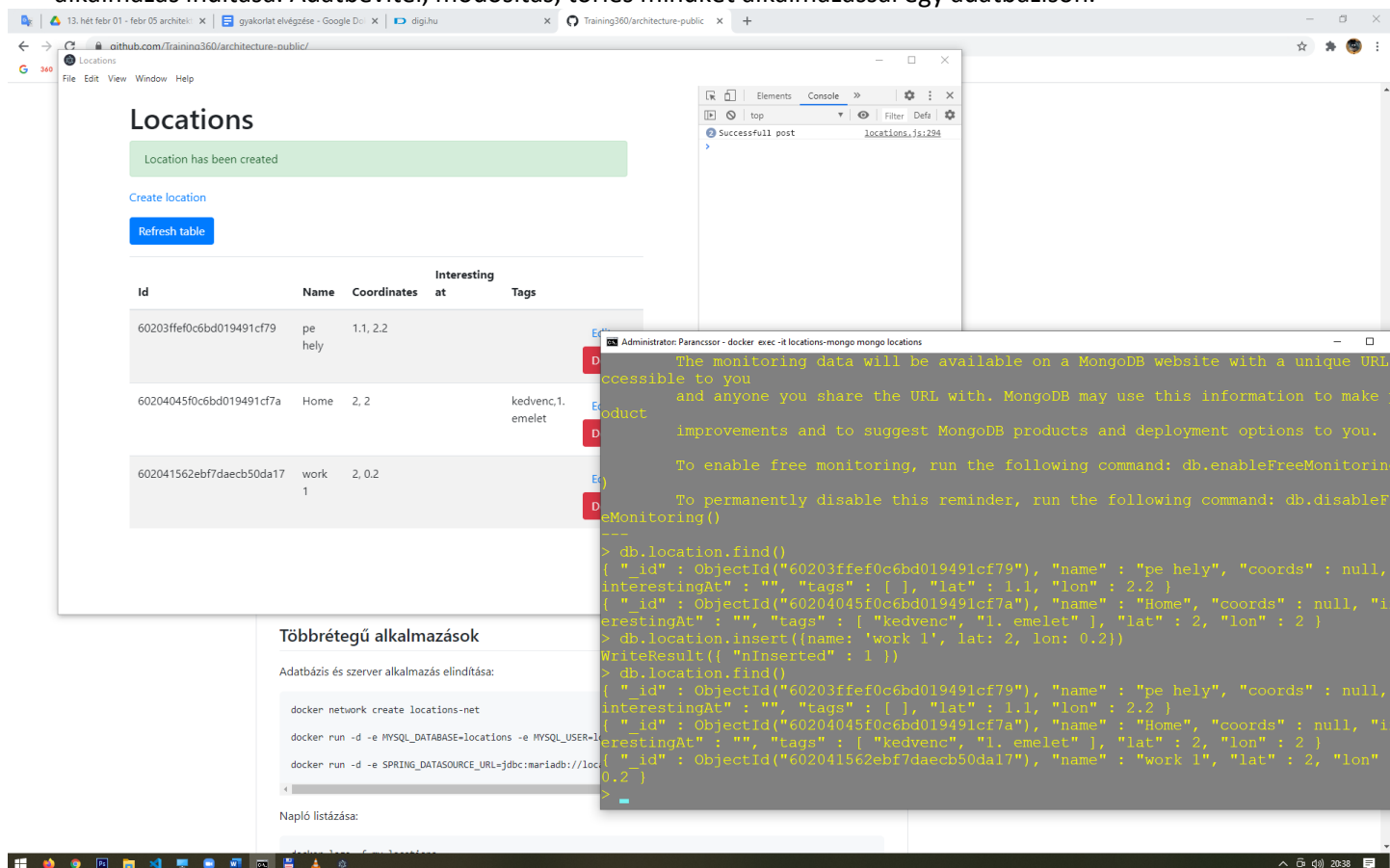
Parancssoros kliens elindítása:

docker exec -it locations-mongo mongo locations

Tranzakció kezelés DBeaver-el. Az sql utasítások futtatását manuális commit-ra állítva visszapörgethető (rollback), vagy csoportban lefuttatható (commit) a „script”.



5. noSQL adatbázis használata. MongoDB indítása containerben, és megfelelő config.js beállítással a locations alkalmazás indítása. Adatbevitel, módosítás, törlés mindkét alkalmazással egy adatbázison.





## 7. webes alkalmazásról adatbevitel, módosítás törlés

The screenshot shows a web browser at `localhost:8080/server/details?sessionId=03EEB5286CF0CA8A563A3198BE930B27id=6`. The page title is "Location details". A green message box says "Location has been created." Below it is a form with the following fields:

Field	Value
Name	új város
Coordinates	1.0, 4.0
Interesting at	
Tags	

At the bottom of the form are buttons: "Edit", "Delete", and "Back to list".

On the right, the Chrome DevTools Network tab is open, showing a list of requests. The selected request is a POST request to `details?sessionId=03EEB5286CF0CA8A563A3198BE930B27id=6` with a status of 200. The response is a JSON object.

## .log ablak figyelése adat manipulálás közben

The screenshot shows a web browser at `localhost:8080/server`. The page title is "Locations". A green message box says "Location has been deleted." Below it is a table of locations:

Name	Coordinates	Action
Budapest	47.497912, 19.040235	<a href="#">View</a>
Debrecen	47.5316049, 21.6273124	<a href="#">View</a>
Győr	47.6874569, 17.6503974	<a href="#">View</a>
parti	3.0, 1.0	<a href="#">View</a>
új város	1.0, 4.0	<a href="#">View</a>
Veszprém	47.1028087, 17.9093019	<a href="#">View</a>

At the bottom of the table is a button: "Create location".

On the right, a PowerShell terminal window is open, showing the output of a command. The output is a JSON object representing a location.

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