



ICT Department

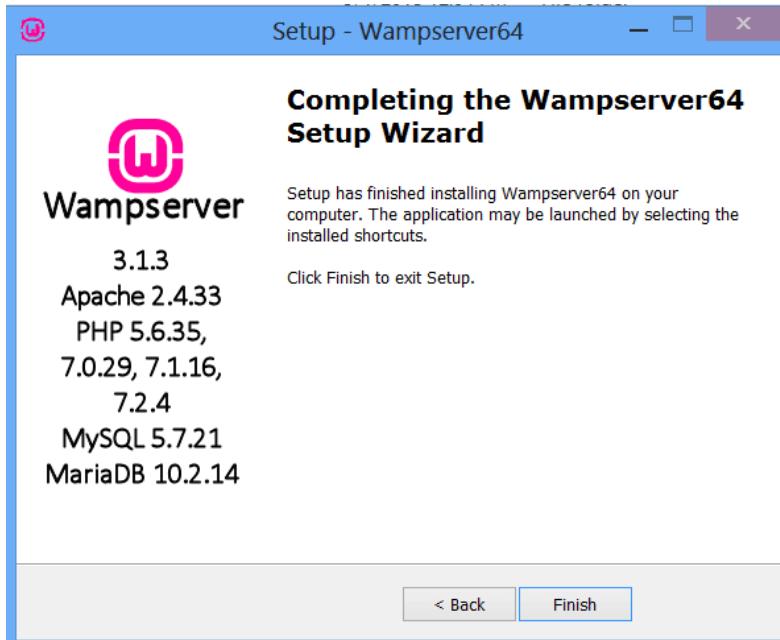
ការពារកម្មទិន្នន័យ និងបញ្ហានទិន្នន័យចូល Server

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- ចូលទាញយក WAMP ថែរពី [Link](#) នេះ
- ចូច install ហើយយក Next, Next, Next



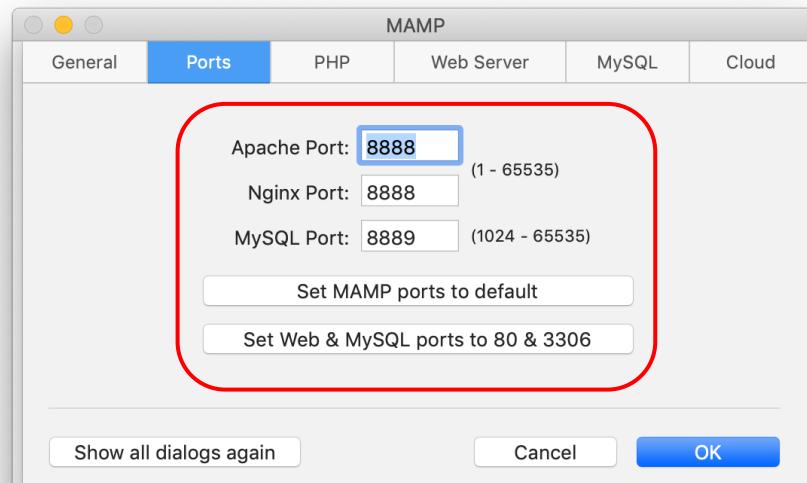
- Folder ត្រូវបានដែលសាយក្នុង c:\wamp64\www\

ក្នុង Mac យើងគូរប្រើ MAMP តាមរយៈរបៀបនេះ

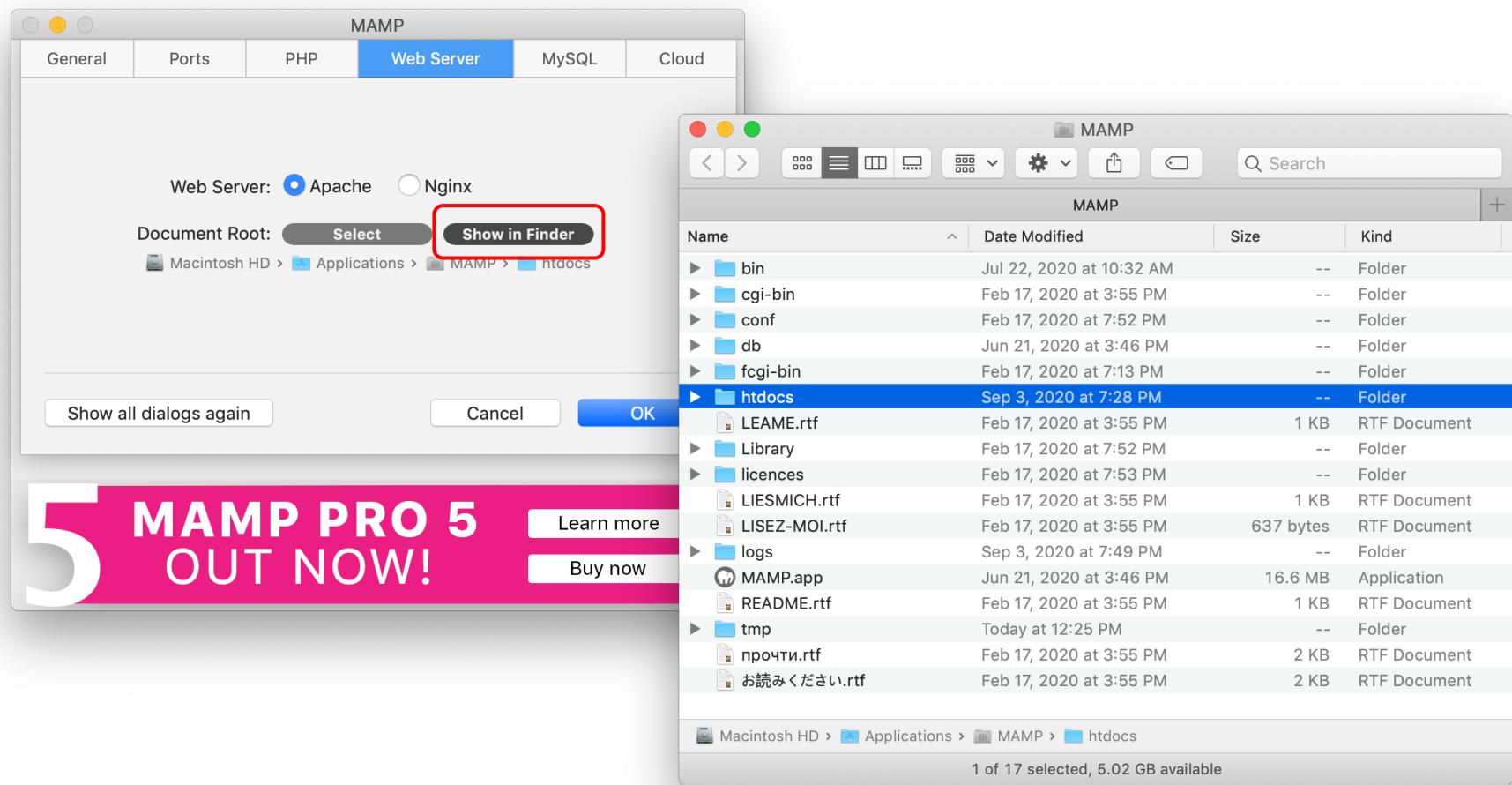
- ចូលទាញយក MAMP ពី [Link](#) នេះ
- ហើយចូច Install តាមរយៈរបៀប MacOS



3. ធ្វើម្រៃចូល Config Port គឺយើងចូលតាម Preferences:

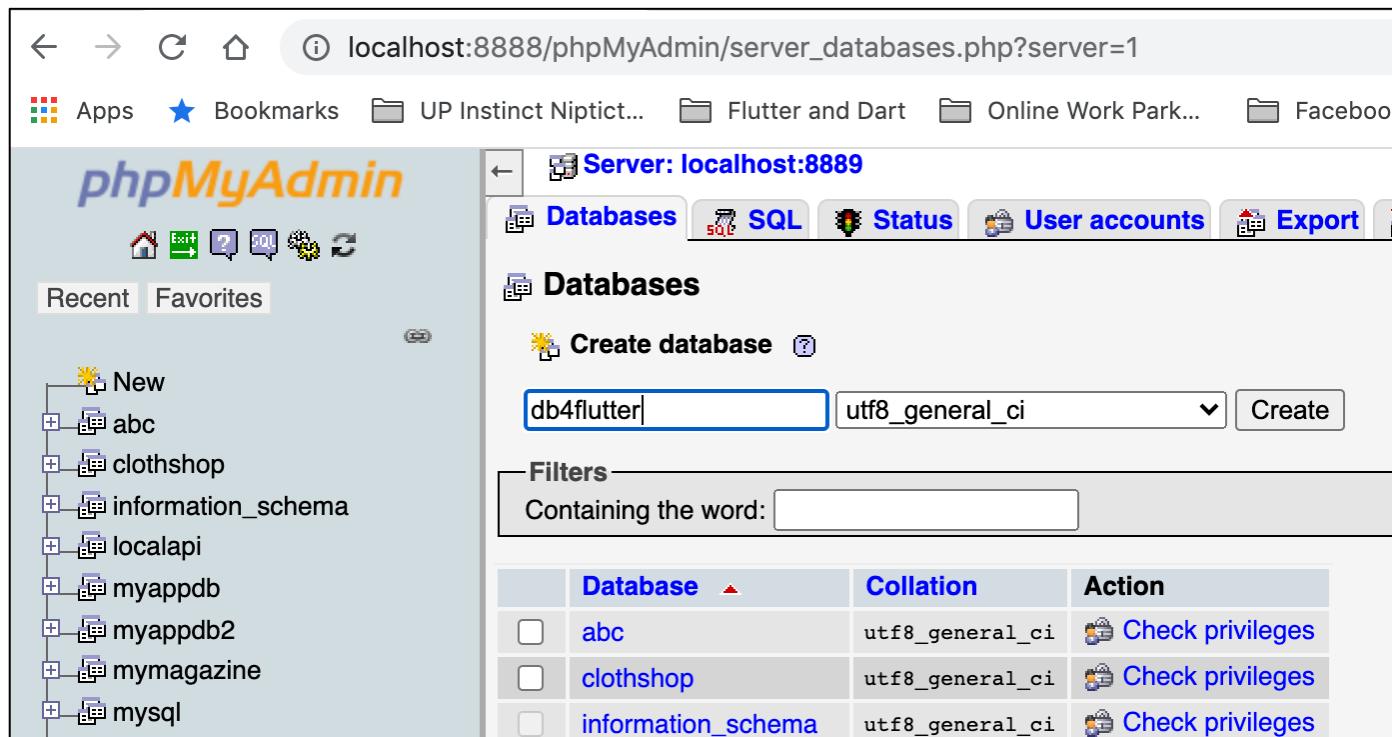


4. ហកើយចូច Web Server -> Show in Finder ដើម្បីធាក់នៅបណ្តុះ



1. យោងចូលក្នុង PhpMyAdmin ដើម្បីបង្កើត database, e.g.

db4flutter:



The screenshot shows the phpMyAdmin interface at `localhost:8888/phpMyAdmin/server_databases.php?server=1`. The left sidebar lists existing databases: abc, clothshop, information_schema, localapi, myappdb, myappdb2, mymagazine, and mysql. The main panel shows the 'Databases' section with a 'Create database' form. The 'Database' field contains 'db4flutter' and the 'Collation' dropdown is set to 'utf8_general_ci'. A 'Create' button is visible. Below the form is a 'Filters' section with a search input. A table at the bottom lists the current databases with their collations and 'Check privileges' action buttons.

| | Database | Collation | Action |
|--------------------------|--------------------|-----------------|----------------------------------|
| <input type="checkbox"/> | abc | utf8_general_ci | Check privileges |
| <input type="checkbox"/> | clothshop | utf8_general_ci | Check privileges |
| <input type="checkbox"/> | information_schema | utf8_general_ci | Check privileges |

2. ໂກີ້ຍບເຜື້ນຕີ tbl_article Table ເພີ່ມຂາດໂສ

aid (int, primary, auto_increment), title varchar, body varchar,
date varchar:

Server: localhost:8889 » Database: db4flutter » Table: tbl_article

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Table structure Relation view

| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|---|-------|---------------|-----------------|------------|------|---------|----------|----------------|--------|
| 1 | aid | int(11) | | | No | None | | AUTO_INCREMENT | |
| 2 | title | varchar(255) | utf8_general_ci | | No | None | | | |
| 3 | body | varchar(1000) | utf8_general_ci | | No | None | | | |
| 4 | date | varchar(50) | utf8_general_ci | | No | None | | | |

Check all With selected:

column(s) after date

Indexes

| Action | Keyname | Type | Unique | Packed | Column | Cardinality | Collation | Null | Comment |
|--------|---------|-------|--------|--------|--------|-------------|-----------|------|---------|
| | PRIMARY | BTREE | Yes | No | aid | 0 | A | No | |

Create an index on columns

3. យោងអាចបញ្ចូលទិន្នន័យ៖

Server: localhost:8889 » Database: db4flutter » Table: tbl_article

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Triggers](#)

| Column | Type | Function | Null | Value |
|--------|---------------|----------|------|--------------------|
| aid | int(11) | | | |
| title | varchar(255) | | | test title 1 |
| body | varchar(1000) | | | test body 1 |
| date | varchar(50) | | | 2020-09-05 11:54AM |

Go

Ignore

Server: localhost:8889 » Database: db4flutter » Table: tbl_article

[Browse](#) [Structure](#) [SQL](#) [Search](#) [Insert](#) [Export](#) [Import](#) [Privileges](#) [Operations](#) [Triggers](#)

Showing rows 0 - 1 (2 total, Query took 0.0003 seconds.)

```
SELECT * FROM `tbl_article`
```

Show all | Number of rows: 25 Filter rows: Search this table Sort by key:

+ Options

| | aid | title | body | date |
|--------------------------|-----|--------------|-------------|--------------------|
| <input type="checkbox"/> | 1 | test title 1 | test body 1 | 2020-09-05 11:54AM |
| <input type="checkbox"/> | 2 | test title 2 | test body 2 | 2020-09-05 11:55AM |

Check all With selected: [Edit](#) [Copy](#) [Delete](#) [Export](#)

Show all | Number of rows: 25 Filter rows: Search this table Sort by key:

4. បន្ទាប់មក យើងត្រូវទាញទិន្នន័យពី database ហើយបំបែងទេជា JSON:

```
<?PHP
$conn = new mysqli('localhost','root','root','db4flutter');

if ($conn->connect_error) {
die("Connection failed: " . $conn->connect_error);
}

$myArray = array();
if ($result = $conn->query("SELECT * FROM tbl_article")) {

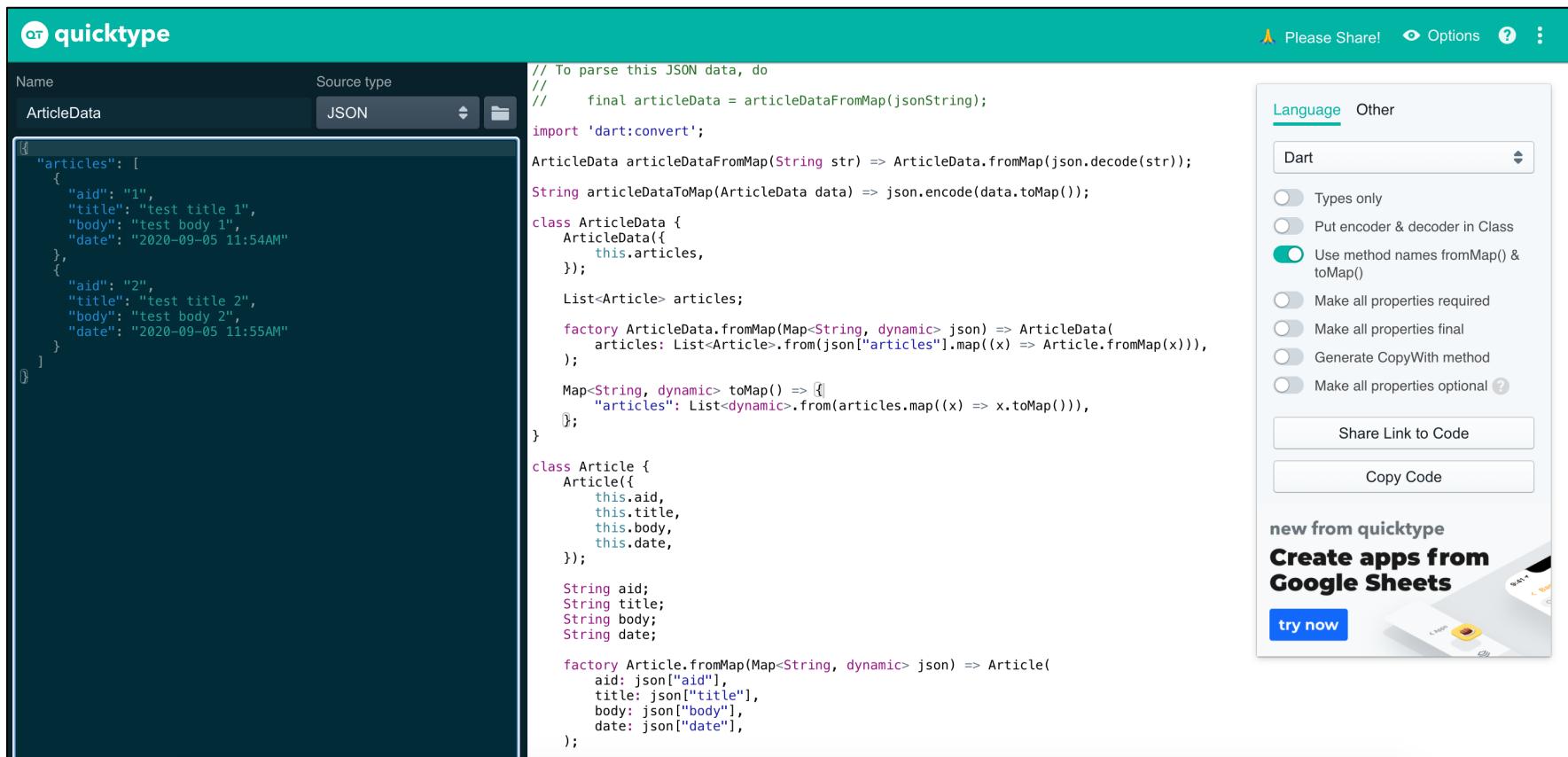
while($row = $result->fetch_array(MYSQLI_ASSOC)) {
$myArray[] = $row;
}
echo json_encode(array("articles"=>$myArray));
}

$result->close();
$conn->close();
?>
```

← → C ⌂ ⓘ localhost:8888/api4flutter/read.php

```
1 // 20200905132448
2 // http://localhost:8888/api4flutter/read.php
3
4 {
5     "articles": [
6         {
7             "aid": "1",
8             "title": "test title 1",
9             "body": "test body 1",
10            "date": "2020-09-05 11:54AM"
11        },
12        {
13            "aid": "2",
14            "title": "test title 2",
15            "body": "test body 2",
16            "date": "2020-09-05 11:55AM"
17        }
18    ]
19 }
```

1. មុនដំបូងយើងត្រូវបង្កើត class structure នៅយកត្រូវនឹង API និងសិនា យើងអាចប្រើ app.quicktype.io បានដើម្បីបង្កើតវាំ



The screenshot shows the quicktype.io interface. On the left, there's a JSON schema input field containing:

```

{
  "articles": [
    {
      "aid": "1",
      "title": "test title 1",
      "body": "test body 1",
      "date": "2020-09-05 11:54AM"
    },
    {
      "aid": "2",
      "title": "test title 2",
      "body": "test body 2",
      "date": "2020-09-05 11:55AM"
    }
  ]
}
  
```

In the center, the generated Dart code is displayed:

```

// To parse this JSON data, do
//
//   final articleData = articleDataFromMap(jsonString);

import 'dart:convert';

ArticleData articleDataFromMap(String str) => ArticleData.fromMap(json.decode(str));

String articleDataToMap(ArticleData data) => json.encode(data.toMap());

class ArticleData {
  ArticleData({
    required this.articles,
  });

  List<Article> articles;

  factory ArticleData.fromMap(Map<String, dynamic> json) => ArticleData(
    articles: List<Article>.from(json["articles"].map((x) => Article.fromMap(x))),
  );

  Map<String, dynamic> toMap() => {
    "articles": List<dynamic>.from(articles.map((x) => x.toMap())),
  };
}

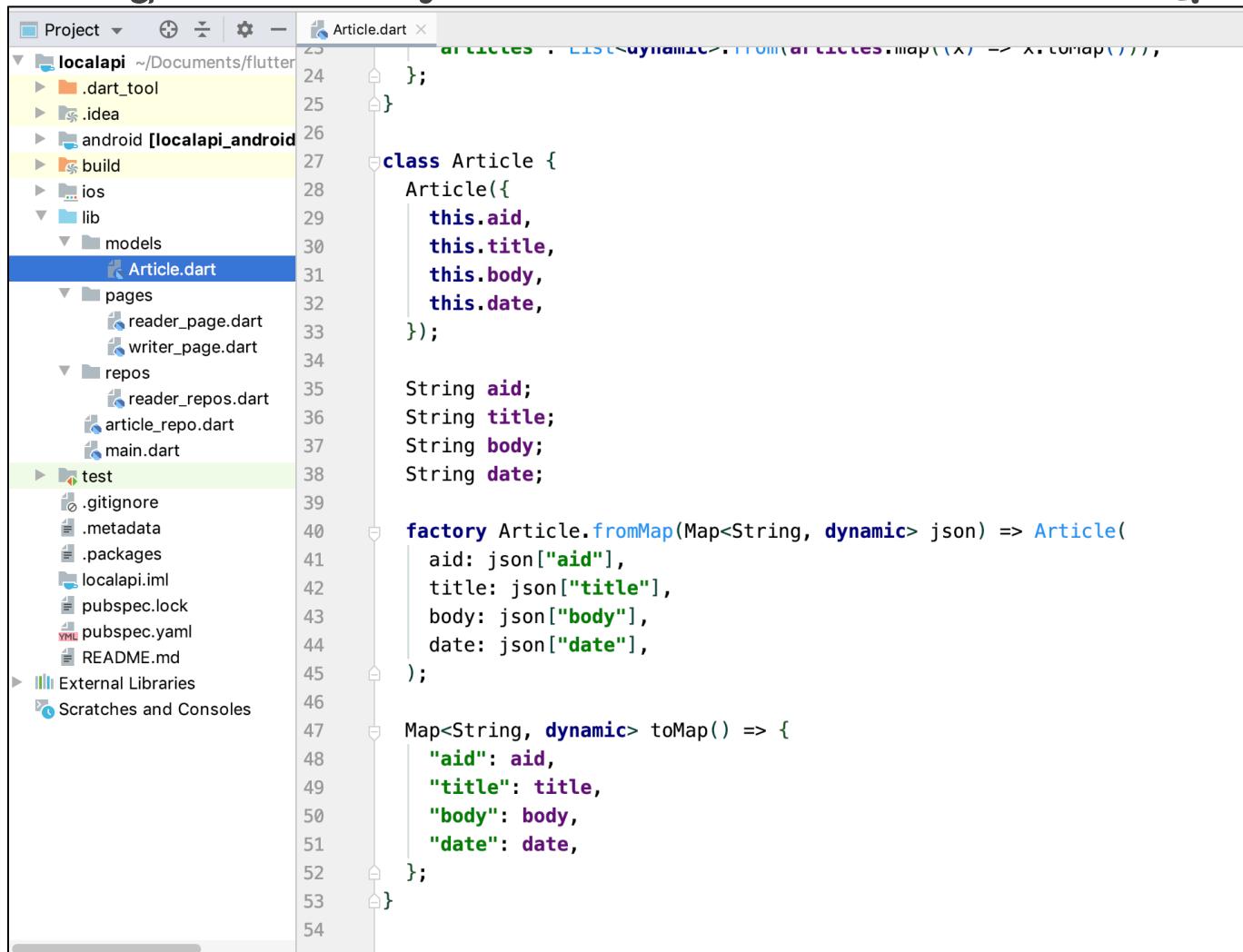
class Article {
  Article({
    required this.aid,
    required this.title,
    required this.body,
    required this.date,
  });

  String aid;
  String title;
  String body;
  String date;

  factory Article.fromMap(Map<String, dynamic> json) => Article(
    aid: json["aid"],
    title: json["title"],
    body: json["body"],
    date: json["date"],
  );
}
  
```

On the right, there are settings for the generated code, including language (Dart), and various options like "Types only", "Put encoder & decoder in Class", and "Use method names fromMap() & toMap()". Below the code editor, there are buttons for "Share Link to Code" and "Copy Code". At the bottom, there's a promotional section for "Create apps from Google Sheets" with a "try now" button.

2. បន្ទាប់មកយកក្នុង class structure នៅទៅជាកំណើង file មួយ៖



The screenshot shows the Android Studio interface with the Project navigation bar at the top. Below it, the project structure is displayed:

- localapi** (~/Documents/flutter/localapi)
- .dart_tool
- .idea
- android [localapi_android]
- build
- ios
- lib
- models

 - Article.dart
 - pages

 - reader_page.dart
 - writer_page.dart

 - repos

 - reader_repos.dart
 - article_repo.dart
 - main.dart

- test
- .gitignore
- .metadata
- .packages
- localapi.iml
- pubspec.lock
- pubspec.yaml
- README.md

External Libraries and Scratches and Consoles are also listed.

The main code editor window shows the **Article.dart** file content:

```
class Article {  
    Article({  
        this.aid,  
        this.title,  
        this.body,  
        this.date,  
    });  
  
    String aid;  
    String title;  
    String body;  
    String date;  
  
    factory Article.fromMap(Map<String, dynamic> json) => Article(  
        aid: json["aid"],  
        title: json["title"],  
        body: json["body"],  
        date: json["date"],  
    );  
  
    Map<String, dynamic> toMap() => {  
        "aid": aid,  
        "title": title,  
        "body": body,  
        "date": date,  
    };  
}
```

3. បន្ទាប់មកយើងអាចទាញទួននេះយបនតាមរយៈ http get៖

```
import 'package:http/http.dart' as http;
import 'package:localapi/models/User.dart';
import 'package:flutter/foundation.dart';

Future<ArticleData> getData() async{
    String url = "192.168.8.101:8888/api4flutte/read.php";
    http.Response response = await http.get(url);
    if(response.statusCode == 200){
        return compute(articleDataFromMap, response.body);
    }
    else{
        throw Exception("Error while reading: ${response.statusCode}");
    }
}
```

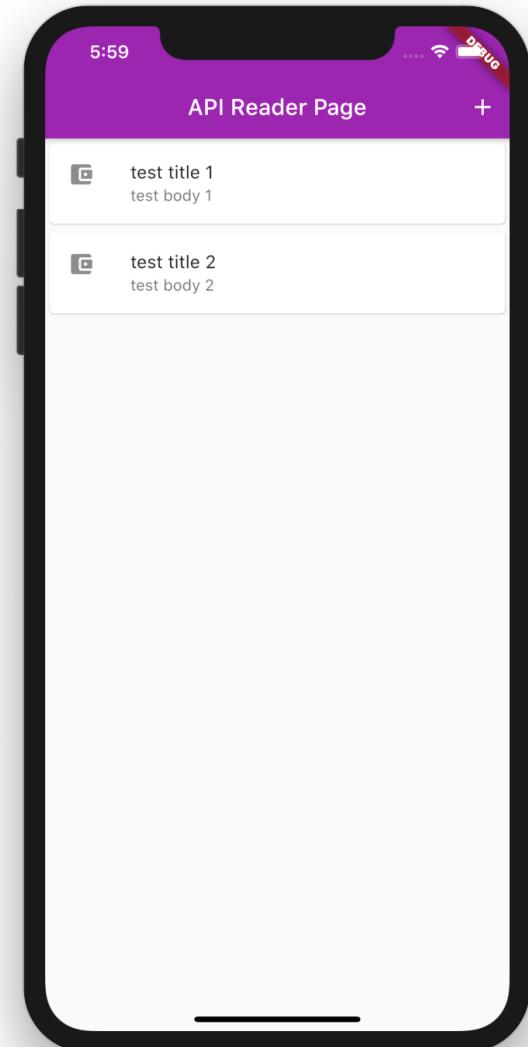
បញ្ជាក់ ចំណោះ localhost គឺយើងត្រូវប្រជាលេខ ip របស់ម៉ាសីនយើងវិញ
ឧទាហរណ៍ 192.168.8.101 ហើយជាក់លេខ port ដឹង៖

192.168.8.101:8888

```
reader_page.dart x
1 import 'package:flutter/material.dart';
2 import 'package:localapi/models/Article.dart';
3 import 'package:localapi/repos/article_repo.dart';
4
5 class ReaderPage extends StatefulWidget {
6     @override
7     _ReaderPageState createState() => _ReaderPageState();
8 }
9
10 class _ReaderPageState extends State<ReaderPage> {
11     @override
12     Widget build(BuildContext context) {
13         return Scaffold(
14             appBar: _buildAppBar,
15             body: _buildBody,
16         );
17     }
18
19     get _buildAppBar {
20         return AppBar(
21             title: Text("API Reader Page"),
22             backgroundColor: Colors.purple,
23             actions: <Widget>[
24                 IconButton(
25                     icon: Icon(Icons.add),
26                     onPressed: () {},
27                 ),
28             ],
29         );
30     }
}
```

```
reader_page.dart x
32     get _buildBody {
33         return Container(
34             child: FutureBuilder<ArticleData>(
35                 future: getData(),
36                 builder: (context, snapshot) {
37                     if (snapshot.hasError)
38                         return Center(
39                             child: Text("Error: ${snapshot.error}"),
40                         );
41                     else {
42                         if (snapshot.hasData) {
43                             return _buildListView(snapshot.data.articles);
44                         } else {
45                             return Center(child: CircularProgressIndicator());
46                         }
47                     }
48                 },
49             ),
50         );
51     }
52
53     _buildListView(List<Article> resultList) {
54         return ListView.builder(
55             physics: BouncingScrollPhysics(),
56             itemCount: resultList.length,
57             itemBuilder: (context, index) {
58                 return _buildItem(resultList[index]);
59             });
60     }
61 }
```

```
62     _buildItem(Article item) {  
63         return Card(  
64             child: ListTile(  
65                 leading: Icon(Icons.account_balance_wallet),  
66                 title: Text("${item.title}"),  
67                 subtitle: Text(item.body),  
68             ),  
69         );  
70     }  
71 }  
72 }
```



1. បង្កើត PHP file មួយដើម្បីចាំឡូលទិន្នន័យពី Flutter៖

```
<?PHP
$conn = new mysqli('localhost','root','root','db4flutter');

if ($conn->connect_error) {
die("Connection failed: " . $conn->connect_error);
}

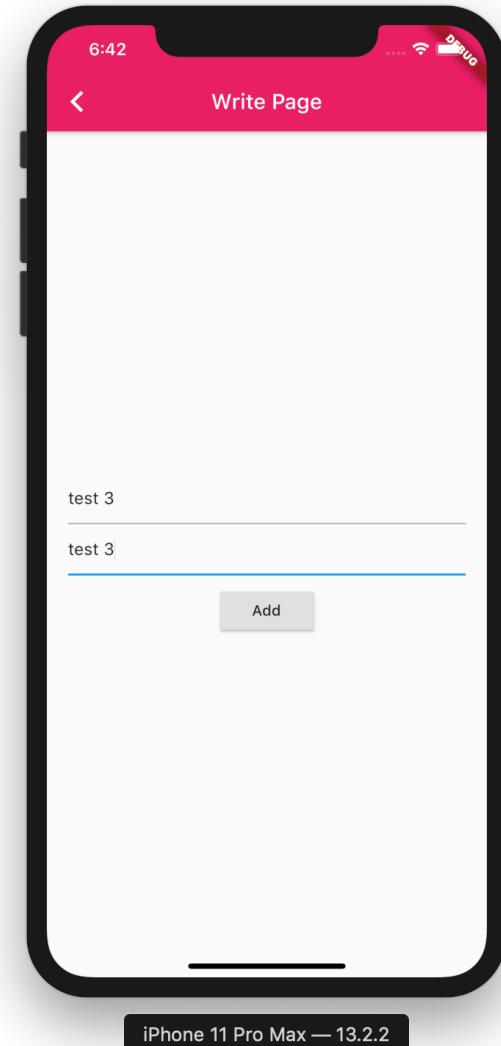
$title = $_POST['title'];
$body = $_POST['body'];
$date = date("c");
$sql = "INSERT INTO tbl_article (title, body, date) VALUES
('$title','$body','$date')";
if ($conn->query($sql) === TRUE) {
echo "New record created successfully";
} else {
echo "Error: " . $sql . "<br>" . $conn->error;
}
$conn->close();
?>
```

2. បន្ទាប់មកយើងសរសេរក្នុងFlutter ដើម្បីបញ្ចប់

```
Future<String> insertData(Article article) async {  
  
    String url = "http://192.168.8.101:8888/api4fllutter/write.php";  
    http.Response response = await http.post(url, body: article.toMap());  
    if(response.statusCode == 200){  
        return response.body;  
    }  
    else{  
        throw Exception("Error while writing: ${response.statusCode}");  
    }  
}
```

```
writer_page.dart x
1 import 'package:flutter/material.dart';
2 import 'package:localapi/models/Article.dart';
3 import 'package:localapi/repos/article_repo.dart';
4
5 class WriterPage extends StatefulWidget {
6     @override
7     _WriterPageState createState() => _WriterPageState();
8 }
9
10 class _WriterPageState extends State<WriterPage> {
11     @override
12     Widget build(BuildContext context) {
13         return Scaffold(
14             appBar: AppBar(
15                 title: Text("Write Page"),
16                 backgroundColor: Colors.pink,
17             ),
18             body: _buildBody,
19         );
20     }
21 }
```

```
writer_page.dart x
21
22     var _titleCtrl = TextEditingController();
23     var _bodyCtrl = TextEditingController();
24
25     get _buildBody {
26         return Container(
27             padding: EdgeInsets.all(20),
28             alignment: Alignment.center,
29             child: Column(
30                 mainAxisAlignment: MainAxisAlignment.center,
31                 children: <Widget>[
32                     TextField(controller: _titleCtrl),
33                     TextField(controller: _bodyCtrl),
34                     SizedBox(height: 10),
35                     RaisedButton(
36                         child: Text("Add"),
37                         onPressed: () {
38                             Article article = Article(
39                                 aid: "0",
40                                 title: _titleCtrl.text,
41                                 body: _bodyCtrl.text,
42                                 date: DateTime.now().toIso8601String(),
43                             );
44                             insertData(article).then((value) => print(value));
45                         },
46                     ),
47                     ],
48                 );
49             );
50     }
}
```



Server: localhost:8889 » Database: db4flutter » Table: tbl_article

Browse Structure SQL Search Insert Export Import Privileges Operations

Showing rows 0 - 3 (4 total, Query took 0.0004 seconds.)

```
SELECT * FROM `tbl_article`
```

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

+ Options

| | aid | title | body | date |
|--------------------------|-----|--------------|-------------|---------------------------|
| <input type="checkbox"/> | 1 | test title 1 | test body 1 | 2020-09-05 11:54AM |
| <input type="checkbox"/> | 2 | test title 2 | test body 2 | 2020-09-05 11:55AM |
| <input type="checkbox"/> | 5 | test 3 | test 3 | 2020-09-05T11:38:44+00:00 |

Check all With selected: Edit Copy Delete Export

Show all | Number of rows: 25 Filter rows: Search this table Sort by key: None

- Query results operations