

 무료 전자 책

배우기

dart

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1:



Dart Google

- .
- .
- Dart .

1 .

Dart .

- :
- :
- **DOM** : CSS (jQuery)
- **IDE** : IDE (: [WebStorm](#)) .
- **Dartium** : Dart Virtual Machine Chromium Web Browser

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- [Dartosphere](#) -
- Google+ [Dartisans](#) Dartisans
- - [Google](#)
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- [DartLang sub-Reddit](#)

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1.22.1	2017-02-22
1.22.0	2017-02-14
1.21.1	2016-01-13
1.21.0	2016-12-07
1.20.1	2016-10-13
1.20.0	2016-10-11

1.19.1	2016-09-07
1.19.0	2016-08-26
1.18.1	2016-08-02
1.18.0	2016-07-27
1.17.1	2016-06-10
1.17.0	2016-06-06
1.16.1	2016-05-23
1.16.0	2016-04-26
1.15.0	2016-03-09
1.14.2	2016-02-09
1.14.1	2016-02-03
1.14.0	2016-01-28
1.13.2	2016-01-05
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1.13.0	2015-11-18
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1.1.1	2014-01-15
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0.8.10.3_r29803	2013-11-04

Examples

Dart SDK (VM, , , , ,) . Dartium .

- [Windows](#)

- [Mac](#)
- [Linux](#)

SDK

,!

hello_world.dart .

```
void main() {  
  print('Hello, World!');  
}
```

hello_world.dart .

```
dart hello_world.dart
```

Hello, World! Enter Hello, World! .

HTTP

HTML

```
<img id="cats"></img>
```

```
import 'dart:html';  
  
/// Stores the image in [blob] in the [ImageElement] of the given [selector].  
void setImage(selector, blob) {  
  FileReader reader = new FileReader();  
  reader.onLoad.listen((fe) {  
    ImageElement image = document.querySelector(selector);  
    image.src = reader.result;  
  });  
  reader.readAsDataURL(blob);  
}  
  
main() async {  
  var url = "https://upload.wikimedia.org/wikipedia/commons/2/28/Tortoiseshell_she-cat.JPG";  
  
  // Initiates a request and asynchronously waits for the result.  
  var request = await HttpRequest.request(url, responseType: 'blob');  
  var blob = request.response;  
  setImage("#cats", blob);  
}
```

<https://dartpad.dartlang.org/a0e092983f63a40b0b716989cac6969a> .

```
void main() {  
  var cat = new Cat();  
}
```

```
print("Is cat hungry? ${cat.isHungry}"); // Is cat hungry? true
print("Is cat cuddly? ${cat.isCuddly}"); // Is cat cuddly? false
print("Feed cat.");
cat.isHungry = false;
print("Is cat hungry? ${cat.isHungry}"); // Is cat hungry? false
print("Is cat cuddly? ${cat.isCuddly}"); // Is cat cuddly? true
}

class Cat {
  bool _isHungry = true;

  bool get isCuddly => !_isHungry;

  bool get isHungry => _isHungry;
  bool set isHungry(bool hungry) => this._isHungry = hungry;
}
```

[Dart getter setter API](#) .

[dartpad](https://dartpad.dartlang.org/c25af60ca18a192b84af6990f3313233) : <https://dartpad.dartlang.org/c25af60ca18a192b84af6990f3313233>

: <https://riptutorial.com/ko/dart/topic/843/>-

2:

Function. , . Dart .

Examples

{param1, param2, ...} .

```
void enableFlags({bool bold, bool hidden}) {  
  // ...  
}
```

paramName . value

```
enableFlags(bold: true, hidden: false);
```

```
void outerFunction() {  
  
  bool innerFunction() {  
    /// Does stuff  
  }  
}
```

innerFunction outerFunction . .

Dart . . List sort . .

```
int compare(E a, E b)
```

a b 0 . -1 a < b 1 a > b .

```
List<int> numbers = [4,1,3,5,7];  
  
numbers.sort((int a, int b) {  
  if(a == b) {  
    return 0;  
  } else if (a < b) {  
    return -1;  
  } else {  
    return 1;  
  }  
});
```

```
Function intSorter = (int a, int b) {  
  if(a == b) {  
    return 0;  
  } else if (a < b) {  
    return -1;  
  } else {  
    return 1;  
  }  
}
```

```
numbers.sort(intSorter);
```

: <https://riptutorial.com/ko/dart/topic/2965/>

3:

Examples

DateTime

```
DateTime now = new DateTime.now();  
DateTime berlinWallFell = new DateTime(1989, 11, 9);  
DateTime moonLanding = DateTime.parse("1969-07-20 20:18:00"); // 8:18pm
```

• [: https://riptutorial.com/ko/dart/topic/3322/-](https://riptutorial.com/ko/dart/topic/3322/)

4: -

Dart-JavaScript Dart JavaScript .

js . JavaScript . Dart JavaScript .

Examples

JSON.stringify JavaScript JSON .

@JS .

```
@JS("JSON.stringify")
external String stringify(obj);
```

@JS Dart .

JavaScript /

Google Maps JavaScript API google.maps .

```
@JS('google.maps')
library maps;

import "package:js/js.dart";

@JS()
class Map {
  external Map(Location location);
  external Location getLocation();
}
```

JavaScript google.maps.Map Map Dart google.maps.Map .

Dart new Map(someLocation) new google.maps.Map(location) .

Dart JavaScript .

```
@JS("LatLng")
class Location {
  external Location(num lat, num lng);
}
```

Location google.maps.LatLng google.maps.LatLng .

JavaScript .

```
// JavaScript
printOptions({responsive: true});
Unfortunately we cannot pass Dart Map objects to JavaScript in these cases.
```

:

```
// Dart
@JS()
@anonymous
class Options {
  external bool get responsive;

  external factory Options({bool responsive});
}
```

Options Dart JavaScript . @anonymous .

printOptions Options .

```
// Dart
@JS()
external printOptions(Options options);

printOptions(new Options(responsive: true));
```

- : <https://riptutorial.com/ko/dart/topic/9240/----->

5:

Examples

JSON

```
import 'dart:convert';

void main() {
  var jsonString = """
  {
    "cats": {
      "abysinnian": {
        "origin": "Burma",
        "behavior": "playful"
      }
    }
  }
  """;

  var obj = JSON.decode(jsonString);

  print(obj['cats']['abysinnian']['behavior']); // playful
}
```

dartpad : <https://dartpad.dartlang.org/7d5958cf10e611b36326f27b062108fe>

: [https://riptutorial.com/ko/dart/topic/2778/-](https://riptutorial.com/ko/dart/topic/2778/)

6:

import library . library . . SDK pub [Pub Package Asset Manager](#) .

Examples

import .

```
import 'dart:html';
```

import **URI**. **URI** dart: **scheme** . package: . package: **scheme** pub . :

```
import 'dart:io';
import 'package:mylib/mylib.dart';
import 'package:utils/utils.dart';
```

Java Dart public , protected private . _ .

A (: other.dart) .

```
library other;

class A {
  int _private = 0;

  testA() {
    print('int value: $_private'); // 0
    _private = 5;
    print('int value: $_private'); // 5
  }
}
```

```
import 'other.dart';

void main() {
  var b = new B();
  b.testB();
}

class B extends A {
  String _private;

  testB() {
    _private = 'Hello';
    print('String value: $_private'); // Hello
    testA();
    print('String value: $_private'); // Hello
  }
}
```

```
String value: Hello
int value: 0
int value: 5
String value: Hello
```

. , library1 library2 Element .

```
import 'package:lib1/lib1.dart';
import 'package:lib2/lib2.dart' as lib2;
// ...
var element1 = new Element(); // Uses Element from lib1.
var element2 =
    new lib2.Element(); // Uses Element from lib2.
```

. :

```
// Import only foo and bar.
import 'package:lib1/lib1.dart' show foo, bar;

// Import all names EXCEPT foo.
import 'package:lib2/lib2.dart' hide foo;
```

▪

() . deferred as .

```
import 'package:deferred/hello.dart' deferred as hello;
```

loadLibrary () .

```
greet() async {
  await hello.loadLibrary();
  hello.printGreeting();
}
```

await . async await .

: <https://riptutorial.com/ko/dart/topic/3332/>

7:

`List.where` `List.retainWhere` `.where` , `.true` `.false` .

`theList.retainWhere(foo)` `theList.retainWhere(foo)` `theList = theList.where(foo)` .

Examples

`[-1, 0, 2, 4, 7, 9].where((x) => x > 2) --> [4, 7, 9]`

: <https://riptutorial.com/ko/dart/topic/10948/>

8:

Examples

(+) .

```
'Dart ' + 'is ' + 'fun!'; // 'Dart is fun!'
```

.

```
'Dart ' 'is ' 'fun!'; // 'Dart is fun!'
```

\${} Dart . .

```
var text = 'dartlang';  
'$text has ${text.length} letters'; // 'dartlang has 8 letters'
```

. , . .

```
'Single quotes';  
"Double quotes";  
'Double quotes in "single" quotes';  
"Single quotes in 'double' quotes";  
  
'''A  
multiline  
string''';  
  
"""  
Another  
multiline  
string""";
```

String [StringBuffer](#) . StringBuffer toString() String .

```
var sb = new StringBuffer();  
  
sb.write("Use a StringBuffer");  
sb.writeAll(["for ", "efficient ", "string ", "creation "]);  
sb.write("if you are ")  
sb.write("building lots of strings");  
  
// or you can use method cascades:  
  
sb  
  ..write("Use a StringBuffer")  
  ..writeAll(["for ", "efficient ", "string ", "creation "])  
  ..write("if you are ")  
  ..write("building lots of strings");  
  
var fullString = sb.toString();
```

```
print(fullString);  
// Use a StringBuffer for efficient string creation if you are building lots of strings  
sb.clear(); // all gone!
```

: <https://riptutorial.com/ko/dart/topic/5003/>

9:

Examples

```
Future<Results> costlyQuery() {
  var completer = new Completer();

  database.query("SELECT * FROM giant_table", (results) {
    // when complete
    completer.complete(results);
  }, (error) {
    completer.completeException(error);
  });

  // this returns essentially immediately,
  // before query is finished
  return completer.future;
}
```

```
import 'dart:async';

Future main() async {
  var value = await _waitForValue();
  print("Here is the value: $value");
  //since _waitForValue() returns immediately if you un it without await you won't get the
  result
  var errorValue = "not finished yet";
  _waitForValue();
  print("Here is the error value: $value");// not finished yet
}

Future<int> _waitForValue() => new Future((){

  var n = 100000000;

  // Do some long process
  for (var i = 1; i <= n; i++) {
    // Print out progress:
    if ([n / 2, n / 4, n / 10, n / 20].contains(i)) {
      print("Not done yet...");
    }

    // Return value when done.
    if (i == n) {
      print("Done.");
      return i;
    }
  }
});
```

Dartpad : <https://dartpad.dartlang.org/11d189b51e0f2680793ab3e16e53613c>

Dart [Future](#) , [Stream](#) . [Futures](#) API . [Futures](#) Dart [Completer](#) . [Completer](#) .

[Completer](#) API [Future](#) API . . :

```
// A good use of a Completer.  
  
Future doStuff() {  
  Completer completer = new Completer();  
  runDatabaseQuery(sql, (results) {  
    completer.complete(results);  
  });  
  return completer.future;  
}
```

Future API Completer .

: [https://riptutorial.com/ko/dart/topic/2520/-](https://riptutorial.com/ko/dart/topic/2520/)

10:

Dart SDK pub. pub . , HTTP , pub.dartlang.org . pub WebStorm IDE .

[Pub](#) .

Examples

pub . pub build .

pub build . :

```
$ cd ~/dart/helloworld
$ pub build
Building helloworld.....
Built 5 files!
```

Dart dev . dev localhost HTTP .

pubspec.yaml dev .

```
$ cd ~/dart/helloworld
$ pub serve
Serving helloworld on http://localhost:8080
```

: <https://riptutorial.com/ko/dart/topic/3335/>

11:

Examples

```
class InputField {  
    int maxLength;  
    String name;  
}
```

new null.

```
var field = new InputField();
```

```
// this will trigger the setter  
field.name = "fieldname";  
  
// this will trigger the getter  
print(field.name);
```

/ . null.

```
class Foo {  
    var member1;  
    int member2;  
    String member3 = "Hello world!";  
}
```

static .

```
class Bar {  
    static var member4;  
    static String member5;  
    static int member6 = 42;  
}
```

getter .

```
class Foo {  
    String get bar {  
        var result;  
        // ...  
        return result;  
    }  
}
```

Getters () getter .

```
main() {
    var foo = new Foo();
    print(foo.bar); // prints "bar"
}
```

setter .

```
class Foo {
    String _bar;

    String get bar => _bar;

    void set bar(String value) {
        _bar = value;
    }
}
```

setter .

```
main() {
    var foo = new Foo();
    foo.bar = "this is calling a setter method";
}
```

Person .

```
class Person {
    String name;
    String gender;
    int age;

    Person(this.name, this.gender, this.age);
}
```

```
class Person {
    String name;
    String gender;
    int age;

    Person(String name, String gender, int age) {
        this.name = name;
        this.gender = gender;
        this.age = age;
    }
}
```

Person .

```
var alice = new Person('Alice', 'female', 21);
```

: <https://riptutorial.com/ko/dart/topic/1511/>

12:

Examples

```
enum Fruit {
  apple, banana
}

main() {
  var a = Fruit.apple;
  switch (a) {
    case Fruit.apple:
      print('it is an apple');
      break;
  }

  // get all the values of the enums
  for (List<Fruit> value in Fruit.values) {
    print(value);
  }

  // get the second value
  print(Fruit.values[1]);
}
```

: [https://riptutorial.com/ko/dart/topic/5107/-](https://riptutorial.com/ko/dart/topic/5107/)

13:

throw catch

Java Dart . throw catch .

Dart ., . Dart Exception Error null throw .

Examples

```
class CustomException implements Exception {
  String cause;
  CustomException(this.cause);
}

void main() {
  try {
    throwException();
  } on CustomException {
    print("custom exception is been obtained");
  }
}

throwException() {
  throw new CustomException('This is my first custom exception');
}
```

: <https://riptutorial.com/ko/dart/topic/3334/>

14:

- `var regExp = RegExp (r '^ (. *) $', multiline : true, caseSensitive : false);`

String source	String
{bool multiline}	. (^ \$)
{bool caseSensitive}	

JavaScript . JavaScript <http://ecma-international.org/ecma-262/5.1/#sec-15.10> .

, .

Examples

```
var regExp = new RegExp(r"(\w+)");  
var str = "Parse my string";  
Iterable<Match> matches = regExp.allMatches(str);
```

"(r) .

: <https://riptutorial.com/ko/dart/topic/3624/>-

15:

Examples

If Else :

```
if (year >= 2001) {
  print('21st century');
} else if (year >= 1901) {
  print('20th century');
} else {
  print('We Must Go Back!');
}
```

Dart 3 if .

```
var foo = true;
print(foo ? 'Foo' : 'Bar'); // Displays "Foo".
```

While

Dart while do while .

```
while (peopleAreClapping()) {
  playSongs();
}
```

:

```
do {
  processRequest();
} while (stillRunning());
```

.

```
while (true) {
  if (shutDownRequested()) break;
  processIncomingRequests();
}
```

continue .

```
for (var i = 0; i < bigNumber; i++) {
  if (i.isEven) {
    continue;
  }
  doSomething();
}
```


For Loop

for .

```
for (int month = 1; month <= 12; month++) {  
    print(month);  
}
```

:

```
for (var object in flybyObjects) {  
    print(object);  
}
```

for-in Iterable . `forEach` for-in Iterable .

```
flybyObjects.forEach((object) => print(object));
```

:

```
flybyObjects.forEach(print);
```

Dart if-else .

```
var command = 'OPEN';  
  
switch (command) {  
    case 'CLOSED':  
        executeClosed();  
        break;  
    case 'OPEN':  
        executeOpen();  
        break;  
    case 'APPROVED':  
        executeApproved();  
        break;  
    case 'UNSURE':  
        // missing break statement means this case will fall through  
        // to the next statement, in this case the default case  
    default:  
        executeUnknown();  
}
```

, . () == .

Dart case break continue, throw return ., case . case . break . break, continue, throw return .

```
var command = 'OPEN';  
switch (command) {  
    case 'OPEN':  
        executeOpen();  
}
```

```
// ERROR: Missing break causes an exception to be thrown!!

case 'CLOSED': // Empty case falls through
case 'LOCKED':
    executeClosed();
    break;
}
```

```
case continue .
```

```
var command = 'OPEN';
switch (command) {
    case 'OPEN':
        executeOpen();
        continue locked;
locked: case 'LOCKED':
        executeClosed();
        break;
}
```

: <https://riptutorial.com/ko/dart/topic/923/>-

16:

Examples

.

List .

```
var vegetables = ['broccoli', 'cabbage'];
```

List .

```
var fruits = new List();
```

.

```
var fruits = <String>['apples', 'oranges'];  
var fruits = new List<String>();
```

. .

```
var fixedLengthList1 = new List(8);  
var fixedLengthList2 = new List.filled(8, "initial text");  
var computedValues = new List.generate(8, (n) => "x" * n);  
var fromIterable = new List<String>.from(computedValues.getRange(2, 5));
```

.

.

```
var ingredients = new Set();  
ingredients.addAll(['gold', 'titanium', 'xenon']);
```

.

.

```
var searchTerms = new Map();
```

.

```
var nobleGases = new Map<int, String>();  
var nobleGases = <int, String>{};
```

.

```
var map = {
  "key1": "value1",
  "key2": "value2"
};
```

▪

Function map . Iterable.Iterable , , .

Iterable Iterable.toSet() Iterable.toList() , Queue.from List.from .

:

```
main() {
  var cats = [
    'Abyssinian',
    'Scottish Fold',
    'Domestic Shorthair'
  ];

  print(cats); // [Abyssinian, Scottish Fold, Domestic Shorthair]

  var catsInReverse =
  cats.map((String cat) {
    return new String.fromCharCode(cat.codeUnits.reversed);
  })
  .toList(); // [nainissybA, dloF hsittocS, riahtrohS citsemoD]

  print(catsInReverse);
}
```

dartpad : <https://dartpad.dartlang.org/a18367ff767f172b34ff03c7008a6fa1> .

. where

```
var fruits = ['apples', 'oranges', 'bananas'];
fruits.where((f) => f.startsWith('a')).toList(); //apples
```

where AND OR .

: <https://riptutorial.com/ko/dart/topic/859/>

17:

- `//`
- `/* / */`
- `///` Dartdoc

. .

StackOverflow :

- :

Examples

Comment

`// //` .

```
int i = 0; // Commented out text
```

`/* */` .

```
void main() {
  for (int i = 0; i < 5; i++) {
    /* This is commented, and
    will not affect code */
    print('hello ${i + 1}');
  }
}
```

Dartdoc

[dartdoc](#) .

```
/// The number of characters in this chunk when unsplit.
int get length => ...
```

[markdown](#) . [dartdoc markdown](#) .

```
/// This is a paragraph of regular text.
///
/// This sentence has two emphasized words (i.e. italics) and two
/// strong ones (bold).
///
/// A blank line creates another separate paragraph. It has some inline code
/// delimited using backticks.
///
/// * Unordered lists.
/// * Look like ASCII bullet lists.
```

```
/// * You can also use `~` or `+`.  
///  
/// Links can be:  
///  
/// * http://www.just-a-bare-url.com  
/// * [with the URL inline](http://google.com)  
/// * [or separated out][ref link]  
///  
/// [ref link]: http://google.com  
///  
/// # A Header  
///  
/// ## A subheader
```

: <https://riptutorial.com/ko/dart/topic/2436/>

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