

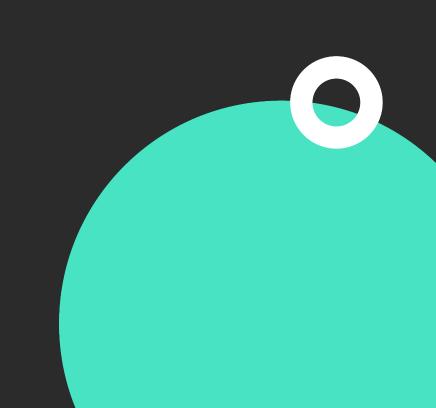
What's New in Dart 3?



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Dart 3 is the default version for Flutter 3.10





Section Overview

- Upgrading to the latest Flutter and Dart Version
- Records
 - Return Multiple Values
 - Positional Values
 - Named Values
- Pattern Matching
 - Syntax and Structure Matching
 - JSON Pattern Matching
- Switch Statements
- Class Modifiers
 - Introduction to class modifiers.







Upgrading to Dart 3





Check Flutter and Dart Version

flutter doctor

If dart version < 3

flutter upgrade







Records





Return Value From Function

```
String myPetName(){
    String petName = 'Brownie';
    return petName;
                                     Single Value
```







What about multiple Values?





Map<String, dynamic>

 Instead of returning a String or Integer we return a Collection like Map so that we get multiple values out of the Function

Flaws or Drawbacks

Flaws like type safe, data binding.

```
Map<String, dynamic> myPet(){
    Map<String, dynamic> petDetails = {
         'petName': 'Brownie',
         'petType': 'Doggo'
         };
    return petDetails
final petType = myPet()['petType'];
final petName = petName()['petType'];
```





Create Class Object

- A robust and verbose method is to create a Model Class
- Use class object to return specified values

```
class Pet {
String petName;
String petType;
Pet({required this.petName, required this.petType});
Pet myPet(){
final pet = Pet(petName: 'Brownie', petType: 'Doggo');
return pet;
final pet = mypet();
final petName = pet.petName;
final petType = pet.petType;
```







How Dart 3 Tackles this?





```
(String, String, int) getMyPet(){
    String petName = 'Brownie';
    String petType = 'Dog';
    int petAge = 3;
    return (petName, petType, petAge);
final mypet = getMypet();
print(myPet);
```

Dart 3 Records Preview

Instead of Returning single value, dart 3 creates a record and returns the record of data.







Lets check this out







Patterns





List

To get object out of the list using the index value

Map

- To get object out of the map using
- Key of the data

```
final list = ['Animals', 'Birds', 'Fish'];
print(list[0])
final mapData = {
    'name' : 'Brownie'
    'type': 'Dog'
    'breed': 'labrador'
print(mapData['name']);
```





With Pattern Matching

 The syntax and the structure of the Pattern that extracts the data matches with the syntax and structure if the data it self

```
final list = ["Animals","Birds","Fish"];
final [a, b, c] = list;
print(a)
print(b)
print(c)
```







Lets check pattern matching out





Switch Statement

- Using switch statement for decision making before dart 3
- We have to mention the case always before we can return any value.

```
petType getPetType() {
    String animalName = "Brownie";
    switch (animalName) {
         case "Brownie":
             return petType.Dog;
         case "Mittens":
             return petType.Cat;
         case "Bugs":
             return petType.Rabbit;
             default:
             return petType.Dog;
```







Lets check switch statement out





Class Modifiers

• Class modifiers are used to add modification to class which affects its runtime behavior.

eg: abstract

abstract class Animal {}





New Class Modifiers

- sealed: Manage all the subclasses when used in a switch statement
- final: Like sealed class, but you can create instance of the class
- base :- Base classes cannot be implemented, but can be extended, class extending
 a base class must be a base, final or sealed class.
- mixin: Cannot be instantiated, but can be mixed in. Now only works be used with with keyword
- abstract: Cannot be instantiated, but can be extended.







Lets check Modifiers out







Thank You



