## Kotlin

For Happy Development

## Sazzad Islam

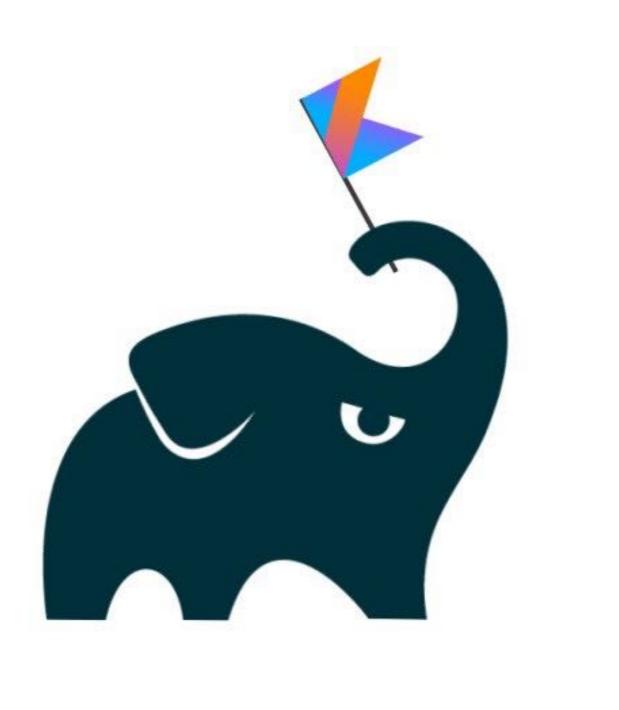
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### What is Kotlin?

- Statically typed language
- Started 2010
- Jetbrains tooling
- Open source
- Apache 2
- Android friendly
- Complete interoperable with JAVA
- Easy ramp up
- Small runtime

Who using it?

Google, Expedia, NBC News, Netflix, Amex



### How Can I use It

- Ant
- Maven
- Gradle
- Kobalt
- Intellij IDEA
- Android Studio
- Eclipse
- Netbeans
- Command line
- Vim
- Emacs

```
public class Main {
  public static void main(String[] args) {
     System.out.println("Hello world");
fun main(args: Array<String>) {
  println("Hello world")
```

#### **JAVA**

```
public class PersonInJava {
  private int id;
  private String name;
  public PersonInJava(int id, String name) {
    this.id = id;
    this.name = name;
  public int getId() {
    return id;
  public void setId(int id) {
    this.id = id;
  public String getName() {
    return name;
  public void setName(String name) {
    this.name = name;
```

### Kotlin

class PersonInKotlin (var id: Int, var name:String)

### **JAVA**

```
public class PersonInJava {
  private int id;
  private String name;
  public PersonInJava(int id, String name) {
    this.id = id;
    this.name = name;
  public int getId() {
    return id;
  public void setId(int id) {
    this.id = id;
  public String getName() {
    return name;
  public void setName(String name) {
    this.name = name;
  @Override
  public boolean equals(Object o) {
    if (this == o) return true;
    if (o == null || getClass() != o.getClass()) return false;
    PersonInJava that = (PersonInJava) o;
    if (id != that.id) return false;
    return name.equals(that.name);
  @Override
  public int hashCode() {
    int result = id;
    result = 31 * result + name.hashCode();
    return result;
```

### Kotlin

data class PersonInKotlin (var id: Int, var name:String)

#### Val / Var

data class PersonIn (val id: Int, val name:String)

data class PersonIn (var id: Int, var name:String)

```
val name = "GOT"
name = "IGI" <- error
```

### **Creating Object**

data class Person(var id: Int, var name:String)

val person = Person(1, "Sazzad")

val person2 = Person(name = "Sazzad", id = 2)

## Default Parameter

data class Person(var id: Int=0, var name:String="")

```
val person = Person()
person.id = 10
```

```
val person2 = person.copy()
val person3 = person.copy(id=20)
```

### **Null Safety**

```
fun personJava(person: Person?) {
   if (person?.name != null) {
      printPersonName(person.name)
   }
}

fun printPersonName(name: String) {
   printIn(name)
}
```

#### **Function / Method**

```
fun printMe(name: String) {
   println(name)
fun addNumbers(num1:Int, num2:Int) : Int {
   return num1 + num2
fun addNumbers(num1:Int, num2:Int) = num1 + num2
fun unlimited(vararg numbers: Int) {
  for (number in numbers) {
unlimited(1,2,3,4)
```

#### **Function / Method**

```
fun testPair() : Pair<Int, Int>{
   return Pair(1,2)
fun testTriple() : Triple<String, String, Int>{
   return Triple("name"," address", 44)
val list = listOf(Pair("dhaka", "Bangladesh"), "delli" to "india")
for (item in list) {
    println(item.first)
                                                     for ((city, country) in list) {
    println(item.second)
```

#### **Extension Function**

```
fun String.hello() {
  println("Hey String")
val name : String = "SAZZAD"
println(name.hello())
println("".hello())
fun String.shouldEqual(value: String) = value == this
"this".shouldEqual("this")
infix fun String.shouldEqual(value: String) = value == this
"this" shouldEqual "this"
```

#### **Higher Order Function**

## CONDITION

## CLASS / INHERITANCE

```
open class Person

class Employee(val vacationDays : Int) : Person()

class Contractor : Person()
```

```
fun validVacation(person: Person) {
   if (person is Employee) {
     if (person.vacationDays < 20) {
        println("You need some more time off!!")
     }
   }
}</pre>
```

# And many more ...

## **ANKO**

```
relativeLayout{
       editText{
          id = 1
          hint = "name"
          textSize = 24f
       }.lparams{
          alignParentTop()
         alignParentLeft()
         alignParentRight()
       editText{
          id = 2
          hint = "age"
       }.lparams {
          below(1)
          alignParentLeft()
          leftOf(3)
}
```

## ANDROID EXTENSION

TextView textView = (TextView) findViewByld(R.id.textView) textView.setText("Hello World")

Instead

textView.setText("Hello World")

# All open plugin

set certain annotation based class to open

# Spring Boot

SPRING INITIALIZR bootstrap your application now

Generate a Gradle Project \$\pm\$ with Kotlin \$\pm\$ and Spring Boot 1.5.6 \$	
Project Metadata	Dependencies
Artifact coordinates	Add Spring Boot Starters and dependencies to your application
Group	Search for dependencies
com.example	Web, Security, JPA, Actuator, Devtools
Artifact	Selected Dependencies
demo	

Generate Project \* + +

Don't know what to look for? Want more options? Switch to the full version.

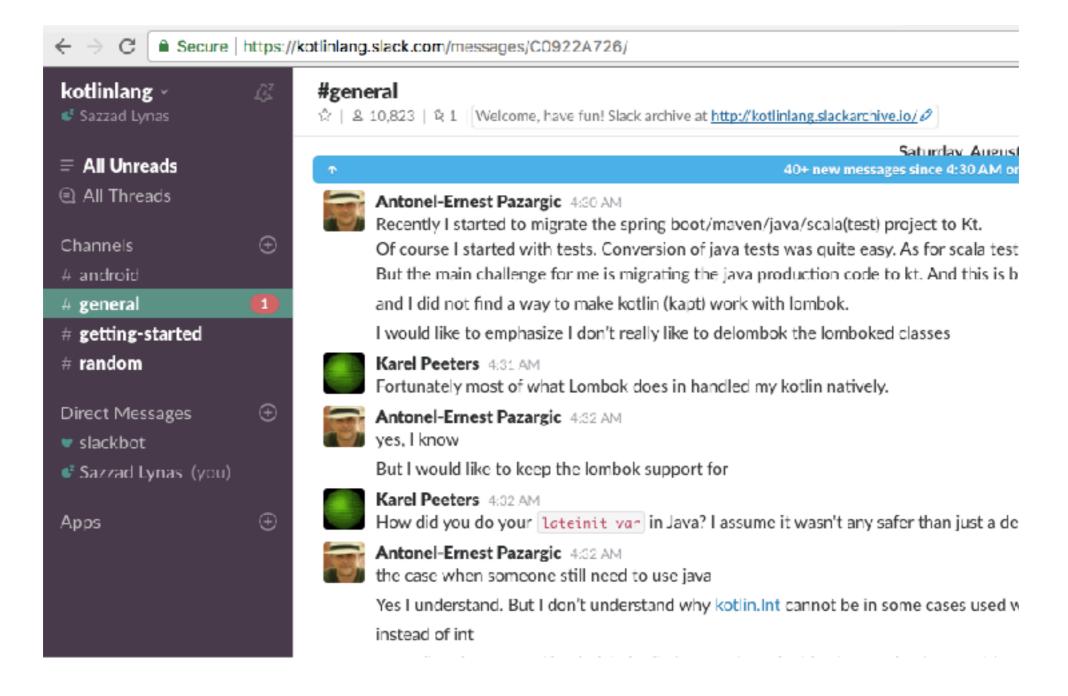
# Coming next

- Coroutines
- Java 9 support
- Kotlin native

# Next Step

- kotlinlang.org
- try.kotlinlang.org
- kotlin koans

# Community



# Thank you