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# Learn Kotlin— lateinit vs lazy



## lateinit vs lazy

There are many great features available in Kotlin, we can take advantage of all these features to write the better application in Kotlin. Among all those features, *lateinit* and *lazy* are important property initialization feature. We must know when to use which property initialization.

## Kotlin Property Initialization

If you do not want to initialize a property in the constructor, then these are two important ways of property initialisation in Kotlin.

## lateinit

*lateinit* is late initialization.

Normally, properties declared as having a non-null type must be initialized in the constructor. However, fairly often this is not convenient. For example, properties can be initialized through dependency injection, or in the setup method of a unit test. In this case, you cannot supply a non-null initializer in the constructor, but you still want to avoid null checks when referencing the property inside the body of a class.

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To handle this case, you can mark the property with the *lateinit* modifier.

## Example

```
public class Test {  
  
    lateinit var mock: Mock  
  
    @SetUp fun setup() {  
        mock = Mock()  
    }  
  
    @Test fun test() {  
        mock.do()  
    }  
}
```

The modifier can only be used on var properties declared inside the body of a class (not in the primary constructor), and only when the property does not have a custom getter or setter. The type of the property must be non-null, and it must not be a primitive type.

can serve as a delegate for implementing a lazy property: the first call to `get()` executes the lambda passed to `lazy()` and remembers the result, subsequent calls to `get()` simply return the remembered result.

## Example

```
public class Example{  
    val name: String by lazy { "Amit Shekhar" }  
}
```

So the first call and the subsequent calls, **name** will return **"Amit Shekhar"**

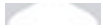
Now, How to choose when to use which one?

- lazy can only be used for val properties, whereas lateinit can only be applied to vars because it can't be compiled to a final field, thus no immutability can be guaranteed.
- lateinit var can be initialized from anywhere the object is seen from. If you want your property to be initialized from outside in a way probably unknown beforehand, use lateinit.

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