

# ViewModel APIs cheat sheet - Views

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This cheat sheet lists the **ViewModel APIs in Jetpack**. It includes the artifact where they can be found, the scope of the returned **ViewModel instance**, and an example of how to use them.

You can scope **ViewModel instances to a ViewModelStoreOwner**. The owner can be an Activity, Fragment, Navigation graph, a destination of a Navigation graph, or your own custom owner.

For more use cases and to learn about ViewModel factories: [goo.gl/architecture-viewmodel](https://goo.gl/architecture-viewmodel)

*The APIs and artifacts listed in this page follow this template*

## Library - artifact

### ViewModel API

Scope of the returned ViewModel instance

Example code

## Core ViewModel API

### ViewModel - lifecycle:lifecycle-viewmodel-ktx

#### ViewModelProvider

any ViewModelStoreOwner

```
val vm = ViewModelProvider(anyViewModelStoreOwner)[MyViewModel::class.java]
```

## Get an instance in an Activity

### Activity - activity.activity-ktx

#### by viewModels()

Activity (ViewModelStoreOwner)

```
val vm: MyViewModel by viewModels()
```

## Get an instance in a Fragment

### Fragment - fragment.fragment-ktx

#### by viewModels()

Fragment (ViewModelStoreOwner)

```
val vm: MyViewModel by viewModels()
```

#### by viewModels(ownerProducer)

any ViewModelStoreOwner

```
// Example of getting a SharedViewModel instance scoped to the parent Fragment
val vm: SharedViewModel by viewModels(ownerProducer = { requireParentFragment() })
```

#### by activityViewModels()

Activity (ViewModelStoreOwner)

```
val vm: SharedViewModel by activityViewModels()
```

### Fragment + Navigation - navigation.navigation-fragment

#### by navGraphViewModels(graphId)

NavGraph (ViewModelStoreOwner)

```
val vm: SharedViewModel by navGraphViewModels(R.id.nav_graph)
```

### Fragment + Navigation + Hilt - hilt.hilt-navigation-fragment

When using Hilt and Navigation together, use this API instead of `navGraphViewModels()`. To get an instance not scoped to a NavGraph, you can keep using `viewModels()` or `activityViewModels()`.

#### by hiltNavGraphViewModels(graphId)

NavGraph (ViewModelStoreOwner)

```
val vm: SharedViewModel by hiltNavGraphViewModels(R.id.nav_graph)
```