Annotation Access and Interaction

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Overview

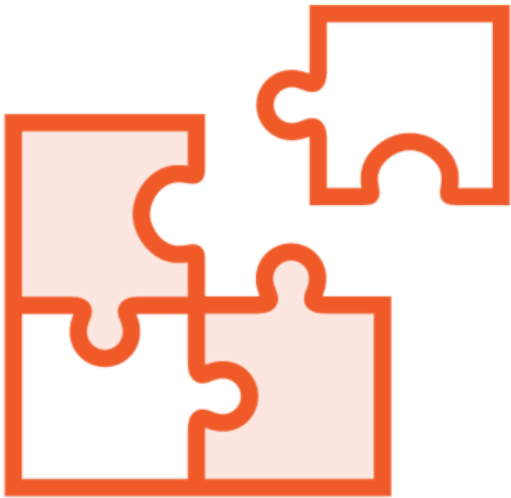Accessing an annotation

Accessing elements

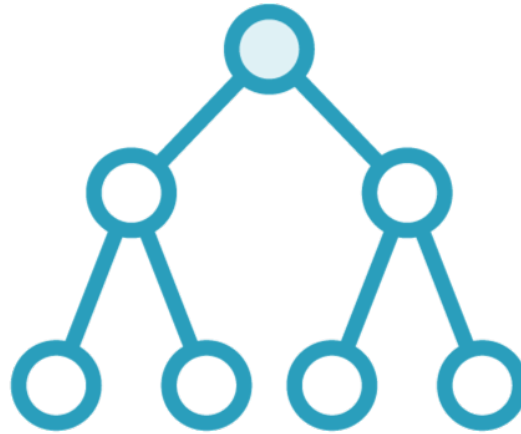Retention policy

Specifying allowable targets

Accessing an Annotation

Annotations part of type

Associated with info for target

Accessed by reflection

Get class information

Provides access to class-level annotations

Class member annotations

Get class member information

Access member annotations
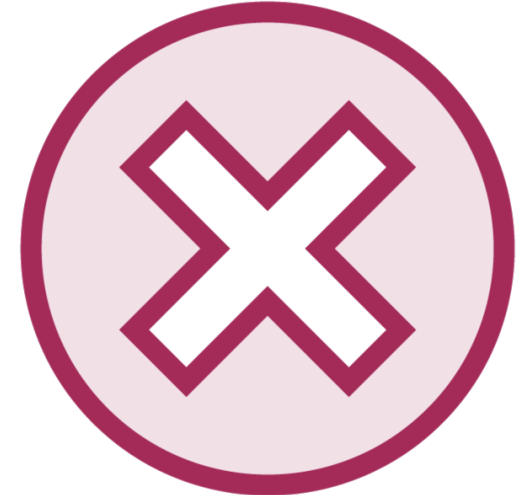
Accessing an Annotation

Call getAnnotation on target

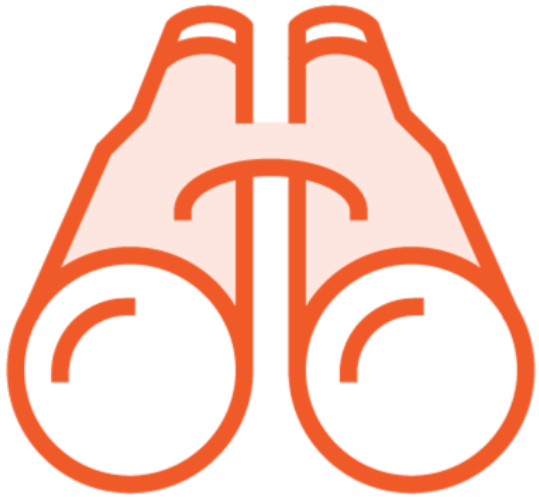Pass annotation class info

Has requested annotation

Returns annotation instance

Does not have requested annotation
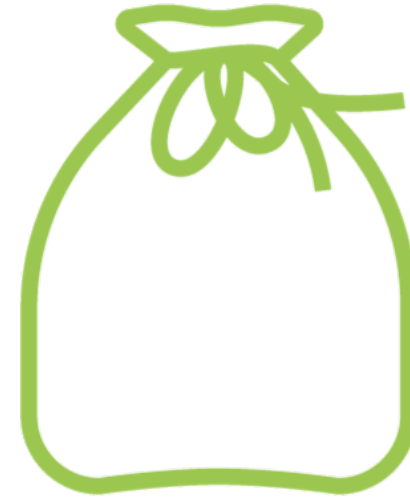
Returns null

Annotation Retention Policy

Annotations have scope of availability

Known as retention policy

Specified when declaring annotation type

Use Retention annotation

Accepts RetentionPolicy value
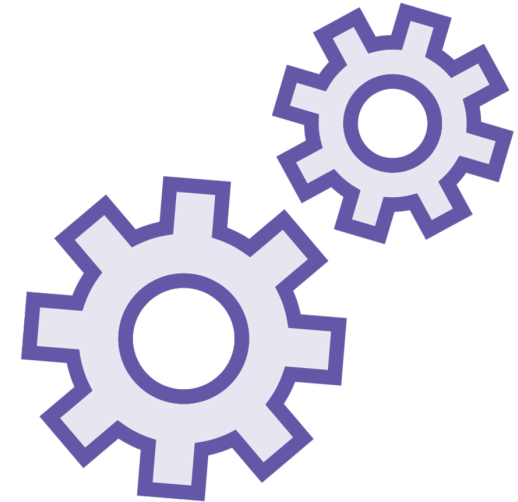
Annotation Retention Policy

SOURCE

Exist only in source file

Discarded by compiler

CLASS

Compiled into class file

Discarded by runtime

RUNTIME

Loaded into runtime

Accessible with reflection

Annotation Target

By default can apply to any target

Type, field, method, constructor

Package, local variable, parameter

And others

Often not desirable

Functionality or purpose may not be
appropriate for all targets

Annotation Target

Can specify allowable targets

Specified when declaring type

Enforced by compiler

Use Target annotation

Accepts ElementType value

Can specify multiple target types using array notation

Summary

Annotations part of type
- Associated with target info
- Accessed using reflection

Accessing annotation
- Use getAnnotation method
- Returns instance of annotation

Summary

Retention policy

– Indicates scope of availability

– Applied to annotation declaration

Accessing annotations at runtime

– Must of RUNTIME retention policy

Summary

Target

- Specifies allowable use
- Can support one or more targets
- Multiples specified as array