Document

Project: Generic Object Pool Lib
Title: Class Diagram
Doc version: 0.2(May 8, 2020)
Repo:
https://github.com/911992/WAsys_simple_generic_object_pool
Author(s):
911992

Meta Legends

(X) On-page reference

Note.. Note

Version History

v0.3
(May 9, 2020)
Author: 911992
Updated the note related to
Generic_Object_Pool_Safe_Guard

v0.2
(May 8, 2020)
Author: 911992
Fixed some small notations
Add missed singleton associate to
Pool_Context class
Added
Pool_Context::unregister_pool(:Object_Pool,:bool):void
Mark register_pool(...):Object_Pool
methods private, now use get_pool
method instead
Removed
register_pool(...):Object_Pool
method(s)
Updated Object_Pool_Type_Wrapper
constructor, to tell if pool object
is needed to be registered or not
Remove the confusing
Object_Pool_Type_Wrapper
constructor due to lack of doc in
src code for now
Added registered flag field in
Generic_Object_Pool
Fixed the misnamed Runnable as
AutoClosable for
Generic_Object_Pool
Added is_registered(void):bool and
get_policy(void):Generic_Object_Poo
l_Policy methods to Object_Pool

v0.1
(May 6, 2020)
Author: 911992
Initial release

Authors

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wasys::lib::generic_object_pool

«entity»
Generic_Object_Pool_Policy

+DEF_MAX_OBJ_COUNT:int := 64
+DEF_MIN_OBJ_COUNT:int := 8
+DEF_OBJ_CREATION_POLICY:Full_Pool_Object_Creation_Policy := Create_New_No_Pooling+
+DEF_INS:Generic_Object_Pool_Policy=new Generic_Object_Pool_Policy(DEF_MAX_OBJ_COUNT,DEF_MIN_OBJ_COUNT,DEF_OBJ_CREATION_POLICY)
-max_object_count:int
-min_object_count:int
-full_pool_instancing_policy:Full_Pool_Object_Creation_Policy

+Generic_Object_Pool_Policy(arg_max_obj_count:int,arg_min_obj_count:int,:Full_Pool_Object_Creation_Policy):Generic_Object_Pool_Policy

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A:Poolable_Object

Object_Pool_Type_Wrapper
{leaf}

-pool:Object_Pool {final}

+Object_Pool_Type_Wrapper(:Object_Factory,
                :Generic_Object_Pool_Policy,
                arg_thread_safe:bool,
                arg_register_pool:bool):Object_Pool_Type_Wrapper

(A)

«enum»
Full_Pool_Object_Creation_Policy

Return_Null
Create_New_No_Pooling
Create_New_Extend_Pool_Size
Wait_Till_One_Free

«creates»   «uses»

(C)

«singleton(eager)»
Pool_Context
{leaf}

_-INSTANCE:Pool_Context = new Pool_Context()_ {final}
-ctx:Vector<Generic_Object_Pool> = new Vector(1,7) {final}

-Pool_Context(void):Pool_Context
+get_instance(void):Pool_Context
+get_pool_unregistered_synced(:Object_Factory,
                :Generic_Object_Pool_Policy):Object_Pool {synchronized}
+get_pool_registered_synced(:Object_Factory,
                :Generic_Object_Pool_Policy):Object_Pool {synchronized}
+get_pool(:Object_Factory,:Generic_Object_Pool_Policy,
                arg_thread_safe:bool,
                arg_register:bool):Object_Pool {synchronized}
+unregister_pool(:Object_Pool,arg_shutdown_pool:bool):void {synchronized}

(B)   (D)

«interface»
Object_Pool

+get_an_instance(void):Poolable_Object
+release_an_instance(:Poolable_Object):void
+idle_objects_count(void):int
+available_objects_count(void):int
+working_object_count(void):int
+shutdown_pool(void):void
+pool_is_working(void):bool
+is_registered(void):bool
+get_policy(void):Generic_Object_Pool_Policy

(C)   (E)

«thread-safe»
Generic_Object_Pool_Safe_Guard

-pool:Object_Pool {final}

~Generic_Object_Pool_Safe(:Object_Pool,
                ):Generic_Object_Pool_Safe

Note: Lock on associated pool
may be applied by some
methods

«creates»

«holds»   «creates»

(A)   (B)   (C)

java::lang
Runnable

«pool»
Generic_Object_Pool

-factory:Object_Factory {final}
-policy:Generic_Object_Pool_Policy {final}
-pool:Vector<Poolable_Object>
-working_ins_count:int := 0
-pool_working:bool := true {volatile}
-notify_thread_run:Runnable := new Runnable() {final}
-null_run:Runnable := new Runnable() {final}
-release_obj_run:Runnable {final}
-registered:bool

~Generic_Object_Pool(:Object_Factory,
                :Generic_Object_Pool_Policy):Generic_Object_Pool
-init_pool(void):void
~get_factory(void):Object_Factory
~set_as_registered(:bool):void
~get_policy(void):Generic_Object_Pool_Policy

«holds»

api

(D)   (E)

java::lang
AutoClosable

«interface»
Poolable_Object

+post_create(void):void
+pre_destroy(void):void
+reset_state(void):void
+set_pool(:Object_Pool):void

«abstract»
Poolable_Object_Adapter

#pool:Object_Pool
+reset_state(void):void
+close():void{final}

«creates»

«interface»
Object_Factory

+create_object(void):Poolable_Object

«uses»