



ESPE

UNIVERSIDAD DE LAS FUERZAS ARMADAS
INNOVACIÓN PARA LA EXCELENCIA

DEPARTAMENTO DE CIENCIAS DE LA COMPUTACION

PROGRAMACION ORIENTADA A OBJETOS

ACTIVIDAD AUTONOMA N. 1

Proyecto: Aplicación de Gestión de Tareas con Interfaz Gráfica y Base de Datos NoSQL



REALIZADO POR:

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Link Gitbut: <https://github.com/Scarleth20723/Actividad-Autonomia-.git>

Link video: <https://youtu.be/7XcuCE10Diw>

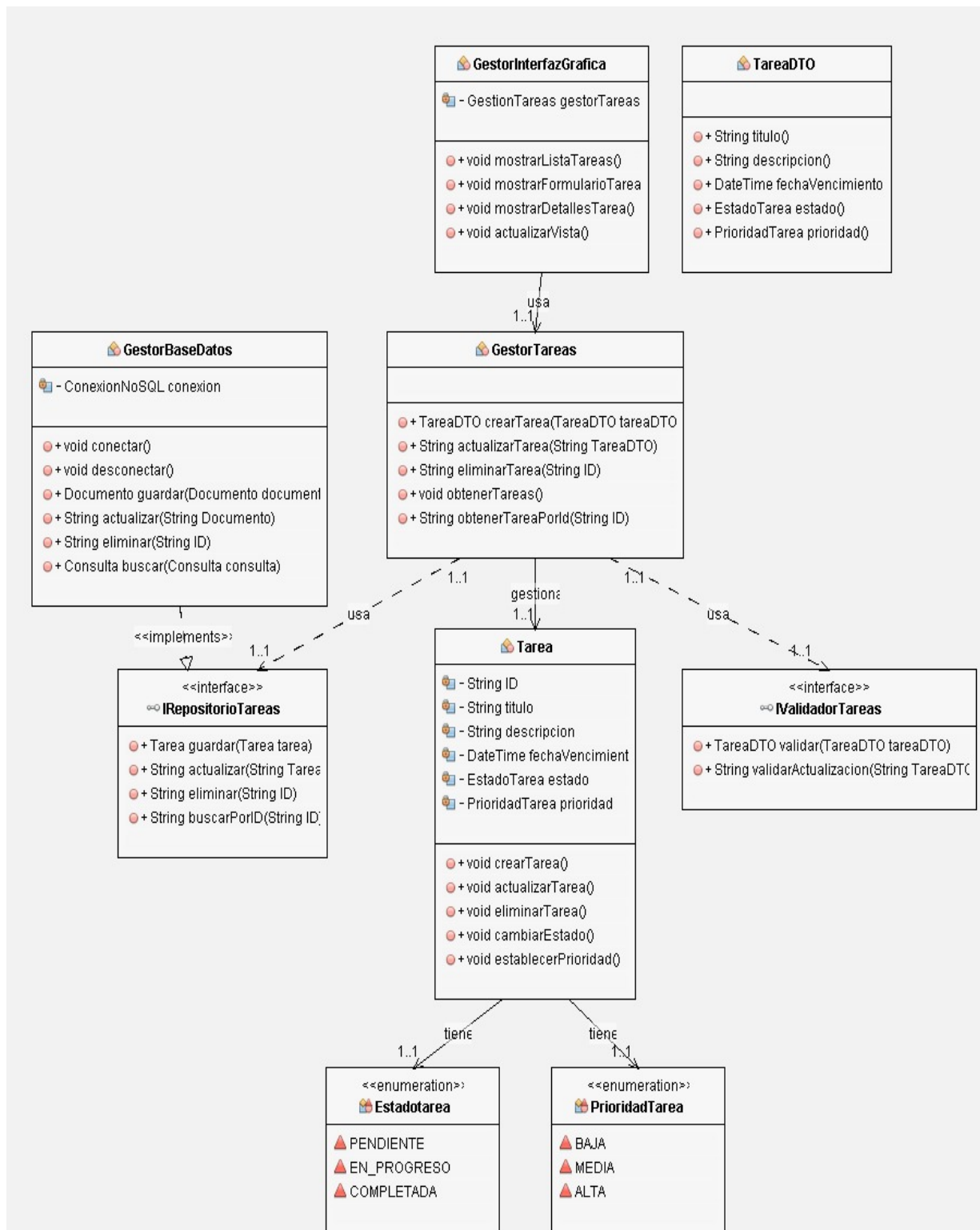
DOCENTE:

Luis Enrique Jaramillo Montaña

Sangolquí – Ecuador

Aplicación de Gestión de Tareas con Interfaz Gráfica y Base de Datos

Diagrama UML



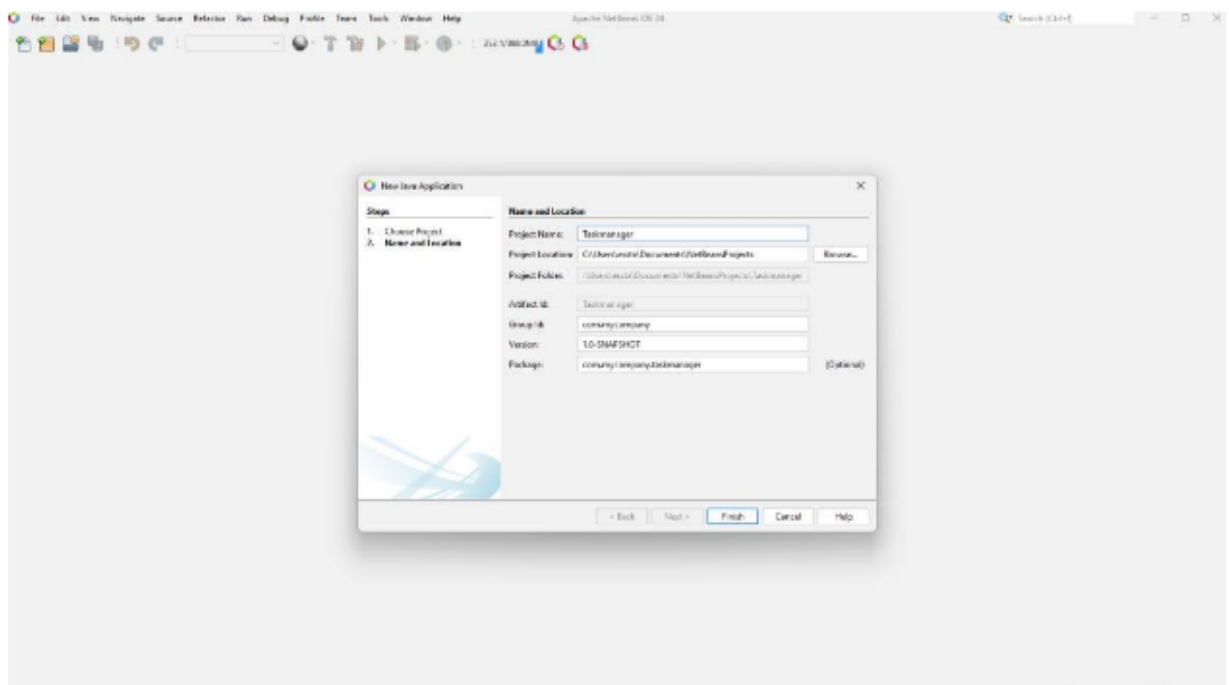
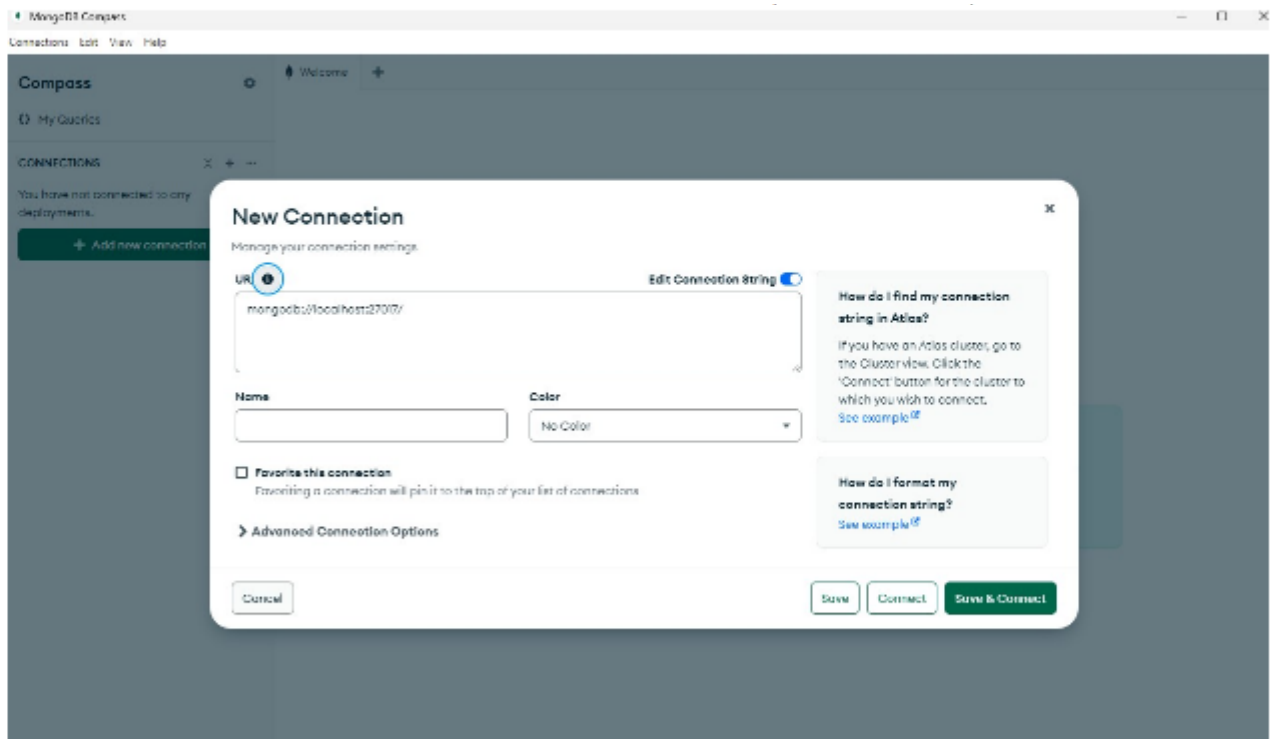
Código

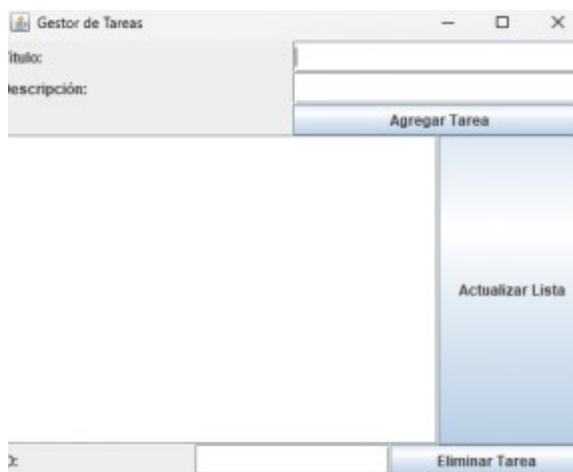
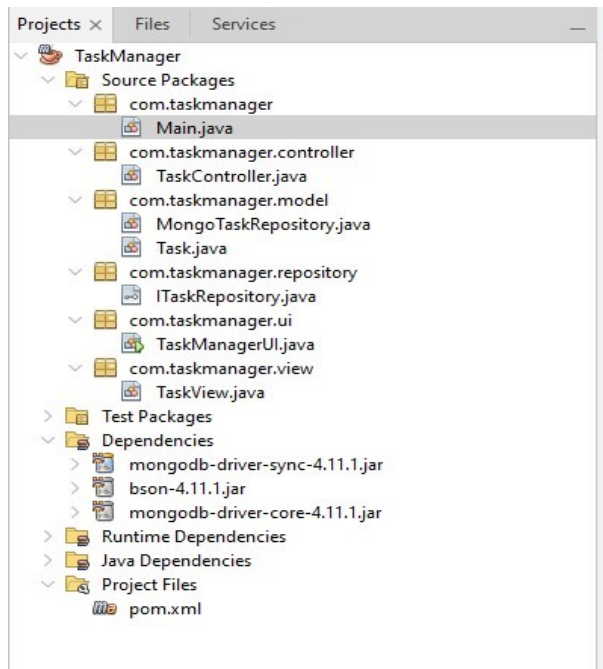
```
Microsoft Windows [Version 10.0.22631.4751]
(c) Microsoft Corporation. All rights reserved.

C:\Users\lesstamongo>

{"ts":{"date":"2025-02-06T16:15:50.530-05:00"},"s":"I",  "c":"CONTROL",  "id":23285,   "ctx":"thread1", "msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
{"ts":{"date":"2025-02-06T16:16:00.281-05:00"},"s":"I",  "c":"CONTROL",  "id":5945683, "ctx":"thread1", "msg":"Multi threading initialized"}
{"ts":{"date":"2025-02-06T16:16:00.281-05:00"},"s":"I",  "c":"NETWORK",  "id":4648601, "ctx":"thread1", "msg":"Implicit TCP FastOpen unavailable. If TCP FastOpen is required, set at least one of the related parameters", "attr":{"relatedParameters":["tcpFastOpenServer","tcpFastOpenClient","tcpFastOpenQueueSize"]}}
{"ts":{"date":"2025-02-06T16:16:00.282-05:00"},"s":"I",  "c":"NETWORK",  "id":4915781, "ctx":"thread1", "msg":"Initialized wire specification", "attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":25},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":25},"outgoing":{"minWireVersion":6,"maxWireVersion":25},"isInternalClient":true}}}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"TENANT_M",  "id":7891600, "ctx":"thread1", "msg":"Starting TenantMigrationAccessBlockerRegistry"}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"CONTROL",  "id":4615611, "ctx":"initandlisten", "msg":"MongoDB starting", "attr":{"pid":948,"port":27017,"dbPath":"/data/db","architecture":"64-bit","host":"DESKTOP-9E1UKH4"}}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"CONTROL",  "id":23398,   "ctx":"initandlisten", "msg":"Target operating system minimum version", "attr":{"targetMinOS":"Windows 7/Windows Server 2008 R2"}}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"CONTROL",  "id":23403,   "ctx":"initandlisten", "msg":"Build Info", "attr":{"buildInfo":{"version":"8.0.4","gitVersion":"bc35ab4385d9928d9d8491c1c9ef967238d3d31f9","modules":[],"allocator":"tcmalloc-gperf","environment":{"distmod":"windows","distarch":"x86_64","target_arch":"x86_64"}}}}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"CONTROL",  "id":51765,   "ctx":"initandlisten", "msg":"Operating System", "attr":{"os":{"name":"Microsoft Windows 10","version":"10.0 (build 22631)"}}}
{"ts":{"date":"2025-02-06T16:16:00.284-05:00"},"s":"I",  "c":"CONTROL",  "id":21951,   "ctx":"initandlisten", "msg":"Options set by command line", "attr":{"options":{}}}
{"ts":{"date":"2025-02-06T16:16:00.286-05:00"},"s":"I",  "c":"STORAGE",  "id":22270,   "ctx":"initandlisten", "msg":"Storage engine to use detected by data files", "attr":{"dbpath":"/data/db","storageEngine":"wiredtiger"}}
{"ts":{"date":"2025-02-06T16:16:00.286-05:00"},"s":"I",  "c":"STORAGE",  "id":22315,   "ctx":"initandlisten", "msg":"Opening WiredTiger", "attr":{"config":{"create","cache_size=11663M","session_max=33000","eviction=(threads_min=4,threads_max=4),config_base=false,statistics=(fast),log=(enabled=true,remove=true,path=journal,compressor=snappy),builtin_extension_config=(zstd=(compression_level=6),file_manager=(close_idle_time=600,close_scan_interval=10,close_handle_minimum=2000),statistics_log=(wait=0),json_output=(error,message),verbose=(recovery_progress:1,checkpoint_progress:1,compact_progress:1,backup:0,checkpoint:0,compact:0,evict:0,history_store:0,recovery:0,rts:0,salvage:0,tiered:0,timestamp:0,transaction:0,verify:0,log:0),prefetch=(available=true,default=false),}}}}
{"ts":{"date":"2025-02-06T16:16:00.380-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876569,"ts_usec":397523,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Recovering log 2 through 3"}}}}
{"ts":{"date":"2025-02-06T16:16:00.357-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":357422,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Recovering log 3 through 3"}}}}
{"ts":{"date":"2025-02-06T16:16:00.415-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":415240,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Main recovery loop: starting at 2/16000 to 3/256"}}}}
{"ts":{"date":"2025-02-06T16:16:00.510-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":509702,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Recovering log 2 through 3"}}}}
{"ts":{"date":"2025-02-06T16:16:00.568-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":568075,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Recovering log 3 through 3"}}}}
{"ts":{"date":"2025-02-06T16:16:00.618-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":617943,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"recovery log replay has successfully finished and ran for 310 milliseconds"}}}}
{"ts":{"date":"2025-02-06T16:16:00.618-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":617943,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Set global recovery timestamp: (0, 0)}}}}
{"ts":{"date":"2025-02-06T16:16:00.618-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":617943,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"Set global oldest timestamp: (0, 0)}}}}
{"ts":{"date":"2025-02-06T16:16:00.619-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":619908,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"recovery rollback to stable has successfully finished and ran for 21 milliseconds"}}}}
{"ts":{"date":"2025-02-06T16:16:00.624-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":623929,"thread":"948:140708256593104","session_name":"WT_SESSION.checkpoint","category":"WT_VERB_CHECKPOINT_PROGRESS","category_id":7,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"saving checkpoint snapshot min: 1, snapshot max: 1 snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 66"}}}}
{"ts":{"date":"2025-02-06T16:16:00.641-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":641265,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"recovery checkpoint has successfully finished and ran for 21 milliseconds"}}}}
{"ts":{"date":"2025-02-06T16:16:00.641-05:00"},"s":"I",  "c":"WIRECOV",  "id":22430,   "ctx":"initandlisten", "msg":"WiredTiger message", "attr":{"message":{"ts_sec":1738876560,"ts_usec":641265,"thread":"948:140708256593104","session_name":"txn-recover","category":"WT_VERB_RECOVERY_PROGRESS","category_id":34,"verbose_level":"DEBUG_1","verbose_level_id":1,"msg":"recovery was completed successfully and took 333ms, incl
```

```
782259321047,"session_name":"on-recover","category":"WT_VDR_RECOVERY_PROGRESS","category_id":34,"verbose_level":"VERBOSE_1","verbose_level_id":1,"msg":"Set global oldest timestamp: (0, 0)"}
{"ts":{"date":"2025-03-07T16:16:00.610-06:00"},"s":"I","c":"WTREDO","id":22018,"ctx":{"initandlisten":"msg":"WireTiger message","attr":{"message":{"ts_sec":173876560,"ts_usec":610000,"thread":"988:100
782259321047","session_name":"on-recover","category":"WT_VDR_RECOVERY_PROGRESS","category_id":34,"verbose_level":"VERBOSE_1","verbose_level_id":1,"msg":"recovery rollback to stable has successfully finished an
s run for 0 milliseconds"}}}
{"ts":{"date":"2025-03-07T16:16:00.620-06:00"},"s":"I","c":"WTREDO","id":22019,"ctx":{"initandlisten":"msg":"WireTiger message","attr":{"message":{"ts_sec":173876560,"ts_usec":620000,"thread":"988:100
782259321047","session_name":"on-recover","category":"WT_VDR_CHECKPOINT_PROGRESS","category_id":35,"verbose_level":"VERBOSE_1","verbose_level_id":1,"msg":"having checkpoint snapshot min: 1, snapshot a
as: 1, snapshot count: 0, oldest timestamp: (0, 0), meta checkpoint timestamp: (0, 0) base write gen: 66"}}}
{"ts":{"date":"2025-03-07T16:16:00.640-06:00"},"s":"I","c":"WTREDO","id":22020,"ctx":{"initandlisten":"msg":"WireTiger message","attr":{"message":{"ts_sec":173876560,"ts_usec":640000,"thread":"988:100
782259321047","session_name":"on-recover","category":"WT_VDR_RECOVERY_PROGRESS","category_id":34,"verbose_level":"VERBOSE_1","verbose_level_id":1,"msg":"recovery checkpoint has successfully finished and ran fo
r 21 milliseconds"}}}
{"ts":{"date":"2025-03-07T16:16:00.660-06:00"},"s":"I","c":"WTREDO","id":22018,"ctx":{"initandlisten":"msg":"WireTiger message","attr":{"message":{"ts_sec":173876560,"ts_usec":640000,"thread":"988:100
782259321047","session_name":"on-recover","category":"WT_VDR_RECOVERY_PROGRESS","category_id":34,"verbose_level":"VERBOSE_1","verbose_level_id":1,"msg":"recovery has completed successfully and took 33ms, incl
uding 30ms for the log replay, 0ms for the rollback to stable, and 3ms for the checkpoint"}}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"I","c":"STORAGE","id":22066,"ctx":{"initandlisten":"msg":"WireTiger message","attr":{"durationMillis":361}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"I","c":"RECOVERY","id":22067,"ctx":{"initandlisten":"msg":"WireTiger recovery/timestamp","attr":{"recoveryTimestamp":{"timestamp":{"t":{"b":{"i":0}}}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"M","c":"CONTROL","id":22118,"ctx":{"initandlisten":"msg":"Access control is not enabled for the database. Read and write access to data and configurati
on is unrestricted"},"tag":{"startuptime"}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"M","c":"CONTROL","id":22118,"ctx":{"initandlisten":"msg":"This server is bound to localhost. Remote systems will be unable to connect to this server. S
tart the server with --bind_ip address to specify which IP addresses it should serve
responses from, or with --bind_ip_all to bind to all interfaces. If this behavior is desired, start the server with --bind
ip 127.0.0.1 to restrict this setting"},"tag":{"startuptime"}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"I","c":"NETWORK","id":6015782,"ctx":{"initandlisten":"msg":"Loaded wire specification","attr":{"oldSpec":{"incomingInternalClient":{"minWireVersion":0,"
maxWireVersion":25},"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":25},"isInternalClient":true},"newSpec":{"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":25},"incomingExternalClient":{"minWireVersion":0,"maxWireVersion":25},"isInternalClient":true}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"I","c":"REPL","id":6003386,"ctx":{"initandlisten":"msg":"Current featureCompatibilityVersion is 6.0","attr":{"featureCompatibilityVersion":"6.0","co
mmand":{"startUp"}}
{"ts":{"date":"2025-03-07T16:16:00.680-06:00"},"s":"I","c":"STORAGE","id":6073180,"ctx":{"initandlisten":"msg":"Clearing temp directory"}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"CONTROL","id":6090260,"ctx":{"initandlisten":"msg":"Initializing cluster server parameters from disk"}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"CONTROL","id":28036,"ctx":{"initandlisten":"msg":"Flow Control is enabled on this deployment"}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"FTDC","id":28035,"ctx":{"initandlisten":"msg":"Initializing full-time diagnostic data capture","attr":{"dataDirectory":{"path":"/data/diagnostic
data"}}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"REPL","id":6015317,"ctx":{"initandlisten":"msg":"Setting new configuration state","attr":{"newState":{"ConfigReplicationDisabled"},"oldState":{"C
onfigRepStart"}}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"STORAGE","id":22262,"ctx":{"initandlisten":"msg":"Filesystem monitor starting"}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"STORAGE","id":7332481,"ctx":{"initandlisten":"msg":"Starting the DiskSpaceMonitor"}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"NETWORK","id":22015,"ctx":{"initandlisten":"msg":"Listening on","attr":{"address":"127.0.0.1:27017"}}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"NETWORK","id":22016,"ctx":{"initandlisten":"msg":"Listening","attr":{"port":27027,"ssl":{"off"}}
{"ts":{"date":"2025-03-07T16:16:00.690-06:00"},"s":"I","c":"CONTROL","id":6023588,"ctx":{"initandlisten":"msg":"Shovel startup complete","attr":{"shovelary 06 time elapsed":"Starting from clean shutdown":"1s
00 ms","Drop cluster parameters from disk for a standalone":"0 ms","Drop shadowed idents and get back indexes that need to be rebuilt or build that need to be restarted":"0 ms","Rebuild indexes for collections":"
0 ms","Rebuild cluster parameters from disk for a standalone":"0 ms","Build user and roles graph":"0 ms","Set up the background thread pool responsible for waiting for options to be majority committed":"0 ms","S
tart up the replicable coordinator":"0 ms","Ensure the change stream collections on startup contain consistent data":"0 ms","Write startup options to the audit log":"0 ms","Start transport layer":"0 ms","Ini
tialize total elapsed time":"996 ms"}}}
{"ts":{"date":"2025-03-07T16:16:01.000-06:00"},"s":"M","c":"CONTROL","id":630300,"ctx":{"fdcd","msg":"Use of deprecated server parameter name","attr":{"deprecatedName":"internalQueryCacheSize"},"canonicalN
ame":"internalQueryCacheSizeIntervalSeconds"}}
{"ts":{"date":"2025-03-07T16:16:01.000-06:00"},"s":"M","c":"CONTROL","id":630300,"ctx":{"fdcd","msg":"Use of deprecated server parameter name","attr":{"deprecatedName":"replogSamplingIntervalSeconds"},"c
anonicalName":"collectionSamplingLogIntervalSeconds"}}
{"ts":{"date":"2025-03-07T16:16:01.000-06:00"},"s":"M","c":"NETWORK","id":22063,"ctx":{"fdcd","msg":"Use of deprecated server parameter 'authNode', please use 'listen' instead."}}
{"ts":{"date":"2025-03-07T16:16:01.000-06:00"},"s":"M","c":"CONTROL","id":600106,"ctx":{"fdcd","msg":"Use of deprecated server parameter name","attr":{"deprecatedName":"wireTigerConcurrentReadTransaction
"},"canonicalName":"storageEngineConcurrentReadTransactions"}}
{"ts":{"date":"2025-03-07T16:16:01.000-06:00"},"s":"M","c":"CONTROL","id":630300,"ctx":{"fdcd","msg":"Use of deprecated server parameter name","attr":{"deprecatedName":"wireTigerConcurrentWriteTransactio
n"},"canonicalName":"storageEngineConcurrentWriteTransactions"}}
```





Gestor de Tareas

Título:

Descripción:

Agregar Tarea

ID: 67a54ceb208e8c27bf8e38c5

Título: Tarea de matematicas

Descripción: realizar las operaciones aritmeticas de clase

Completada: false

Actualizar Lista

D:

1

Eliminar Tarea

MongoDB Compass - localhost:27017/shell

Connections Edit View Help

Compass

My Queries

CONNECTIONS (1)

Search connections

localhost:27017

admin

config

local

projectodb

tasks

Welcome localhost:27017 tasks mongo: localhost:27017 projectodb

```
> MONGODB
> use projectodb
< switched to db projectodb
> db["tasks"].find()
< {
  _id: ObjectId('67a54ceb208e8c27bf8e38c5'),
  title: 'Tarea de matematicas ',
  description: 'realizar las operaciones aritmeticas de clase',
  completed: false
}
projectodb> D
```

The screenshot shows a web browser window titled "Gestor de Tareas". The interface is divided into several sections. At the top, there's a header bar with the title and standard window controls. Below this, there's a form area with labels "Título:" and "Descripción:". The "Título:" field contains "Tarea de Lengua", and the "Descripción:" field contains "Realizar las oraciones en participios". To the right of these fields is a button labeled "Agregar Tarea". Below the form, there's a large white area displaying task details: "ID: 67a54ceb208e8c27bf8e38c5", "Título: Tarea de matematicas", "Descripción: realizar las operaciones aritmeticas de clase", and "Completada: false". To the right of this area is a blue button labeled "Actualizar Lista". At the bottom, there's a footer area with a label "ID:" followed by an empty input field and a button labeled "Eliminar Tarea".

Gestor de Tareas	
Título:	Tarea de Lengua
Descripción:	Realizar las oraciones en participios
Agregar Tarea	
ID: 67a54ceb208e8c27bf8e38c5 Título: Tarea de matematicas Descripción: realizar las operaciones aritmeticas de clase Completada: false -----	
Actualizar Lista	
ID:	<input type="text"/>
Eliminar Tarea	

The screenshot shows a Windows application titled "Gestor de Tareas". The interface includes a form at the top with labels "Título:" and "Descripción:" followed by empty text boxes. Below the form is a list of tasks, each with an ID, title, description, and completion status. The tasks are:

- ID: 67a54ceb208e8c27bf8e38c5
Título: Tarea de matematicas
Descripción: realizar las operaciones aritmeticas de clase
Completada: false
- ID: 67a56e0b08770939435b42ec
Título: Tarea de Lengua
Descripción: Realizar las oraciones en particpios
Completada: false
- ID: 67a56e2308770939435b42ed
Título: Tarea de Programaicon
Descripción: realizar os progamas de c++
Completada: false

On the right side of the task list is a vertical scrollbar and a button labeled "Actualizar Lista". At the bottom right is a button labeled "Eliminar Tarea".

