



SEMAPHORE API – SERVICE DETAILS

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AGENDA

SEMAPHORE API

- HANDY LINKS
- WHAT ARE SEMAPHORES?
- AZURE COMPONENTS OF SEMAPHORES
- SEMAPHORE API ENDPOINTS
- ARCHIEVING SEMAPHORES
- TYPICAL SEMAPHORE LIFECYCLE



HANDY LINKS

Links for semaphore-related resources:

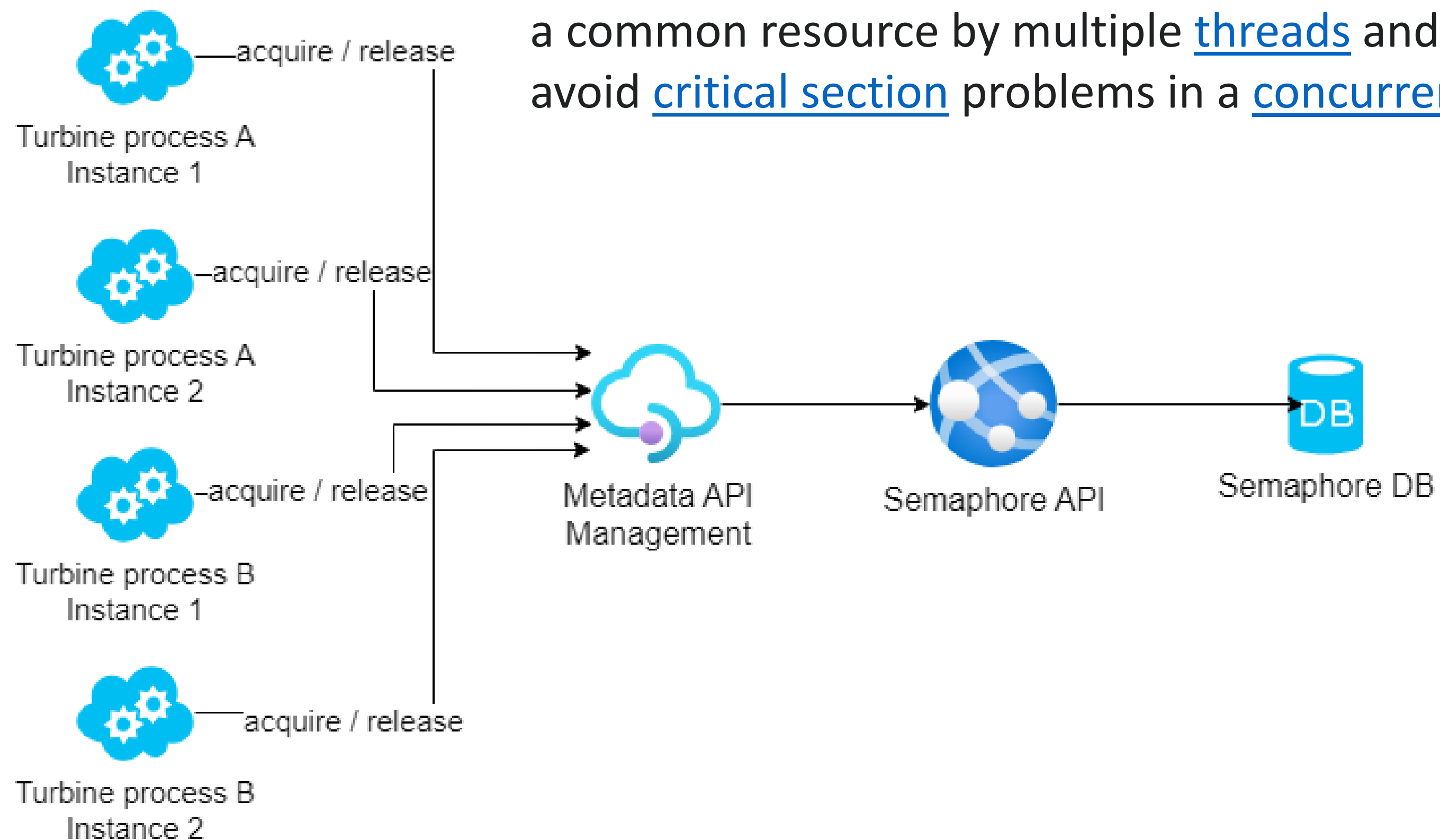
- **APP SERVICE ENVIRONMENTS:**
 - dev – <https://app-cdl-semaphore-api-n101.azurewebsites.net>
 - test – <https://app-cdl-semaphore-api-n201.azurewebsites.net>
 - breakfix – <https://app-cdl-semaphore-api-n301.azurewebsites.net>
 - prod – <https://app-cdl-semaphore-api-p101.azurewebsites.net>
- **API Management gateway:**
 - dev – <https://api-nonprod.pgcloud.com/othersupportingdata/it/v1/metadata-dev/>
 - test - <https://api-nonprod.pgcloud.com/othersupportingdata/it/v1/metadata-test/>
 - bf - <https://api-nonprod.pgcloud.com/othersupportingdata/it/v1/metadata-bf/>
 - prod - <https://api.pgcloud.com/othersupportingdata/it/v1/metadata/>
- **GitHub repository:**
 - <https://github.com/procter-gamble/DA-PP-PDA-Metadata-Semaphore-API>
- **ADO pipeline:**
 - https://dev.azure.com/dh-platforms-devops/app-cdl-turbine/_build?definitionId=1988&a=summary



WHAT ARE SEMAPHORES?

Definition of SEMAPHORE in a nutshell:

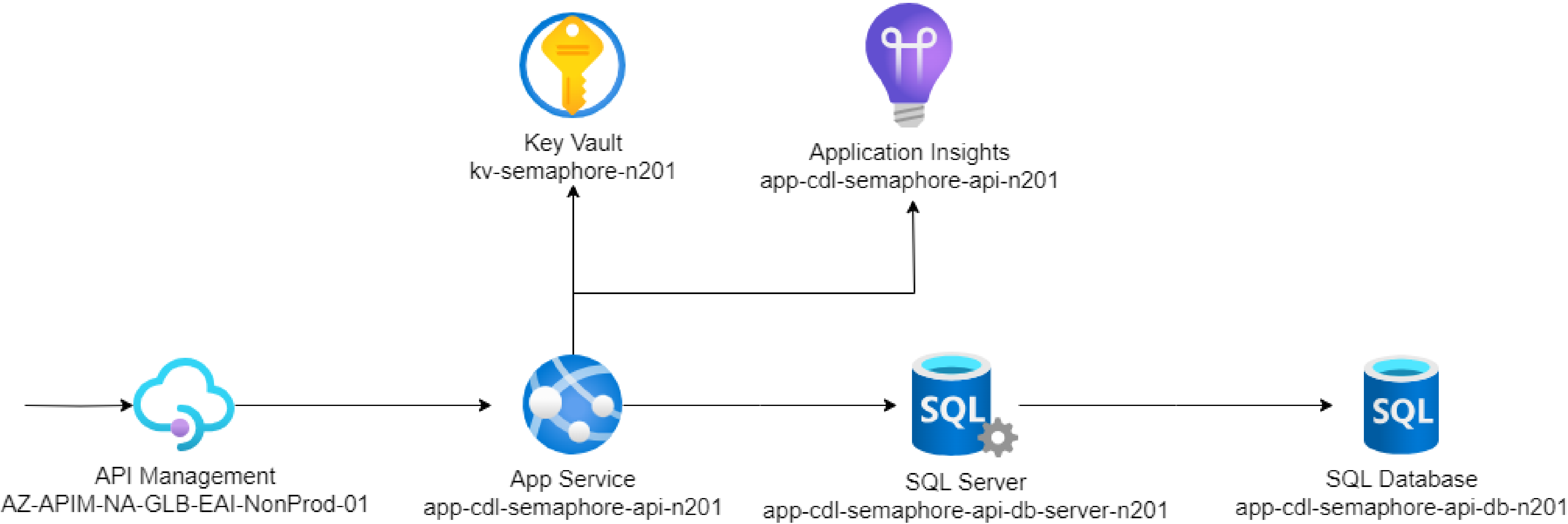
„variable or abstract data type used to control access to a common resource by multiple threads and avoid critical section problems in a concurrent system”



AZURE COMPONENTS OF SEMAPHORE API



Using TEST/QA instance as an example for component names:



SEMAPHORE API ENDPOINTS



semaphore-controller	
PUT	/api/v1/semaphore/renew
PUT	/api/v1/semaphore/release
GET	/api/v1/semaphore
POST	/api/v1/semaphore

- **POST /api/v1/semaphore**
 - For creating/acquiring a semaphore for given resource
 - It can be of type EXCLUSIVE or SHARED
 - SHARED semaphore can have *concurrentProcessLimit* parameter passed
 - It's impossible to acquire semaphore for the same resource for different process run (exclusive) OR if *concurrentProcesLimit* would be reached when acquiring next semaphore
 - *null* requestedTimespan means infinite semaphore, non-null value unit is in seconds

POST	/api/v1/semaphore
Parameters	
No parameters	
Request body required	
Example Value Schema	
<pre>{ "resourcePath": "string", "resourcePathPattern": "string", "semaphoreType": "SHARED", "processRunKey": 0, "requestedTimespan": 0, "concurrentProcessLimit": 0 }</pre>	

SEMAPHORE API ENDPOINTS

- **GET /api/v1/semaphore**
 - for listing existing/acquired semaphores
 - *processRunKey* and *resourcePatch* can be passed as url parameters to filter specific semaphores
 - provide all information about semaphore – including semaphore acquisition and release time
- **PUT /api/v1/semaphore/renew**
 - allows for extension of semaphore acquisition time
 - timespan needs to be > 0, in seconds
 - requested time is **added** to current release time
- **PUT /api/v1/semaphore/release**
 - releases given semaphore
 - watchout: releases all semaphores matching given parameters

GET

/api/v1/semaphore

Parameters

Name	Description
command * required	
object (query)	<pre>{ "processRunKey": 0, "resourcePath": "string"}</pre>

PUT

/api/v1/semaphore/renew

Parameters

No parameters

Request body required

Example Value | Schema

```
{  "processRunKey": 0,  "resourcePath": "string",  "requestedTimespan": 0}
```

PUT

/api/v1/semaphore/release

Parameters

No parameters

Request body required

Example Value | Schema

```
{  "processRunKey": 0,  "resourcePath": "string",  "resourcePathPattern": "string"}
```

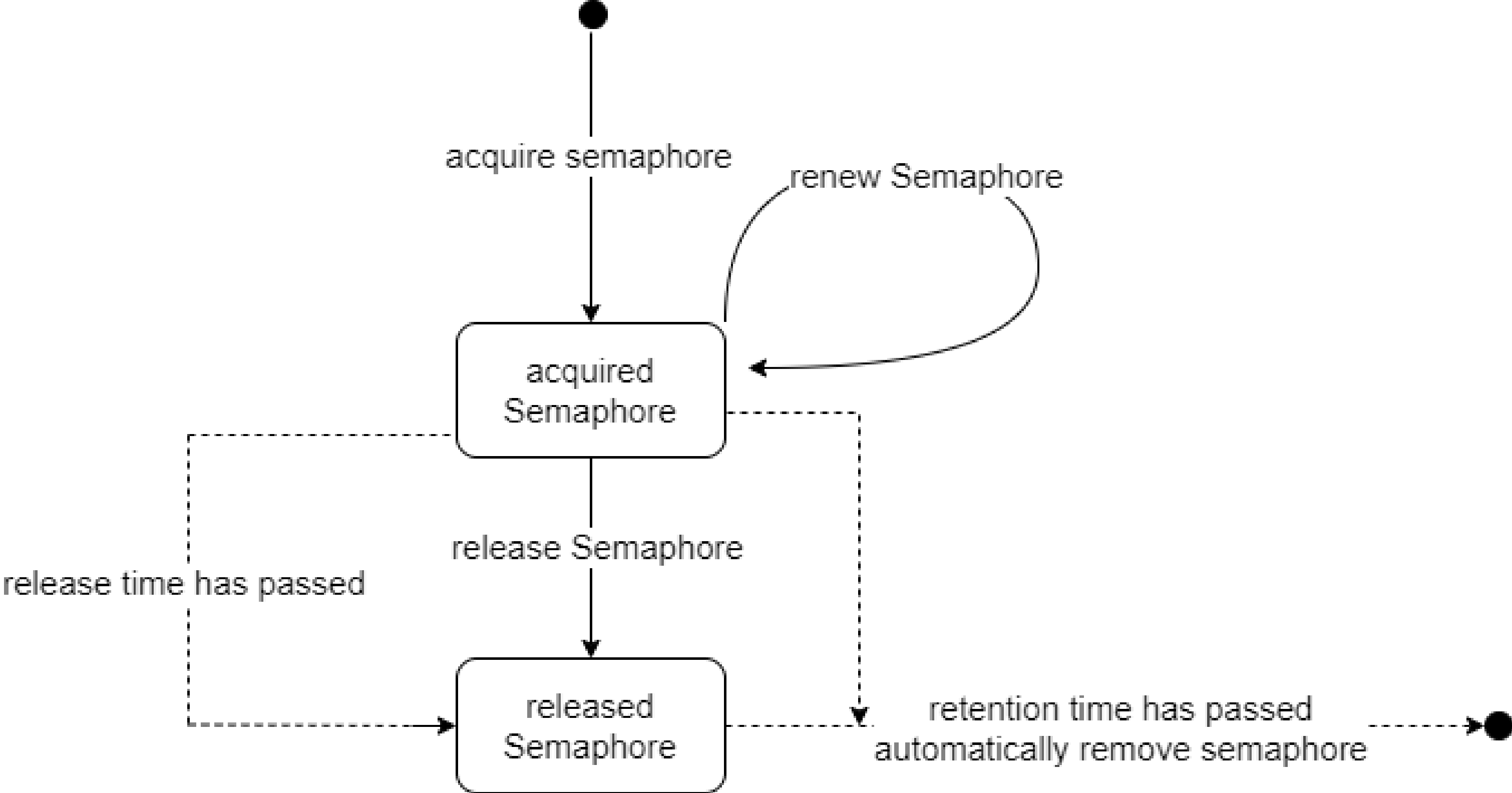


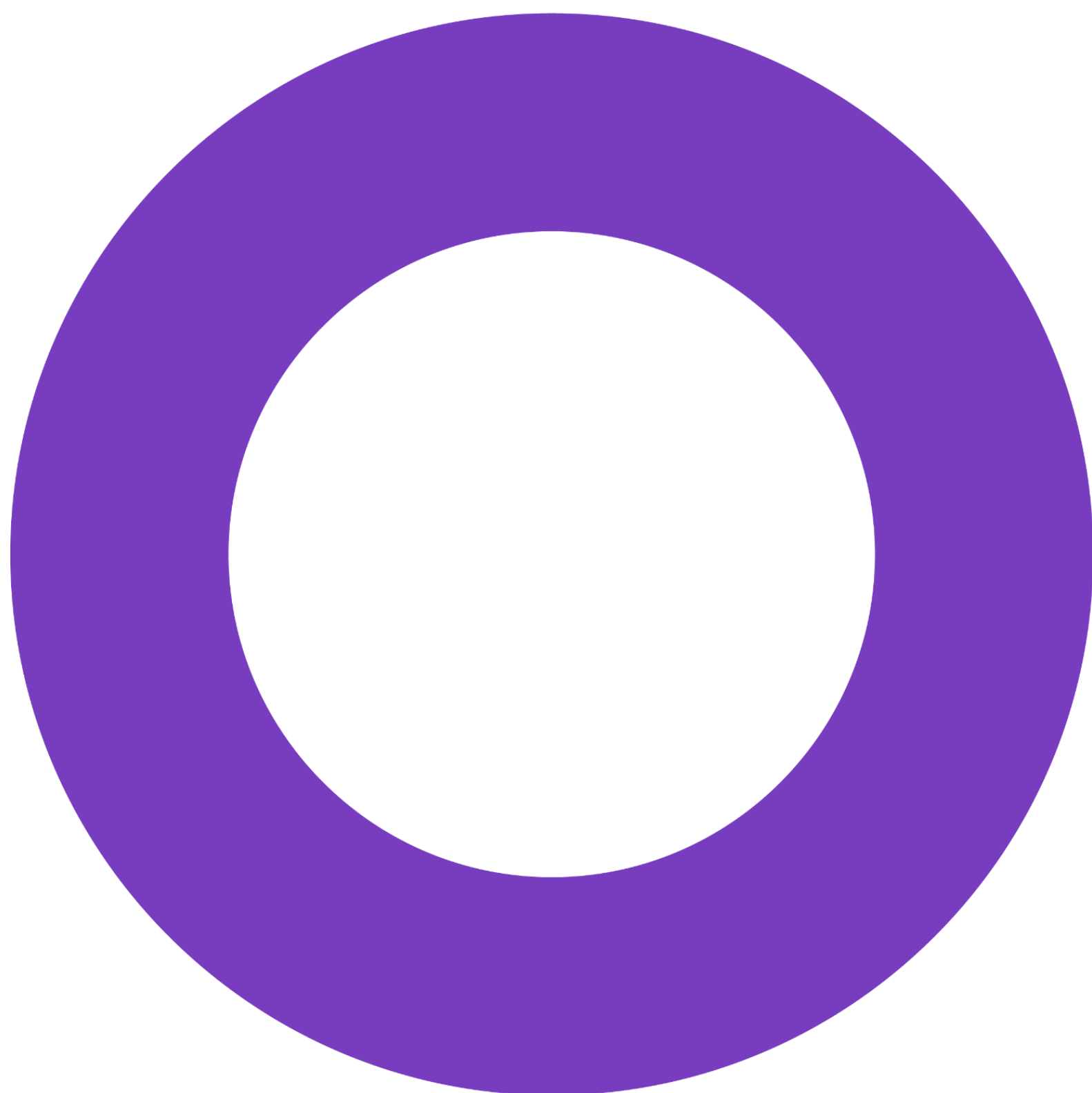
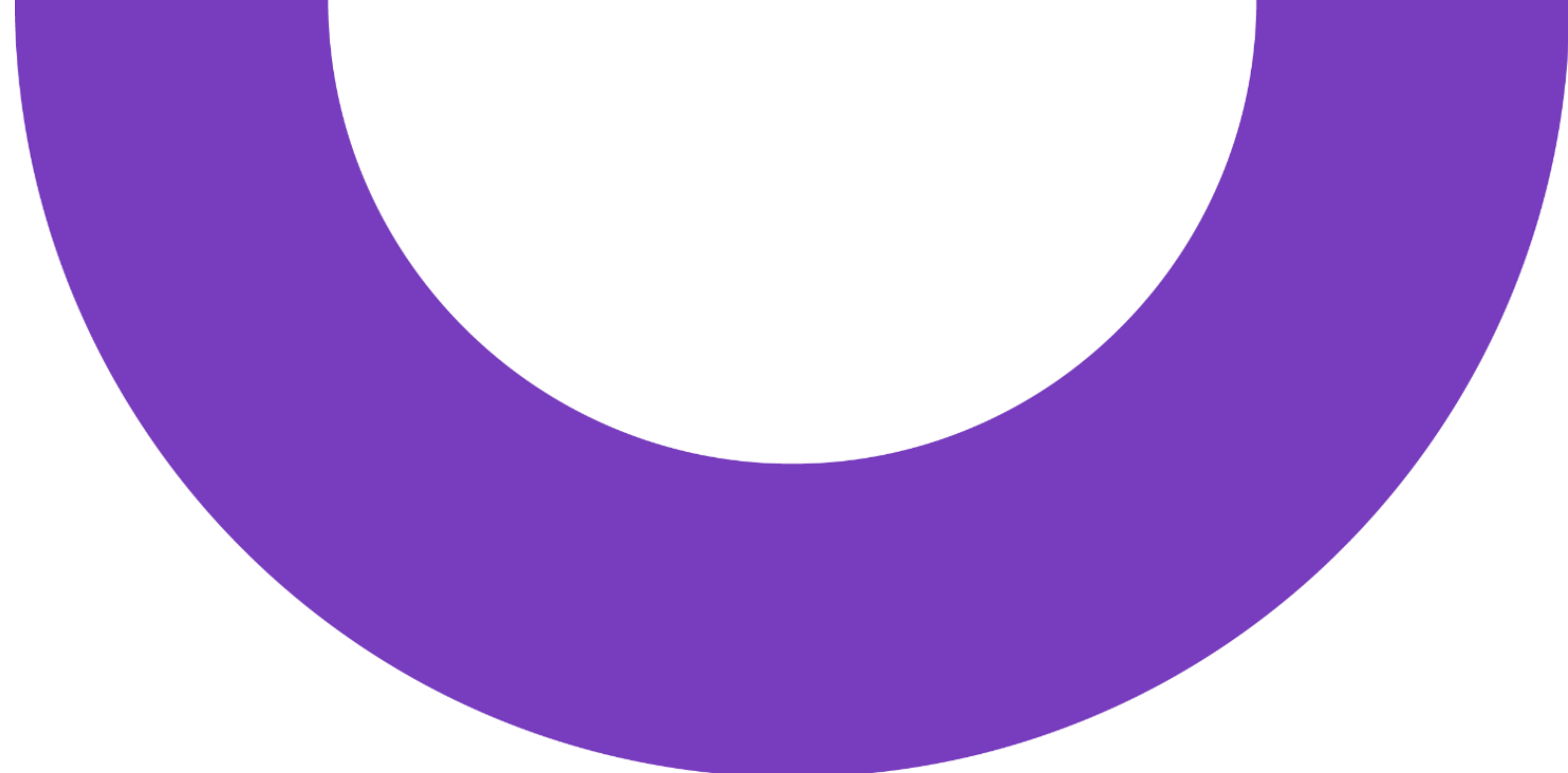
ARCHIEVING SEMAPHORES



- Semaphore cleaning job is running every hour
- Every semaphore which is existing for more than 2 days (retention time) will be automatically deleted by cleaning job
- Both (exclusive and shared) types of semaphores are automatically deleted after retention time
- If semaphore is released earlier, it's entity stays in the DB for retention time and it's being deleted by the cleaning job afterwards

TYPICAL SEMAPHORE LIFECYCLE





Thank you!

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