External Dependencies of Java Artifacts with Neo4j

References

- jqassistant
- py2neo

External Package Usage

Table 1 - Top 20 most used external packages overall

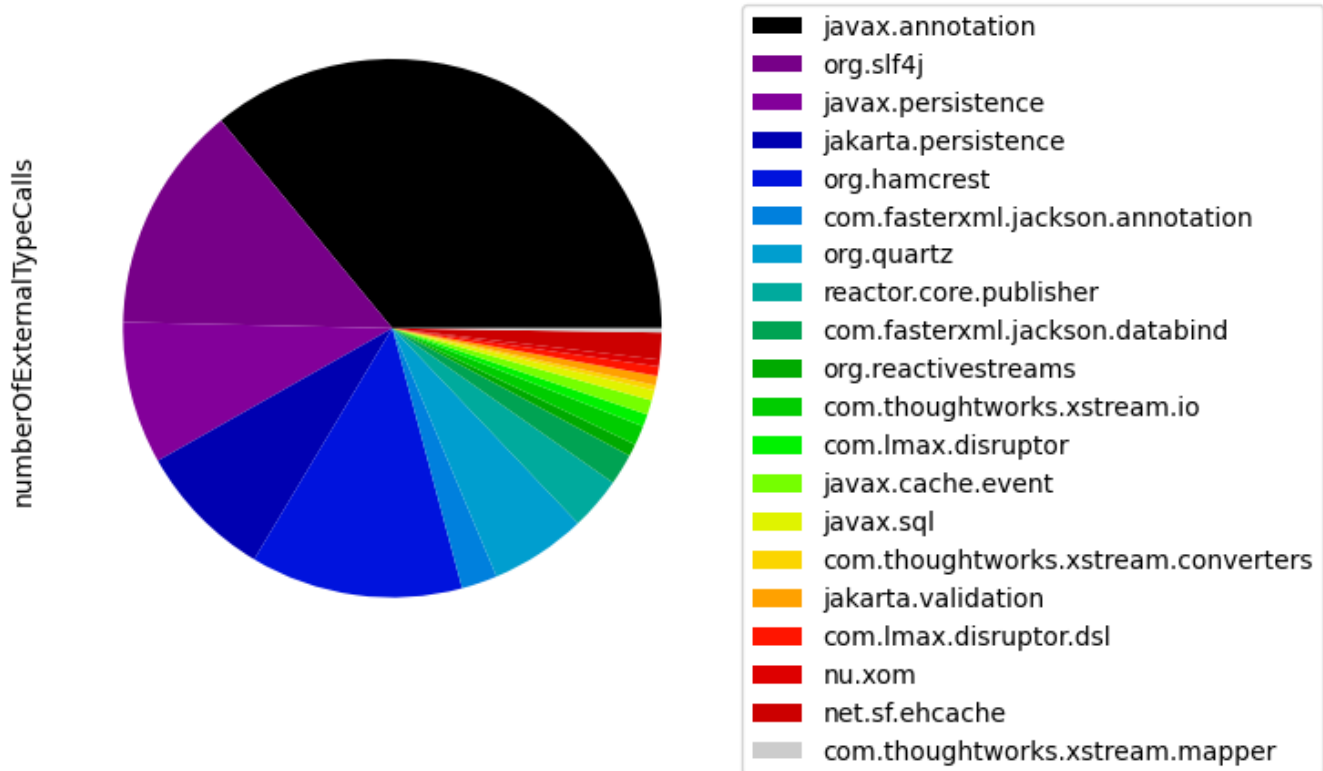|	externalPackageName	numberOfExternalTypeCaller	numberOfExternalTypeCalls	allTypes	externalTypeNames
0	javax.annotation	324	1406	2503	[Nonnull, Nullable, PreDestroy]
1	org.slf4j	190	534	2503	[Logger, LoggerFactory]
2	javax.persistence	75	334	2503	[Index, Table, Entity, EntityExistsException, ...
3	jakarta.persistence	66	322	2503	[Index, Table, Entity, EntityExistsException, ...
4	org.hamcrest	61	498	2503	[CoreMatchers, Matcher, Description, StringDes...
5	com.fasterxml.jackson.annotation	54	84	2503	[JsonProperty, JsonGetter, JsonTypeInfo, JsonT...
6	org.quartz	37	226	2503	[JobDataMap, Job, SchedulerContext, JobExecuti...
7	reactor.core.publisher	31	124	2503	[Mono, Flux, FluxSink$OverflowStrategy, FluxSi...
8	com.fasterxml.jackson.databind	15	73	2503	[DeserializationContext, JsonDeserializer, Jso...
9	org.reactivestreams	12	29	2503	[Publisher]
10	com.thoughtworks.xstream.io	9	46	2503	[HierarchicalStreamReader, HierarchicalStreamW...
11	com.lmax.disruptor	9	29	2503	[RingBuffer, LifecycleAware, EventHandler, Blo...
12	javax.cache.event	8	34	2503	[CacheEntryListener, CacheEntryExpiredListener...
13	javax.sql	6	24	2503	[DataSource]
14	com.thoughtworks.xstream.converters	6	12	2503	[MarshallingContext, UnmarshallingContext]
15	jakarta.validation	5	22	2503	[ConstraintViolation, Validator, ValidatorFact...
16	com.lmax.disruptor.dsl	5	22	2503	[Disruptor, EventHandlerGroup, ProducerType]
17	nu.xom	5	16	2503	[Document, Builder, ParsingException]
18	net.sf.ehcache	5	63	2503	[Ehcache, Element, CacheException]
19	com.thoughtworks.xstream.mapper	5	10	2503	[Mapper, CannotResolveClassException]

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External Package Usage

Legend:
- javax.annotation
- org.slf4j
- javax.persistence
- jakarta.persistence
- org.hamcrest
- com.fasterxml.jackson.annotation
- org.quartz
- reactor.core.publisher
- com.fasterxml.jackson.databind
- org.reactivestreams
- com.thoughtworks.xstream.io
- com.lmax.disruptor
- javax.cache.event
- javax.sql
- com.thoughtworks.xstream.converters
- jakarta.validation
- com.lmax.disruptor.dsl
- nu.xom
- net.sf.ehcache
- com.thoughtworks.xstream.mapper

Table 2 - Top 20 least used external packages overall

	externalPackageName	numberOfExternalTypeCalls
0	org.junit.rules	1
1	org.junit.jupiter.api	1
2	javax.xml.stream	2
3	org.testcontainers.containers.wait.strategy	2
4	com.fasterxml.jackson.datatype.jsr310	2
5	org.quartz.impl.matchers	2
6	reactor.core	2
7	org.junit.runner	2
8	com.fasterxml.jackson.databind.type	3
9	reactor.util.concurrent	3
10	com.fasterxml.jackson.databind.module	3
11	org.dom4j.io	3
12	com.fasterxml.jackson.databind.jsontype	3
13	org.junit.jupiter.api.extension	6
14	reactor.util.context	7
15	com.thoughtworks.xstream.converters.collections	7
16	org.junit.runners.model	8
17	org.testcontainers.containers	8
18	net.sf.ehcache.event	9
19	com.thoughtworks.xstream.mapper	10

Table 3 - External usage per artifact

	artifactName	externalPackageName	numberOfExternalTypeCaller	numberOfExternalTypeCalls	numberOfTypesInArtifact	externalTypeNames
0	axon-configuration-4.7.5	javax.annotation	12	104	39	[Nonnull]
1	axon-configuration-4.7.5	org.slf4j	9	28	39	[Logger, LoggerFactory]
2	axon-disruptor-4.7.5	org.slf4j	12	22	22	[Logger, LoggerFactory]
3	axon-disruptor-4.7.5	com.lmax.disruptor	9	29	22	[LifecycleAware, EventHandler, BlockingWaitStr...
4	axon-disruptor-4.7.5	javax.annotation	6	23	22	[Nonnull]
...	...	...	...	...	...	...
61	axon-test-4.7.5	org.testcontainers.containers.wait.strategy	2	2	85	[Wait]
62	axon-test-4.7.5	org.testcontainers.containers	2	8	85	[GenericContainer]
63	axon-test-4.7.5	org.junit.rules	1	1	85	[TestRule]
64	axon-test-4.7.5	org.junit.runner	1	2	85	[Description]
65	axon-test-4.7.5	org.junit.jupiter.api	1	1	85	[Assertions]

66 rows × 6 columns

Table 4 - External usage per artifact and package

	artifactName	fullPackageName	externalPackageName	numberOfExternalTypeCaller	numberOfExternalTypeCalls	numberOfTypesInl
0	axon-test-4.7.5	org.axonframework.test.matchers	org.hamcrest	38	188	
1	axon-messaging-4.7.5	org.axonframework.queryhandling	reactor.core.publisher	24	90	
2	axon-messaging-4.7.5	org.axonframework.eventhandling.scheduling.quartz	org.quartz	19	95	
3	axon-messaging-4.7.5	org.axonframework.deadline.quartz	org.quartz	18	131	
4	axon-messaging-4.7.5	org.axonframework.eventhandling	org.slf4j	15	55	
...	...	...	...	...	...	
119	axon-modelling-4.7.5	org.axonframework.modelling.saga.repository.jdbc	javax.sql	1	2	
120	axon-modelling-4.7.5	org.axonframework.modelling.saga.repository.jpa	javax.persistence	1	2	
121	axon-test-4.7.5	org.axonframework.test.aggregate	org.junit.rules	1	1	
122	axon-test-4.7.5	org.axonframework.test.aggregate	org.junit.runner	1	2	
123	axon-test-4.7.5	org.axonframework.test.saga	org.junit.jupiter.api	1	1	

124 rows × 8 columns

Table 5 - Top 20 external package usage per type

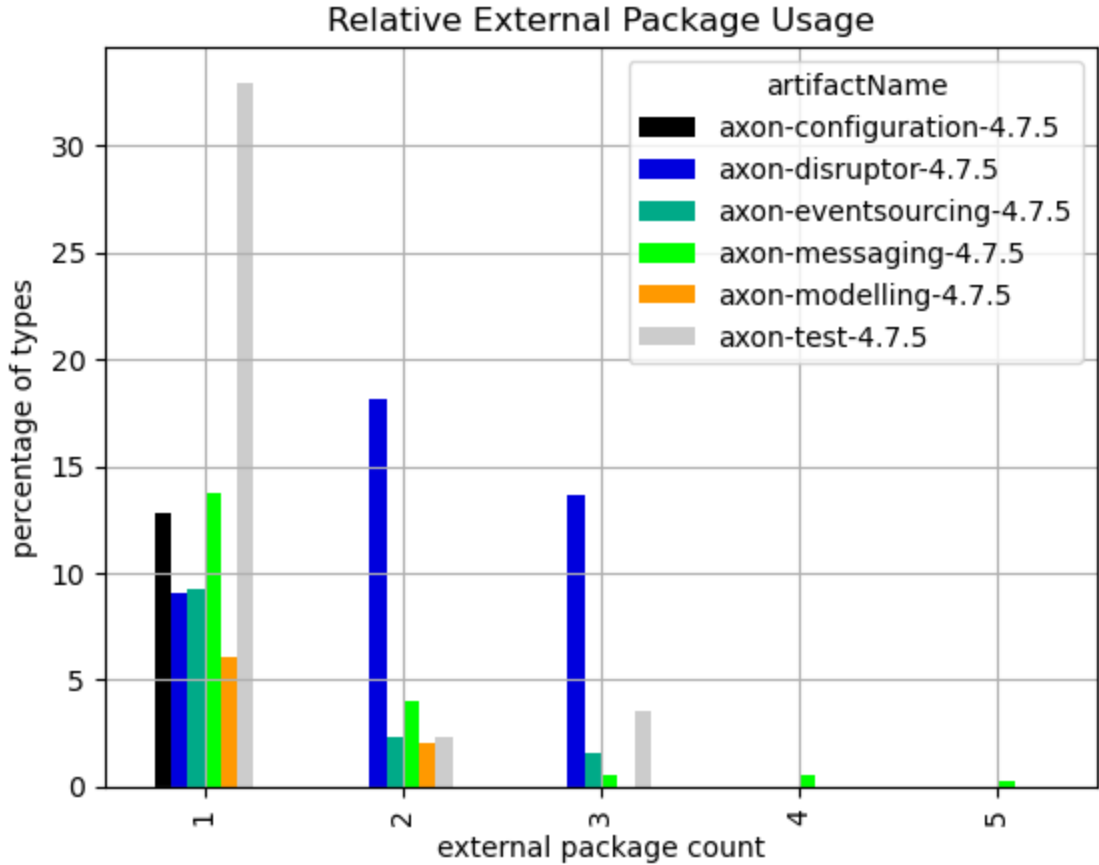|	artifactName	fullPackageName	typeName	numberOfExternalTypeCaller	numberOfExternalType
0	axon-messaging-4.7.5	org.axonframework.serialization.json	JacksonSerializer	9	
1	axon-messaging-4.7.5	org.axonframework.serialization.xml	XStreamSerializer	7	
2	axon-disruptor-4.7.5	org.axonframework.disruptor.commandhandling	DisruptorCommandBus$DisruptorRepository	4	
3	axon-disruptor-4.7.5	org.axonframework.disruptor.commandhandling	DisruptorCommandBus	6	
4	axon-messaging-4.7.5	org.axonframework.deadline.quartz	QuartzDeadlineManager	13	
5	axon-messaging-4.7.5	org.axonframework.messaging.responsetypes	MultipleInstancesResponseType	7	
6	axon-messaging-4.7.5	org.axonframework.queryhandling	SimpleQueryUpdateEmitter	13	
7	axon-messaging-4.7.5	org.axonframework.serialization	AbstractXStreamSerializer$MetaDataConverter	6	
8	axon-messaging-4.7.5	org.axonframework.serialization	GapAwareTrackingTokenConverter$ReflectivelyCon...	6	
9	axon-messaging-4.7.5	org.axonframework.serialization	GapAwareTrackingTokenConverter	6	
10	axon-messaging-4.7.5	org.axonframework.serialization.json	MetaDataDeserializer	6	
11	axon-disruptor-4.7.5	org.axonframework.disruptor.commandhandling	DisruptorCommandBus$ExceptionHandler	3	
12	axon-disruptor-4.7.5	org.axonframework.disruptor.commandhandling	BlacklistDetectingCallback	4	
13	axon-eventsourcing-4.7.5	org.axonframework.eventsourcing.eventstore.jpa	JpaEventStorageEngine	6	
14	axon-eventsourcing-4.7.5	org.axonframework.eventsourcing.eventstore.jpa	SQLErrorCodesResolver	4	
15	axon-eventsourcing-4.7.5	org.axonframework.eventsourcing.eventstore.leg...	JpaEventStorageEngine	6	
16	axon-eventsourcing-4.7.5	org.axonframework.eventsourcing.eventstore.leg...	SQLErrorCodesResolver	4	
17	axon-messaging-4.7.5	org.axonframework.deadline.jobrunr	JobRunrDeadlineManager	5	
18	axon-messaging-4.7.5	org.axonframework.eventhandling.deadletter.jpa	JpaSequencedDeadLetterQueue	7	
19	axon-messaging-4.7.5	org.axonframework.eventhandling.deadletter.leg...	JpaSequencedDeadLetterQueue	7	

Table 6 - External package usage distribution per type

The table shown here only includes the first 20 rows at most which typically represents the most significant entries. Have a look above to find out which types have the highest external package dependency usage.

	artifactName	artifactTypes	numberOfExternalPackages	numberOfTypes	numberOfTypesPercentage
0	axon-configuration-4.7.5	39	1	5	12.820513
1	axon-disruptor-4.7.5	22	1	2	9.090909
2	axon-disruptor-4.7.5	22	2	4	18.181818
3	axon-disruptor-4.7.5	22	3	3	13.636364
4	axon-eventsourcing-4.7.5	130	1	12	9.230769
5	axon-eventsourcing-4.7.5	130	2	3	2.307692
6	axon-eventsourcing-4.7.5	130	3	2	1.538462
7	axon-messaging-4.7.5	729	1	100	13.717421
8	axon-messaging-4.7.5	729	2	29	3.978052
9	axon-messaging-4.7.5	729	3	4	0.548697
10	axon-messaging-4.7.5	729	4	4	0.548697
11	axon-messaging-4.7.5	729	5	2	0.274348
12	axon-modelling-4.7.5	149	1	9	6.040268
13	axon-modelling-4.7.5	149	2	3	2.013423
14	axon-test-4.7.5	85	1	28	32.941176
15	axon-test-4.7.5	85	2	2	2.352941
16	axon-test-4.7.5	85	3	3	3.529412

artifactName	axon-configuration-4.7.5	axon-disruptor-4.7.5	axon-eventsourcing-4.7.5	axon-messaging-4.7.5	axon-modelling-4.7.5	axon-test-4.7.5
numberOfExternalPackages						
1	12.820513	9.090909	9.230769	13.717421	6.040268	32.941176
2	0.000000	18.181818	2.307692	3.978052	2.013423	2.352941
3	0.000000	13.636364	1.538462	0.548697	0.000000	3.529412
4	0.000000	0.000000	0.000000	0.548697	0.000000	0.000000
5	0.000000	0.000000	0.000000	0.274348	0.000000	0.000000

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Relative External Package Usage

Maven POMs

Table 7 - Maven POMs and their declared dependencies

	pom.artifactId	pom.name	scope	dependency.optional	dependentArtifact.group	dependentArtifact.name
0	axon-configuration	Axon Framework - Configuration	test	False	javax.inject	javax.inject
1	axon-configuration	Axon Framework - Configuration	provided	False	com.google.code.findbugs	jsr305
2	axon-configuration	Axon Framework - Configuration	test	False	org.quartz-scheduler	quartz
3	axon-configuration	Axon Framework - Configuration	default	True	jakarta.annotation	jakarta.annotation-api
4	axon-configuration	Axon Framework - Configuration	default	False	${project.groupId}	axon-eventsourcing
...	...	...	...	...	...	...
104	axon-test	Axon Framework - Test Fixtures	default	True	org.testcontainers	testcontainers
105	axon-test	Axon Framework - Test Fixtures	default	True	org.hamcrest	hamcrest-library
106	axon-test	Axon Framework - Test Fixtures	test	False	jakarta.persistence	jakarta.persistence-api
107	axon-test	Axon Framework - Test Fixtures	default	True	org.hamcrest	hamcrest
108	axon-test	Axon Framework - Test Fixtures	test	False	org.springframework	spring-beans

109 rows × 6 columns