

Method Metrics

References

- [jqassistant](#)
- [Neo4j Python Driver](#)

Effective Method Line Count

Table 1a - Effective method line count distribution

This table shows the distribution of the effective method line count per artifact. For each artifact the number of methods with effective line count = 1,2,3,... is shown to get an overview of how line counts are distributed over methods.

Only the 15 artifacts with the highest method count and their effective method line count distribution (limited by 40)is shown here. The whole table can be found in the CSV report

`Effective_Method_Line_Count_Distribution` .

Have a look below to find out which packages and methods have the highest effective lines of code.

artifactName	axon-messaging-4.9.1.jar	axon-eventsourcing-4.9.1.jar	axon-modelling-4.9.1.jar	axon-test-4.9.1.jar	axon-configuration-4.9.1.jar	axon-disruptor-4.9.1.jar
effectiveLineCount						
1	2819	573	532	279	310	84
2	823	204	158	170	146	31
3	674	127	141	64	34	30
4	269	64	57	49	42	8
5	221	39	45	24	16	5
6	161	34	45	18	17	6
7	103	32	24	20	3	2
8	80	12	10	11	7	0
9	76	17	17	10	8	4
10	46	8	8	4	6	3
11	45	2	8	9	5	1
12	41	5	2	9	1	1
13	26	2	9	5	2	1
14	17	3	3	3	1	2
15	9	2	5	2	0	0
16	8	6	2	4	0	0
17	10	0	2	4	1	1
18	9	3	0	2	1	1
19	6	0	1	0	1	1
20	5	2	2	1	0	0
21	7	2	1	1	1	0
22	2	1	2	1	0	1
23	5	2	0	1	1	0
24	3	1	1	1	0	1
25	2	1	0	0	0	0
26	2	0	1	1	1	0
28	2	0	0	0	0	0
29	0	0	0	1	0	0
30	1	0	0	0	0	0
31	1	0	0	1	0	0
32	1	0	0	0	0	1
33	1	0	0	0	0	0
34	1	0	0	0	0	0
36	2	0	0	0	0	0
38	0	0	1	0	0	0
43	0	0	0	0	1	0
44	1	0	0	0	0	0
45	0	0	0	1	0	0
50	1	0	0	0	1	0
63	1	0	0	0	0	0

Table 1b - Effective method line count distribution (normalized)

The table shown here only includes the first 40 rows which typically represents the most significant entries. Have a look below to find out which packages and methods have the highest effective lines of code.

artifactName	axon-messaging-4.9.1.jar	axon-eventsourcing-4.9.1.jar	axon-modelling-4.9.1.jar	axon-test-4.9.1.jar	axon-configuration-4.9.1.jar	axon-disruptor-4.9.1.jar
effectiveLineCount						
1	51.413460	50.175131	49.396472	40.086207	51.155116	45.652174
2	15.010031	17.863398	14.670381	24.425287	24.092409	16.847826
3	12.292541	11.120841	13.091922	9.195402	5.610561	16.304348
4	4.906073	5.604203	5.292479	7.040230	6.930693	4.347826
5	4.030640	3.415061	4.178273	3.448276	2.640264	2.717391
6	2.936349	2.977233	4.178273	2.586207	2.805281	3.260870
7	1.878534	2.802102	2.228412	2.873563	0.495050	1.086957
8	1.459055	1.050788	0.928505	1.580460	1.155116	0.000000
9	1.386102	1.488616	1.578459	1.436782	1.320132	2.173913
10	0.838957	0.700525	0.742804	0.574713	0.990099	1.630435
11	0.820719	0.175131	0.742804	1.293103	0.825083	0.543478
12	0.747766	0.437828	0.185701	1.293103	0.165017	0.543478
13	0.474193	0.175131	0.835655	0.718391	0.330033	0.543478
14	0.310049	0.262697	0.278552	0.431034	0.165017	1.086957
15	0.164144	0.175131	0.464253	0.287356	0.000000	0.000000
16	0.145906	0.525394	0.185701	0.574713	0.000000	0.000000
17	0.182382	0.000000	0.185701	0.574713	0.165017	0.543478
18	0.164144	0.262697	0.000000	0.287356	0.165017	0.543478
19	0.109429	0.000000	0.092851	0.000000	0.165017	0.543478
20	0.091191	0.175131	0.185701	0.143678	0.000000	0.000000
21	0.127667	0.175131	0.092851	0.143678	0.165017	0.000000
22	0.036476	0.087566	0.185701	0.143678	0.000000	0.543478
23	0.091191	0.175131	0.000000	0.143678	0.165017	0.000000
24	0.054715	0.087566	0.092851	0.143678	0.000000	0.543478
25	0.036476	0.087566	0.000000	0.000000	0.000000	0.000000
26	0.036476	0.000000	0.092851	0.143678	0.165017	0.000000
28	0.036476	0.000000	0.000000	0.000000	0.000000	0.000000
29	0.000000	0.000000	0.000000	0.143678	0.000000	0.000000
30	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
31	0.018238	0.000000	0.000000	0.143678	0.000000	0.000000
32	0.018238	0.000000	0.000000	0.000000	0.000000	0.543478
33	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
34	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
36	0.036476	0.000000	0.000000	0.000000	0.000000	0.000000
38	0.000000	0.000000	0.092851	0.000000	0.000000	0.000000
43	0.000000	0.000000	0.000000	0.000000	0.165017	0.000000
44	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
45	0.000000	0.000000	0.000000	0.143678	0.000000	0.000000
50	0.018238	0.000000	0.000000	0.000000	0.165017	0.000000
63	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000

Table 1b Chart 1 - Effective method line count distribution (normalized)

<Figure size 640x480 with 0 Axes>

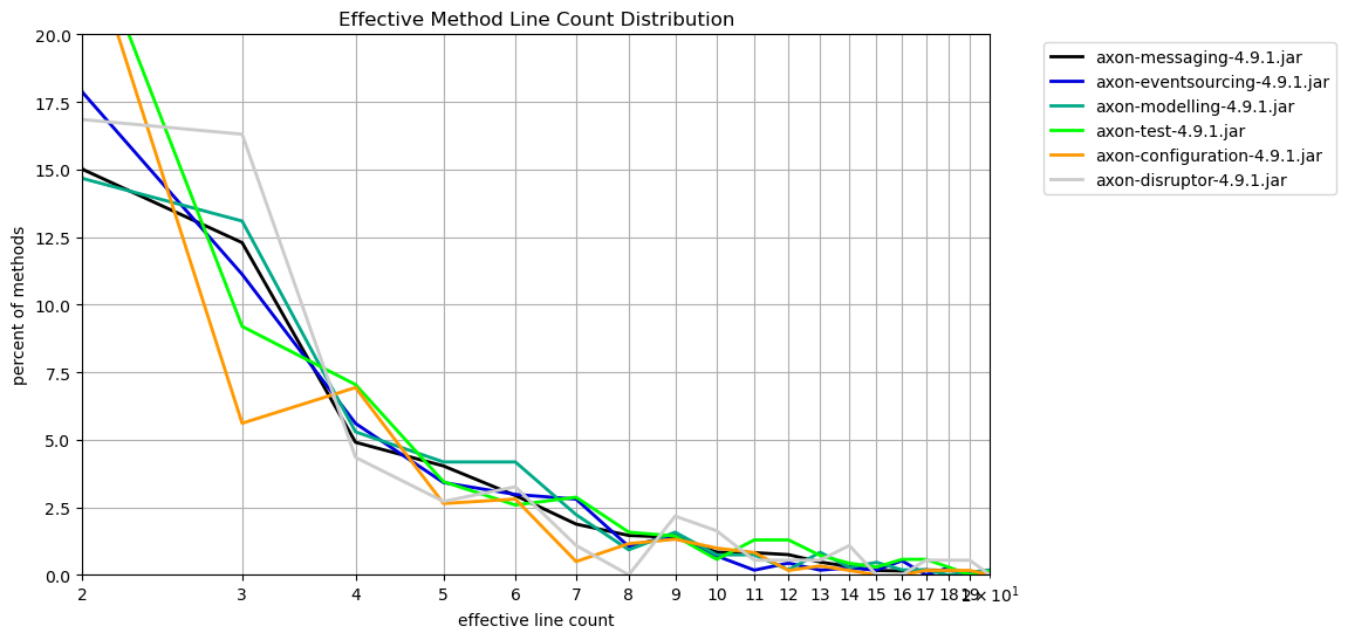


Table 1c - Top 30 packages with highest effective line counts

The following table shows the top 30 packages with the highest effective lines of code. The whole table can be found in the CSV report [Effective_lines_of_method_code_per_package](#) .

	artifactName	fullPackageName	linesInPackage	methodCount	maxLinesMethod	maxLinesMethodName
0	axon-messaging-4.9.1	org.axonframework.eventhandling	2337	838	64	processBatch
1	axon-configuration-4.9.1	org.axonframework.config	1587	606	50	<init>
2	axon-messaging-4.9.1	org.axonframework.eventhandling.pooled	1021	333	78	run
3	axon-test-4.9.1	org.axonframework.test.aggregate	951	249	45	appendEventOverview
4	axon-messaging-4.9.1	org.axonframework.queryhandling	927	381	36	doQuery
5	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.jdbc	849	249	31	convertToLetter
6	axon-modelling-4.9.1	org.axonframework.modelling.command	824	329	17	lambdainitializeHandler7
7	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore	712	264	21	peekPrivateStream
8	axon-messaging-4.9.1	org.axonframework.messaging.annotation	673	239	23	<init>
9	axon-modelling-4.9.1	org.axonframework.modelling.command.inspection	637	218	26	inspectFieldsAndMethods
10	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing	623	251	20	doScheduleSnapshot
11	axon-disruptor-4.9.1	org.axonframework.disruptor.commandhandling	605	184	32	<init>
12	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.leg...	573	187	25	fetchTrackedEvents
13	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.jdbc	568	236	24	<init>
14	axon-messaging-4.9.1	org.axonframework.serialization	537	181	22	<init>
15	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.jpa	522	132	28	equals
16	axon-messaging-4.9.1	org.axonframework.common	501	144	24	getExactDirectSuperTypesOfParameterizedTypeOrC...
17	axon-test-4.9.1	org.axonframework.test.saga	491	168	29	<init>
18	axon-modelling-4.9.1	org.axonframework.modelling.saga	490	194	22	handle
19	axon-messaging-4.9.1	org.axonframework.commandhandling.gateway	488	174	50	createGateway
20	axon-messaging-4.9.1	org.axonframework.commandhandling.distributed	477	175	23	dispatch
21	axon-messaging-4.9.1	org.axonframework.eventhandling.tokenstore.jdbc	430	130	26	updateToken
22	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.leg...	401	97	21	convert
23	axon-messaging-4.9.1	org.axonframework.commandhandling	377	169	13	<init>
24	axon-modelling-4.9.1	org.axonframework.modelling.saga.repository.jdbc	374	84	38	updateSaga
25	axon-messaging-4.9.1	org.axonframework.messaging.unitofwork	363	129	32	executeWithResult
26	axon-test-4.9.1	org.axonframework.test.matchers	351	108	21	matchingFields

	artifactName	fullPackageName	linesInPackage	methodCount	maxLinesMethod	maxLinesMethodName
27	axon-messaging-4.9.1	org.axonframework.messaging	348	156	13	describeTo
28	axon-messaging-4.9.1	org.axonframework.deadline.dbscheduler	321	103	18	execute
29	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.jpa	318	101	23	fetchTrackedEvents

Table 1d - Top 30 methods with the highest effective line count

The following table shows the top 30 methods with the highest effective lines of code. The whole table can be found in the CSV report `Effective_lines_of_method_code_per_package`.

index	artifactName	fullPackageName	maxLinesMethodType	maxLinesMethod
0	2	axon-messaging-4.9.1 org.axonframework.eventhandling.pooled	Coordinator\$CoordinationTask	
1	0	axon-messaging-4.9.1 org.axonframework.eventhandling	TrackingEventProcessor	process
2	19	axon-messaging-4.9.1 org.axonframework.commandhandling.gateway	CommandGatewayFactory	createG
3	1	axon-configuration-4.9.1 org.axonframework.config	DefaultConfigurer	
4	3	axon-test-4.9.1 org.axonframework.test.aggregate	Reporter	appendEventOn
5	35	axon-messaging-4.9.1 org.axonframework.deadline.quartz	DeadlineJob	execute
6	24	axon-modelling-4.9.1 org.axonframework.modelling.saga.repository.jdbc	JdbcSagaStore	update
7	4	axon-messaging-4.9.1 org.axonframework.queryhandling	SimpleQueryBus	do
8	30	axon-messaging-4.9.1 org.axonframework.messaging.deadletter	InMemorySequencedDeadLetterQueue	for
9	25	axon-messaging-4.9.1 org.axonframework.messaging.unitofwork	BatchingUnitOfWork	executeWith
10	11	axon-disruptor-4.9.1 org.axonframework.disruptor.commandhandling	DisruptorCommandBus	
11	5	axon-messaging-4.9.1 org.axonframework.eventhandling.deadletter.jdbc	DefaultDeadLetterJdbcConverter	convertTo
12	17	axon-test-4.9.1 org.axonframework.test.saga	SagaTestFixture	
13	15	axon-messaging-4.9.1 org.axonframework.eventhandling.deadletter.jpa	DeadLetterEventEntry	
14	9	axon-modelling-4.9.1 org.axonframework.modelling.command.inspection	AnnotatedAggregateMetaModelFactory\$AnnotatedAg...	inspectFieldsAndM
15	21	axon-messaging-4.9.1 org.axonframework.eventhandling.tokenstore.jdbc	JdbcTokenStore	update
16	12	axon-eventsourcing-4.9.1 org.axonframework.eventsourcing.eventstore.leg...	JpaEventStorageEngine	fetchTracked
17	34	axon-messaging-4.9.1 org.axonframework.deadline	SimpleDeadlineManager\$DeadlineTask	
18	13	axon-eventsourcing-4.9.1 org.axonframework.eventsourcing.eventstore.jdbc	JdbcEventStorageEngine	
19	16	axon-messaging-4.9.1 org.axonframework.common	TypeReflectionUtils	getExactDirectSuperTypesOfParameterizedTyp
20	20	axon-messaging-4.9.1 org.axonframework.commandhandling.distributed	DistributedCommandBus	do
21	29	axon-eventsourcing-4.9.1 org.axonframework.eventsourcing.eventstore.jpa	JpaEventStorageEngine	fetchTracked
22	8	axon-messaging-4.9.1 org.axonframework.messaging.annotation	AnnotatedMessageHandlingMember	
23	47	axon-messaging-4.9.1 org.axonframework.deadline.jobrunr	JobRunrDeadlineManager	execute
24	32	axon-modelling-4.9.1 org.axonframework.modelling.saga.repository	AssociationValueMap\$AssociationValueComparator	co
25	18	axon-modelling-4.9.1 org.axonframework.modelling.saga	AbstractSagaManager	
26	14	axon-messaging-4.9.1 org.axonframework.serialization	AbstractXStreamSerializer	

	index	artifactName	fullPackageName	maxLinesMethodType	maxLinesMetho
27	26	axon-test-4.9.1	org.axonframework.test.matchers	DeepEqualsMatcher	matchin
28	22	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.leg...	EventMessageDeadLetterJpaConverter	
29	7	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore	EmbeddedEventStore\$EventConsumer	peekPrivate

Cyclomatic Complexity

Table 2a - Cyclomatic method complexity distribution

This table shows the distribution of the cyclomatic complexity of methods per artifact. For each artifact the number of methods with the cyclomatic complexity = 1,2,3,... is shown to get an overview of how cyclomatic complexity is distributed over methods.

Only the 15 artifacts with the highest method count sum and their cyclomatic method complexity distribution (limited by 40) is shown here. The whole table can be found in the CSV report

[Cyclomatic_Method_Complexity_Distribution](#) .

Have a look below to find out which packages and methods have the highest effective lines of code.

artifactName	axon-messaging-4.9.1.jar	axon-eventsourcing-4.9.1.jar	axon-modelling-4.9.1.jar	axon-test-4.9.1.jar	axon-configuration-4.9.1.jar	axon-disruptor-4.9.1.jar
cyclomaticComplexity						
1	4413	943	895	519	542	146
2	462	94	75	60	37	20
3	284	53	38	60	17	5
4	140	24	29	22	5	4
5	75	9	24	12	3	3
6	45	4	10	9	0	2
7	20	7	2	4	2	2
8	12	7	1	3	0	2
9	7	0	2	1	0	0
10	4	0	0	1	0	0
11	9	0	0	2	0	0
12	4	0	0	2	0	0
13	2	1	0	1	0	0
14	1	0	0	0	0	0
15	1	0	0	0	0	0
16	0	0	1	0	0	0
17	1	0	0	0	0	0
21	1	0	0	0	0	0
22	1	0	0	0	0	0
40	1	0	0	0	0	0

Table 2b - Cyclomatic method complexity distribution (normalized)

The table shown here only includes the first 40 rows which typically represents the most significant entries. Have a look below to find out which packages and methods have the highest effective lines of

code.

artifactName	axon-messaging-4.9.1.jar	axon-eventsourcing-4.9.1.jar	axon-modelling-4.9.1.jar	axon-test-4.9.1.jar	axon-configuration-4.9.1.jar	axon-disruptor-4.9.1.jar
cyclomaticComplexity						
1	80.485136	82.574431	83.101207	74.568966	89.438944	79.347826
2	8.426044	8.231173	6.963788	8.620690	6.105611	10.869565
3	5.179646	4.640981	3.528319	8.620690	2.805281	2.717391
4	2.553347	2.101576	2.692665	3.160920	0.825083	2.173913
5	1.367864	0.788091	2.228412	1.724138	0.495050	1.630435
6	0.820719	0.350263	0.928505	1.293103	0.000000	1.086957
7	0.364764	0.612960	0.185701	0.574713	0.330033	1.086957
8	0.218858	0.612960	0.092851	0.431034	0.000000	1.086957
9	0.127667	0.000000	0.185701	0.143678	0.000000	0.000000
10	0.072953	0.000000	0.000000	0.143678	0.000000	0.000000
11	0.164144	0.000000	0.000000	0.287356	0.000000	0.000000
12	0.072953	0.000000	0.000000	0.287356	0.000000	0.000000
13	0.036476	0.087566	0.000000	0.143678	0.000000	0.000000
14	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
15	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
16	0.000000	0.000000	0.092851	0.000000	0.000000	0.000000
17	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
21	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
22	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000
40	0.018238	0.000000	0.000000	0.000000	0.000000	0.000000

Table 2b Chart 1 - Cyclomatic method complexity distribution (normalized)

<Figure size 640x480 with 0 Axes>

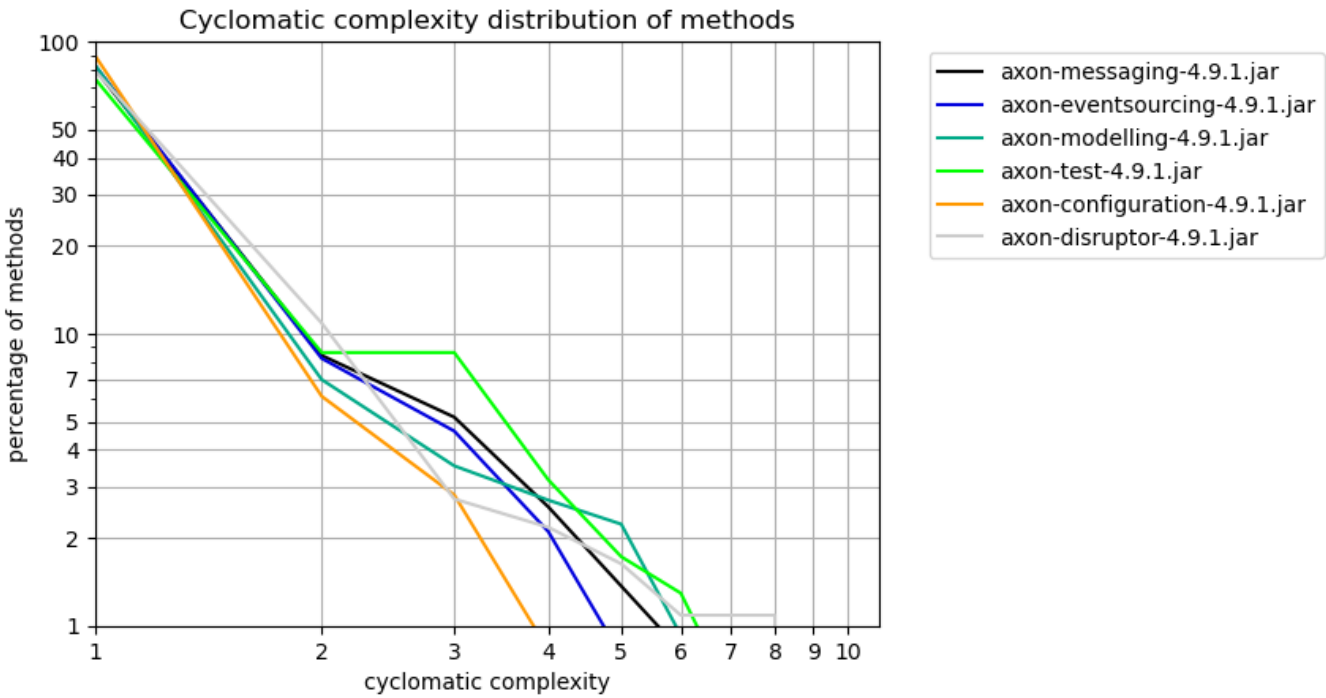


Table 2c - Top 30 packages with highest cyclomatic complexity

The following table shows the top 30 packages with the highest cyclomatic complexity. The whole table can be found in the CSV report `Effective_lines_of_method_code_per_package` .

	artifactName	fullPackageName	complexityInPackage	methodCount	maxComplexity	maxComplexityMethod
0	axon-messaging-4.9.1	org.axonframework.eventhandling	1278	838	21	processBatch
1	axon-configuration-4.9.1	org.axonframework.config	716	606	7	getFactoryForType
4	axon-messaging-4.9.1	org.axonframework.queryhandling	477	381	11	doQuery
2	axon-messaging-4.9.1	org.axonframework.eventhandling.pooled	448	333	22	run
6	axon-modelling-4.9.1	org.axonframework.modelling.command	445	329	9	resolveTarget
3	axon-test-4.9.1	org.axonframework.test.aggregate	434	249	13	ensureValuesEqual
7	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore	397	264	13	hasName
8	axon-messaging-4.9.1	org.axonframework.messaging.annotation	386	239	14	handle
9	axon-modelling-4.9.1	org.axonframework.modelling.command.inspection	339	218	9	prepareHandle
10	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing	325	251	8	doScheduleSnapshot
5	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.jdbc	304	249	12	equi
16	axon-messaging-4.9.1	org.axonframework.common	301	144	9	getExactDirectSuperTypesOfParameterizedTypeOrClass
12	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.legacy	292	187	8	withGapsClean
14	axon-messaging-4.9.1	org.axonframework.serialization	285	181	7	calculateRound
18	axon-modelling-4.9.1	org.axonframework.modelling.saga	277	194	6	instantiateAssociationResolver
11	axon-disruptor-4.9.1	org.axonframework.disruptor.commandhandling	274	184	8	doDispatch
13	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.jdbc	273	236	7	lambdafetchTrackedEvents
19	axon-messaging-4.9.1	org.axonframework.commandhandling.gateway	249	174	12	createGateway
20	axon-messaging-4.9.1	org.axonframework.commandhandling.distributed	243	175	12	equi
17	axon-test-4.9.1	org.axonframework.test.saga	235	168	9	assertDispatchedEqual
15	axon-messaging-4.9.1	org.axonframework.eventhandling.deadletter.jpa	212	132	15	equi
27	axon-messaging-4.9.1	org.axonframework.messaging	209	156	4	equi
25	axon-messaging-4.9.1	org.axonframework.messaging.unitofwork	206	129	11	executeWithRes
23	axon-messaging-4.9.1	org.axonframework.commandhandling	201	169	10	<in
26	axon-test-4.9.1	org.axonframework.test.matchers	191	108	8	matchesL
31	axon-messaging-4.9.1	org.axonframework.common.caching	182	110	8	onEvent
21	axon-messaging-4.9.1	org.axonframework.eventhandling.tokenstore.jdbc	173	130	9	updateTok

	artifactName	fullPackageName	complexityInPackage	methodCount	maxComplexity	maxComplexityMeth
30	axon-messaging-4.9.1	org.axonframework.messaging.deadletter	169	112	10	equi
33	axon-messaging-4.9.1	org.axonframework.tracing	156	126	7	determineMessageNar
29	axon-eventsourcing-4.9.1	org.axonframework.eventsourcing.eventstore.jpa	155	101	8	fetchTrackedEver

Table 2d - Top 30 methods with highest cyclomatic complexity

The following table shows the top 30 packages containing the methods with the highest cyclomatic complexity. The whole table can be found in the CSV report

Effective_lines_of_method_code_per_package .

index	artifactName	fullPackageName	maxComplexityType	maxComple
0	51	axon-messaging-4.9.1 org.axonframework.eventhandling.scheduling.job...	JobRunrEventScheduler	deserial:
1	2	axon-messaging-4.9.1 org.axonframework.eventhandling.pooled	Coordinator\$CoordinationTask	
2	0	axon-messaging-4.9.1 org.axonframework.eventhandling	TrackingEventProcessor	pi
3	32	axon-modelling-4.9.1 org.axonframework.modelling.saga.repository	AssociationValueMap\$AssociationValueComparator	
4	15	axon-messaging-4.9.1 org.axonframework.eventhandling.deadletter.jpa	DeadLetterEventEntry	
5	8	axon-messaging-4.9.1 org.axonframework.messaging.annotation	AnnotatedMessageHandlingMember	
6	7	axon-eventsourcing-4.9.1 org.axonframework.eventsourcing.eventstore	ConcatenatingDomainEventStream	
7	52	axon-messaging-4.9.1 org.axonframework.commandhandling.distributed....	CommandNameFilter	deserial:
8	47	axon-messaging-4.9.1 org.axonframework.deadline.jobrunr	JobRunrDeadlineManager	deserial:
9	3	axon-test-4.9.1 org.axonframework.test.aggregate	AggregateTestFixture	ensure'
10	5	axon-messaging-4.9.1 org.axonframework.eventhandling.deadletter.jdbc	JdbcDeadLetter	
11	37	axon-messaging-4.9.1 org.axonframework.common.jdbc	ConnectionWrapperFactory	lar
12	39	axon-test-4.9.1 org.axonframework.test.server	AxonServerContainer	
13	19	axon-messaging-4.9.1 org.axonframework.commandhandling.gateway	CommandGatewayFactory	cre
14	20	axon-messaging-4.9.1 org.axonframework.commandhandling.distributed	ReplyMessage	
15	22	axon-messaging-4.9.1 org.axonframework.eventhandling.deadletter.leg...	JpaDeadLetter	
16	35	axon-messaging-4.9.1 org.axonframework.deadline.quartz	DeadlineJob	
17	4	axon-messaging-4.9.1 org.axonframework.queryhandling	SimpleQueryBus	
18	28	axon-messaging-4.9.1 org.axonframework.deadline.dbscheduler	DbSchedulerHumanReadableDeadlineDetails	
19	25	axon-messaging-4.9.1 org.axonframework.messaging.unitofwork	BatchingUnitOfWork	execut
20	23	axon-messaging-4.9.1 org.axonframework.commandhandling	MethodCommandHandlerDefinition\$MethodCommandMe...	
21	40	axon-messaging-4.9.1 org.axonframework.messaging.responsetypes	MultipleInstancesResponseType	
22	49	axon-messaging-4.9.1 org.axonframework.common.lock	PessimisticLockFactory\$DisposableLock	
23	30	axon-messaging-4.9.1 org.axonframework.messaging.deadletter	GenericDeadLetter	
24	21	axon-messaging-4.9.1 org.axonframework.eventhandling.tokenstore.jdbc	JdbcTokenStore	l
25	6	axon-modelling-4.9.1 org.axonframework.modelling.command	AnnotationCommandTargetResolver	re
26	17	axon-test-4.9.1 org.axonframework.test.saga	CommandValidator	assertDispatc

index	artifactName	fullPackageName	maxComplexityType	maxComple
27	axon-messaging-4.9.1	org.axonframework.common	TypeReflectionUtils	getExactDirectSuperTypesOfParameterize
28	axon-messaging-4.9.1	org.axonframework.serialization.json	JacksonSerializer	
29	axon-modelling-4.9.1	org.axonframework.modelling.command.inspection	AnnotatedAggregateMetaModelFactory\$AnnotatedAg...	prep