

# Overview in General

This file contains a general overview of the data in the graph including node labels and relationships types.

## References

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

## Node Labels

### Table 1a - Highest node count by label combination

Lists the 30 label combinations with the highest number of nodes. The labels with the lowest node count are listed in table 1b. The total list would sum up to the total number of labels (100%).

The whole table can be found in the CSV report `Node_label_combination_count`.

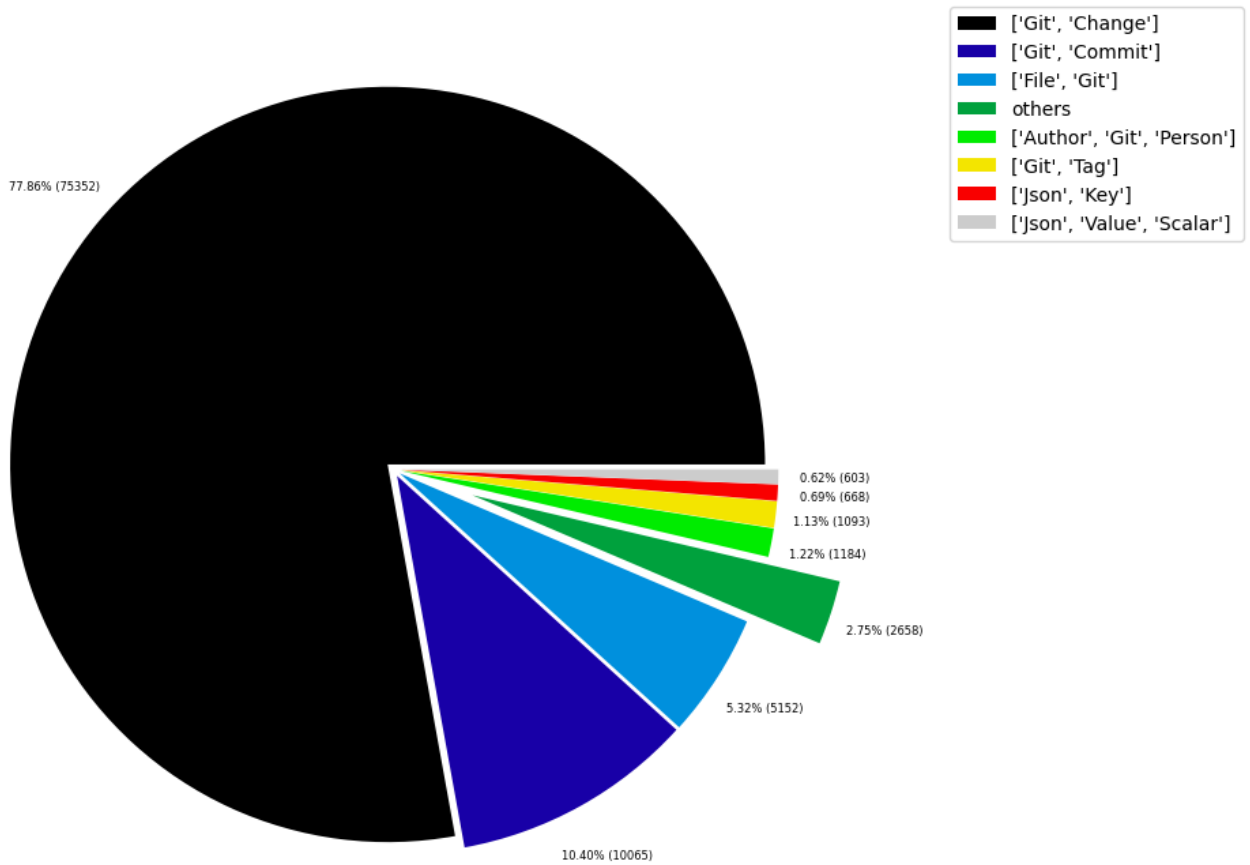
	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	75352	77.863084
1	[Git, Commit]	10065	10.400413
2	[File, Git]	5152	5.323689
3	[Author, Git, Person]	1184	1.223456
4	[Git, Tag]	1093	1.129424
5	[Json, Key]	668	0.690261
6	[Json, Value, Scalar]	603	0.623095
7	[Committer, Git, Person]	371	0.383363
8	[NPM, Dependency]	330	0.340997
9	[Type, TS, Primitive, ExternalType]	285	0.294498
10	[Type, TS, Declared, ExternalType]	272	0.281064
11	[TS, ExternalDeclaration]	215	0.222165
12	[Type, TS, Literal, ExternalType]	136	0.140532
13	[Json, Value, Object]	133	0.137432
14	[Type, TS, Union, ExternalType]	117	0.120899
15	[Type, TS, ObjectMember, ExternalType]	98	0.101266
16	[NPM, Script]	91	0.094033
17	[TS, Property]	65	0.067166
18	[TS, Function]	47	0.048566
19	[Type, Object, TS, ExternalType]	38	0.039266
20	[Type, TS, FunctionParameter, ExternalType]	37	0.038233
21	[File, Directory]	34	0.035133
22	[TS, Parameter]	33	0.034100
23	[Type, TS, Function, ExternalType]	32	0.033066
24	[Package, File, Json, NPM]	29	0.029966
25	[Git, Branch]	29	0.029966
26	[TS, ExternalModule]	25	0.025833
27	[TS, Variable]	24	0.024800
28	[Value, TS, Literal]	20	0.020666
29	[jQAssistant, Rule, Concept]	19	0.019633

## Chart 1a - Highest node count by label combination

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in Chart 1b.

<Figure size 640x480 with 0 Axes>

Nodes per label combination (more than 0.5% overall)



## Table 1b - Lowest node count by label combination

Lists the 30 label combinations with the lowest number of nodes until they reach 0.5% of the total node count, which are shown above.

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Analyze, Task, jQAssistant]	1	0.001033
1	[File, TS, Scan]	1	0.001033
2	[TS, Method]	1	0.001033
3	[Value, TS, ObjectMember]	1	0.001033
4	[TS, Constructor]	1	0.001033
5	[TS, Class]	1	0.001033
6	[TS, Enum]	2	0.002067
7	[Value, Object, TS]	3	0.003100
8	[Type, TS, Tuple, ExternalType]	3	0.003100
9	[Value, TS, Function]	4	0.004133
10	[TS, TypeParameter]	4	0.004133
11	[Value, TS, Complex]	5	0.005167
12	[NPM, Engine]	6	0.006200
13	[Project, TS]	6	0.006200
14	[File, Local]	6	0.006200
15	[Value, TS, Call]	6	0.006200
16	[Value, TS, Member]	6	0.006200
17	[File, TS, Local, Module]	6	0.006200
18	[Type, TS, TypeParameterReference, ExternalType]	6	0.006200
19	[TS, EnumMember]	8	0.008267
20	[Type, TS, NotIdentified, ExternalType]	11	0.011367
21	[Json, Value, Array]	12	0.012400
22	[Value, TS, Declared]	13	0.013433
23	[TS, TypeAlias]	14	0.014467
24	[File, Directory, Local]	16	0.016533
25	[Type, TS, Intersection, ExternalType]	17	0.017567
26	[TS, Interface]	18	0.018600
27	[jQAssistant, Rule, Concept]	19	0.019633
28	[Value, TS, Literal]	20	0.020666
29	[TS, Variable]	24	0.024800

## Chart 1b - Lowest node count by label combination

Shows the lowest (less than 0.5% overall) node count label combinations. Therefore, this plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

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Nodes per label combination (less than 0.5% overall)

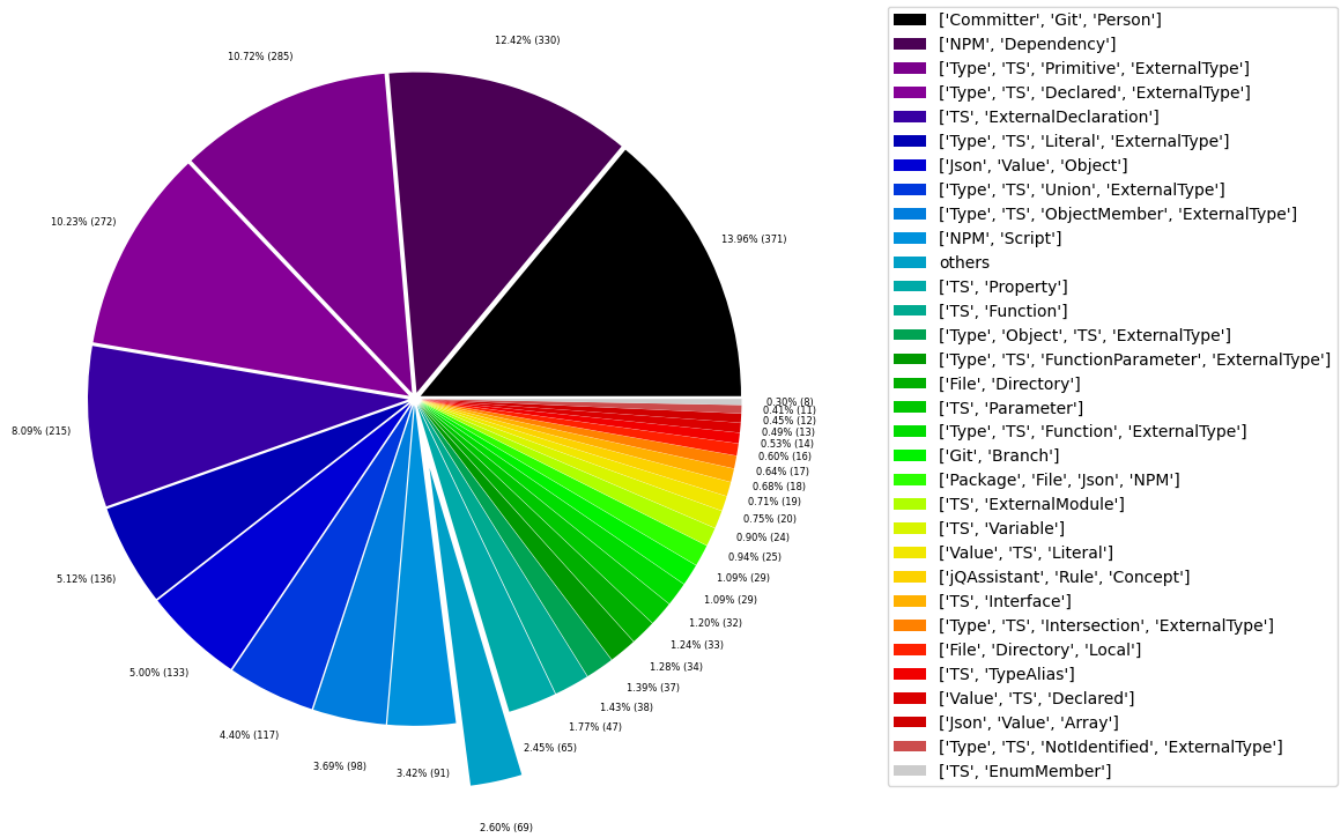


Table 1c - Highest node count by single label

Lists the 40 labels with the highest number of nodes. Doesn't sum up to the total number of nodes or 100% because one node can have multiple labels. Helps to identify commonly used labels.

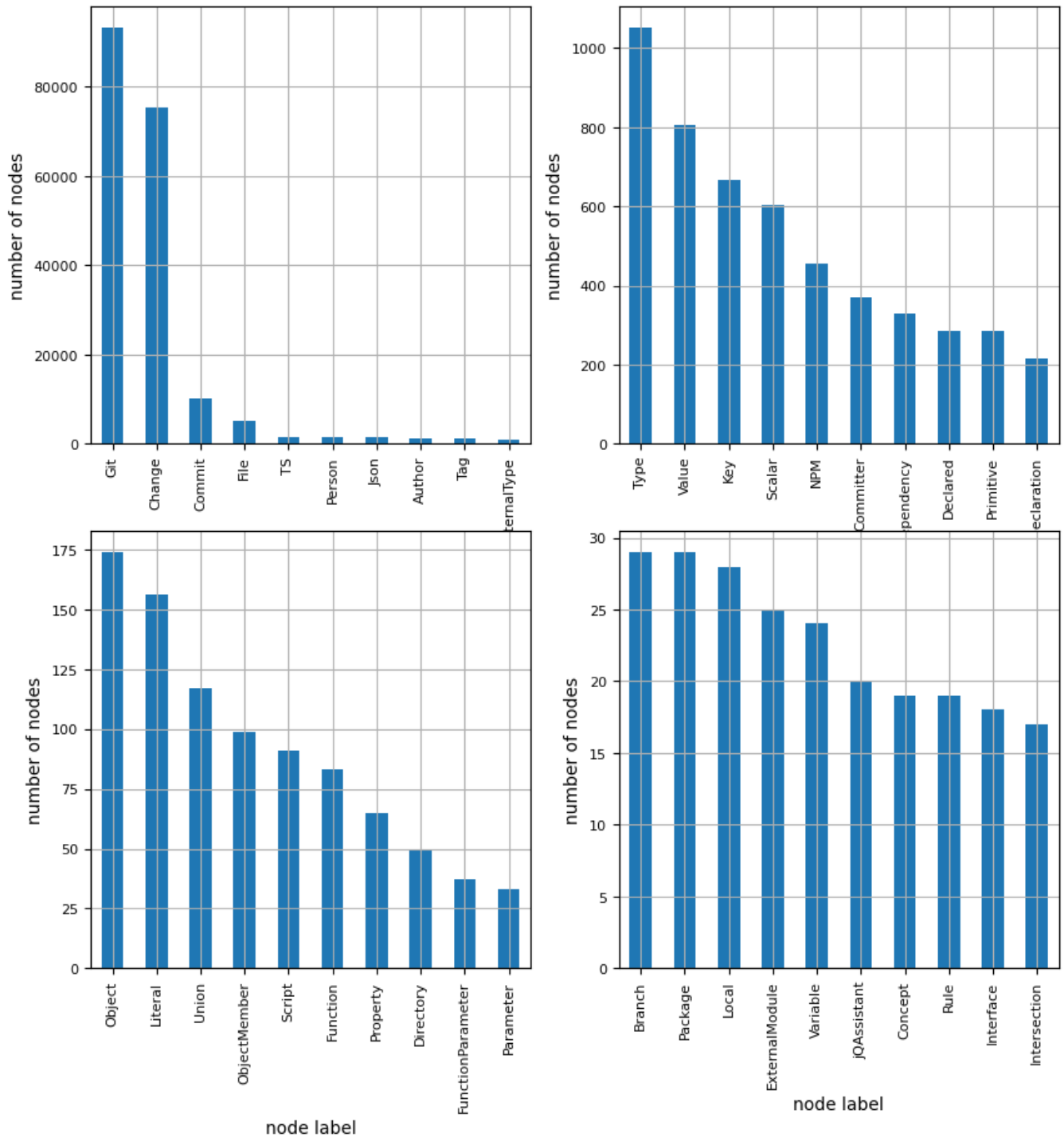
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	93246	96.353397
1	Change	75352	77.863084
2	Commit	10065	10.400413
3	File	5244	5.418755
4	TS	1581	1.633686
5	Person	1555	1.606820
6	Json	1445	1.493154
7	Author	1184	1.223456
8	Tag	1093	1.129424
9	ExternalType	1052	1.087058
10	Type	1052	1.087058
11	Value	806	0.832860
12	Key	668	0.690261
13	Scalar	603	0.623095
14	NPM	456	0.471196
15	Committer	371	0.383363
16	Dependency	330	0.340997
17	Declared	285	0.294498
18	Primitive	285	0.294498
19	ExternalDeclaration	215	0.222165
20	Object	174	0.179799
21	Literal	156	0.161199
22	Union	117	0.120899
23	ObjectMember	99	0.102299
24	Script	91	0.094033
25	Function	83	0.085766
26	Property	65	0.067166
27	Directory	50	0.051666
28	FunctionParameter	37	0.038233
29	Parameter	33	0.034100
30	Branch	29	0.029966
31	Package	29	0.029966
32	Local	28	0.028933
33	ExternalModule	25	0.025833
34	Variable	24	0.024800
35	jqAssistant	20	0.020666
36	Concept	19	0.019633
37	Rule	19	0.019633
38	Interface	18	0.018600
39	Intersection	17	0.017567

## Chart 1c - Highest node count by label

Shows the 40 labels with the highest number of nodes.

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## Node count by label



## Relationship Types

Table 2a - Highest relationship count by type

Lists the 30 relationship types with the highest number of occurrences. The whole table can be found in the CSV report `Relationship_type_count`.

Total number of relationships: 270534

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	75352	27.853061
1	MODIFIES	75352	27.853061
2	UPDATES	49608	18.337067
3	COMMITTED	20130	7.440839
4	CREATES	18010	6.657204
5	HAS_PARENT	11083	4.096712
6	DELETES	10510	3.884909
7	RENAMES	2776	1.026119
8	HAS_NEW_NAME	1571	0.580703
9	ON_COMMIT	1093	0.404016
10	DEPENDS_ON	962	0.355593
11	HAS_KEY	668	0.246919
12	HAS_VALUE	668	0.246919
13	CONTAINS	589	0.217718
14	OF_TYPE	329	0.121611
15	EXPORTS	275	0.101651
16	REFERENCES	196	0.072449
17	DECLARES	185	0.068383
18	DECLARES_DEV_DEPENDENCY	169	0.062469
19	DECLARES_DEPENDENCY	161	0.059512
20	HAS_MEMBER	99	0.036594
21	HAS_TYPE_ARGUMENT	92	0.034007
22	DECLARES_SCRIPT	91	0.033637
23	RESOLVES_TO	80	0.029571
24	RETURNS	80	0.029571
25	HAS_PARAMETER	70	0.025875
26	CONTAINS_VALUE	51	0.018852
27	COPIES	43	0.015894
28	INITIALIZED_WITH	32	0.011828
29	HAS_HEAD	29	0.010720

### Chart 2a - Highest relationship count by type

Values under 0.5% will be grouped into "others" to get a cleaner plot. The group "others" is then broken down in the second chart.

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Relationship types (more than 0.5% overall)

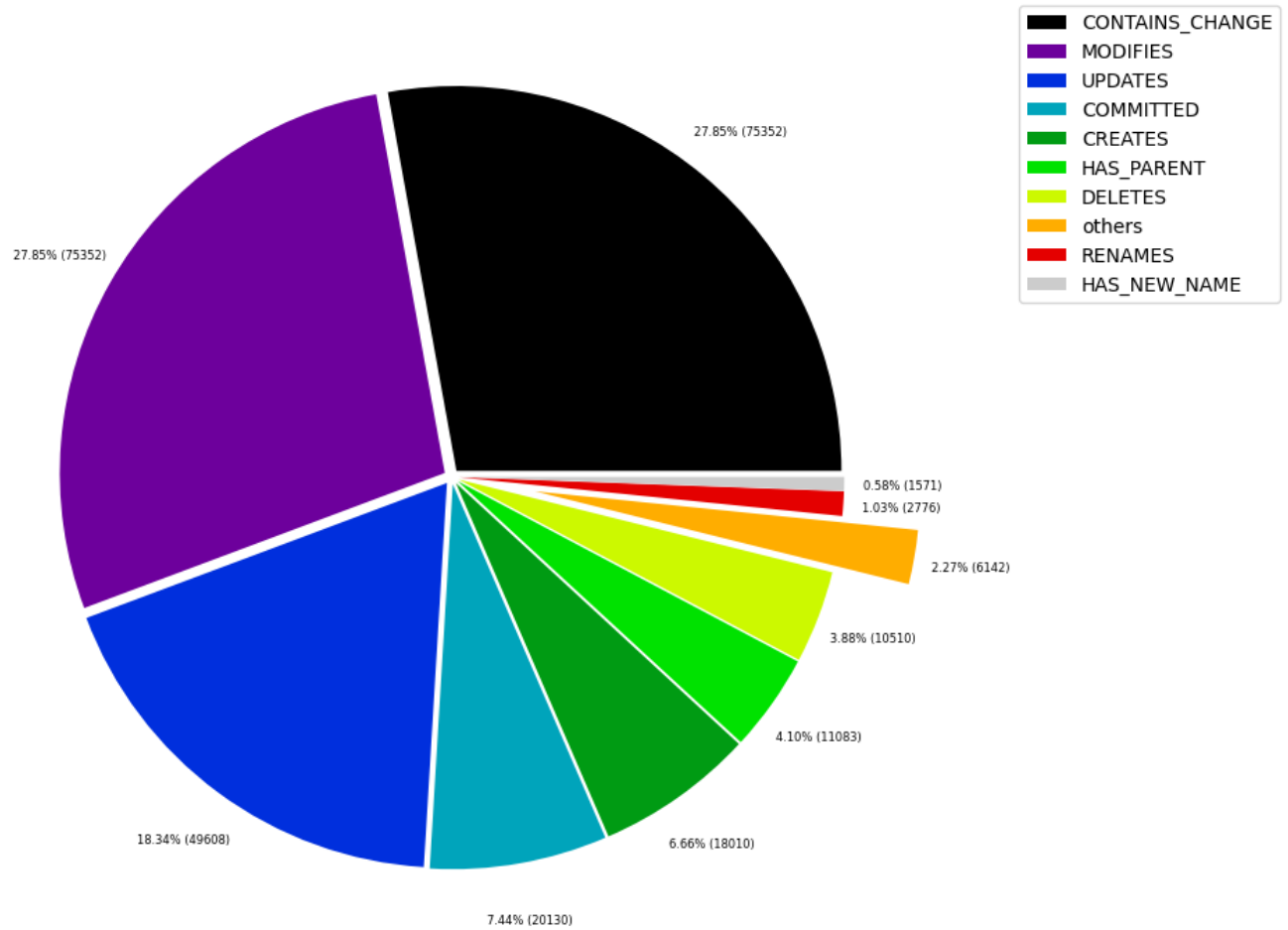


Table 2b - Lowest relationship count by type

Lists the 30 relationships type with the lowest number of occurrences up to 0.5% of the total node count. This is essentially breaking down the "others" slice from the chart above.

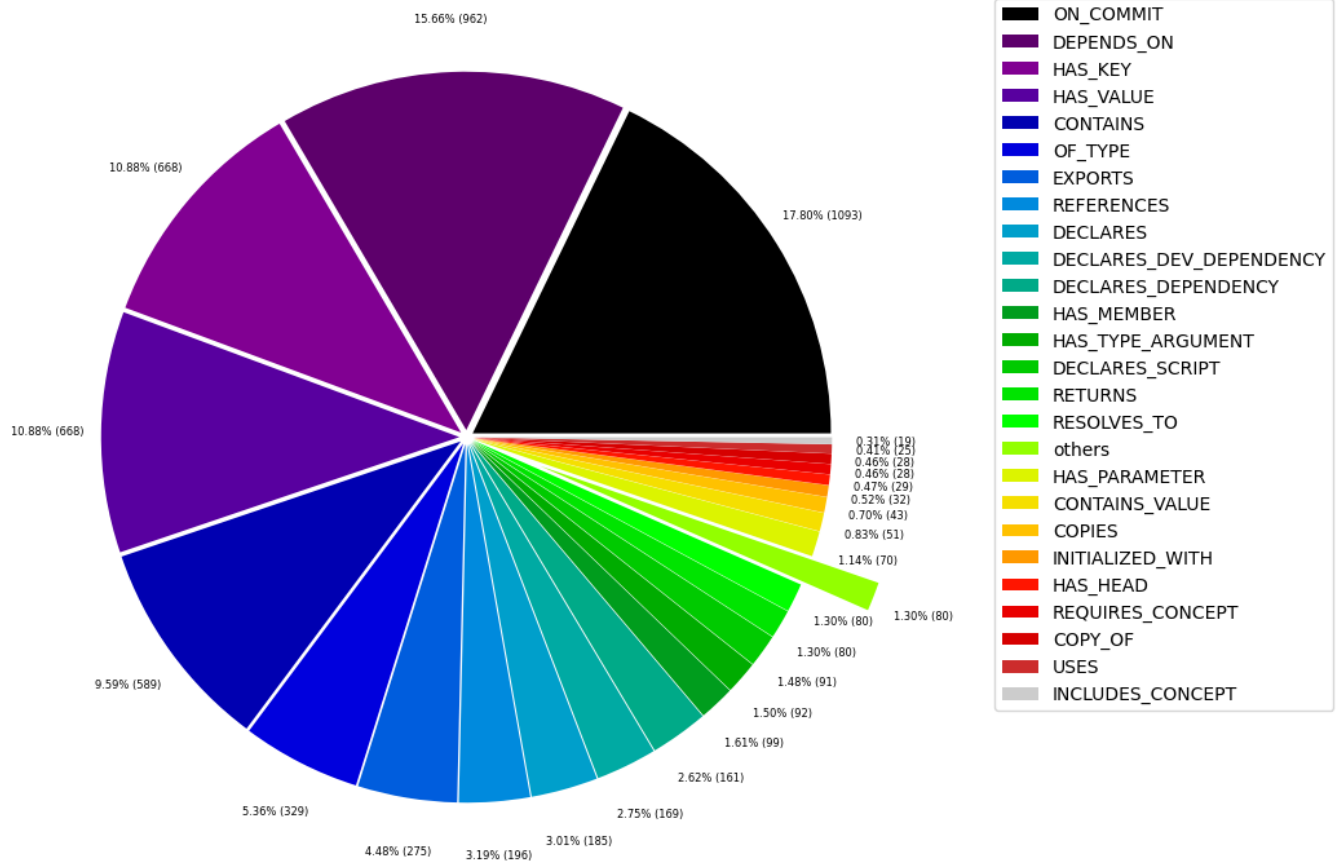
	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONSTRAINED_BY	4	0.001479
1	REFERENCED_PROJECTS	5	0.001848
2	MEMBER	6	0.002218
3	HAS_ROOT	6	0.002218
4	HAS_NPM_PACKAGE	6	0.002218
5	HAS_CONFIG	6	0.002218
6	HAS_ARGUMENT	6	0.002218
7	DECLARES_ENGINE	6	0.002218
8	CONTAINS_PROJECT	6	0.002218
9	CALLS	6	0.002218
10	PARENT	6	0.002218
11	EXTENDS	7	0.002587
12	SIMILAR	10	0.003696
13	INCLUDES_CONCEPT	19	0.007023
14	USES	25	0.009241
15	REQUIRES_CONCEPT	28	0.010350
16	COPY_OF	28	0.010350
17	HAS_HEAD	29	0.010720
18	INITIALIZED_WITH	32	0.011828
19	COPIES	43	0.015894
20	CONTAINS_VALUE	51	0.018852
21	HAS_PARAMETER	70	0.025875
22	RETURNS	80	0.029571
23	RESOLVES_TO	80	0.029571
24	DECLARES_SCRIPT	91	0.033637
25	HAS_TYPE_ARGUMENT	92	0.034007
26	HAS_MEMBER	99	0.036594
27	DECLARES_DEPENDENCY	161	0.059512
28	DECLARES_DEV_DEPENDENCY	169	0.062469
29	DECLARES	185	0.068383

## Chart 2b - Lowest relationship count by type

Shows the lowest (less than 0.5% overall) relationship types. This plot breaks down the "others" slice of the pie chart above. Values under 0.01% will be grouped into "others" to get a cleaner plot.

<Figure size 640x480 with 0 Axes>

Relationship types (less than 0.5% overall)



## Node labels with their relationships

Table 3a - Highest relationship count by node labels and relationship type

Lists the 30 node labels and their relationship types with the highest number of occurrences.

	sourceLabels	relationType	targetLabels	numberOfRelationships	numberOfNodesWithSameLabelsAsSource	numberOfNodes'
0	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	75352		10065
1	[Git, Change]	MODIFIES	[File, Git]	75352		75352
2	[Git, Change]	UPDATES	[File, Git]	49608		75352
3	[Git, Change]	CREATES	[File, Git]	18010		75352
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11083		10065
5	[Git, Change]	DELETES	[File, Git]	10510		75352
6	[Author, Git, Person]	COMMITTED	[Git, Commit]	10065		1184
7	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10065		371
8	[Git, Change]	RENAMES	[File, Git]	2776		75352
9	[File, Git]	HAS_NEW_NAME	[File, Git]	1571		5152
10	[Git, Tag]	ON_COMMIT	[Git, Commit]	1093		1093
11	[Json, Value, Object]	HAS_KEY	[Json, Key]	668		133
12	[Json, Key]	HAS_VALUE	[Json, Value, Scalar]	552		668
13	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	285		47
14	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	215		25
15	[File, TS, Local, Module, Mark4ModuleWeaklyCon...	DEPENDS_ON	[TS, ExternalDeclaration]	192		3
16	[Package, File, Json, NPM]	DECLARES_DEV_DEPENDENCY	[NPM, Dependency]	169		29
17	[Package, File, Json, NPM]	DECLARES_DEPENDENCY	[NPM, Dependency]	161		29
18	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Primitive, ExternalType]	144		117
19	[Type, TS, Declared, ExternalType]	REFERENCES	[TS, ExternalDeclaration]	141		272
20	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	131		47
21	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Literal, ExternalType]	119		117
22	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104		668
23	[Type, Object, TS, ExternalType]	HAS_MEMBER	[Type, TS, ObjectMember, ExternalType]	98		38
24	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91		29
25	[Type, TS, Union, ExternalType]	CONTAINS	[Type, TS, Declared, ExternalType]	69		117
26	[File, Directory]	CONTAINS	[File, Directory]	63		34
27	[TS, Interface]	DECLARES	[TS, Property]	61		18
28	[File, Directory]	CONTAINS	[Package, File, Json, NPM]	58		34
29	[File, Git]	RESOLVES_TO	[Package, File, Json, NPM]	57		5152

## Graph Density

total\_number\_of\_nodes (vertices): 96775

total\_number\_of\_relationships (edges): 270534

-> total directed graph density: 2.8886836383851016e-05

-> total directed graph density in percent: 0.0028886836383851017