

# 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%).

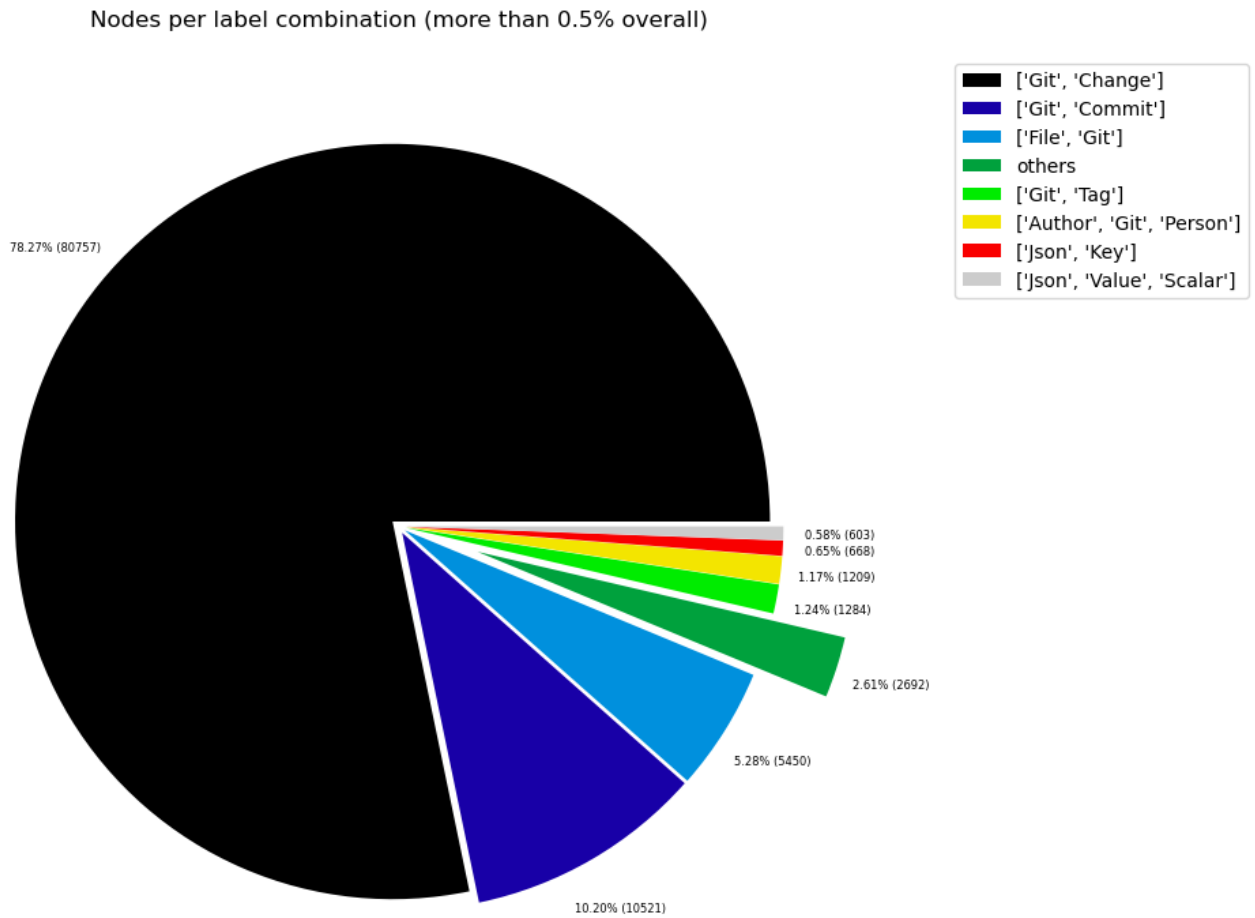
The whole table can be found in the CSV report `Node_label_combination_count`.

	nodeLabels	nodesWithThatLabels	nodesWithThatLabelsPercent
0	[Git, Change]	80757	78.265041
1	[Git, Commit]	10521	10.196348
2	[File, Git]	5450	5.281827
3	[Git, Tag]	1284	1.244379
4	[Author, Git, Person]	1209	1.171693
5	[Json, Key]	668	0.647387
6	[Json, Value, Scalar]	603	0.584393
7	[Committer, Git, Person]	371	0.359552
8	[NPM, Dependency]	338	0.327570
9	[Type, TS, Primitive]	291	0.282020
10	[Type, TS, Declared]	276	0.267483
11	[TS, ExternalDeclaration]	215	0.208366
12	[Type, TS, Literal]	136	0.131803
13	[Json, Value, Object]	133	0.128896
14	[Type, TS, Union]	119	0.115328
15	[Type, TS, ObjectMember]	101	0.097883
16	[NPM, Script]	91	0.088192
17	[TS, Property]	65	0.062994
18	[TS, Function]	47	0.045550
19	[Type, TS, FunctionParameter]	40	0.038766
20	[Type, Object, TS]	39	0.037797
21	[File, Directory]	34	0.032951
22	[Type, TS, Function]	34	0.032951
23	[TS, Parameter]	33	0.031982
24	[Git, Branch]	32	0.031013
25	[Package, File, Json, NPM]	29	0.028105
26	[TS, ExternalModule]	25	0.024229
27	[TS, Variable]	24	0.023259
28	[Value, TS, Literal]	20	0.019383
29	[JQAssistant, Rule, Concept]	19	0.018414

## 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.

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## 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	0.000969
1	[File, TS, Scan]	1	0.000969
2	[TS, Method]	1	0.000969
3	[Repository, File, Git]	1	0.000969
4	[TS, Constructor]	1	0.000969
5	[Value, TS, ObjectMember]	1	0.000969
6	[TS, Class]	1	0.000969
7	[TS, Enum]	2	0.001938
8	[Value, Object, TS]	3	0.002907
9	[Type, TS, Tuple]	3	0.002907
10	[Value, TS, Function]	4	0.003877
11	[TS, TypeParameter]	4	0.003877
12	[Value, TS, Complex]	5	0.004846
13	[NPM, Engine]	6	0.005815
14	[Project, TS]	6	0.005815
15	[File, Local]	6	0.005815
16	[Value, TS, Call]	6	0.005815
17	[Value, TS, Member]	6	0.005815
18	[File, TS, Local, Module]	6	0.005815
19	[Type, TS, TypeParameterReference]	6	0.005815
20	[TS, EnumMember]	8	0.007753
21	[Type, TS, NotIdentified]	11	0.010661
22	[Json, Value, Array]	12	0.011630
23	[Value, TS, Declared]	13	0.012599
24	[TS, TypeAlias]	16	0.015506
25	[File, Directory, Local]	16	0.015506
26	[TS, Interface]	17	0.016475
27	[Type, TS, Intersection]	17	0.016475
28	[JQAssistant, Rule, Concept]	19	0.018414
29	[Value, TS, Literal]	20	0.019383

## 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)

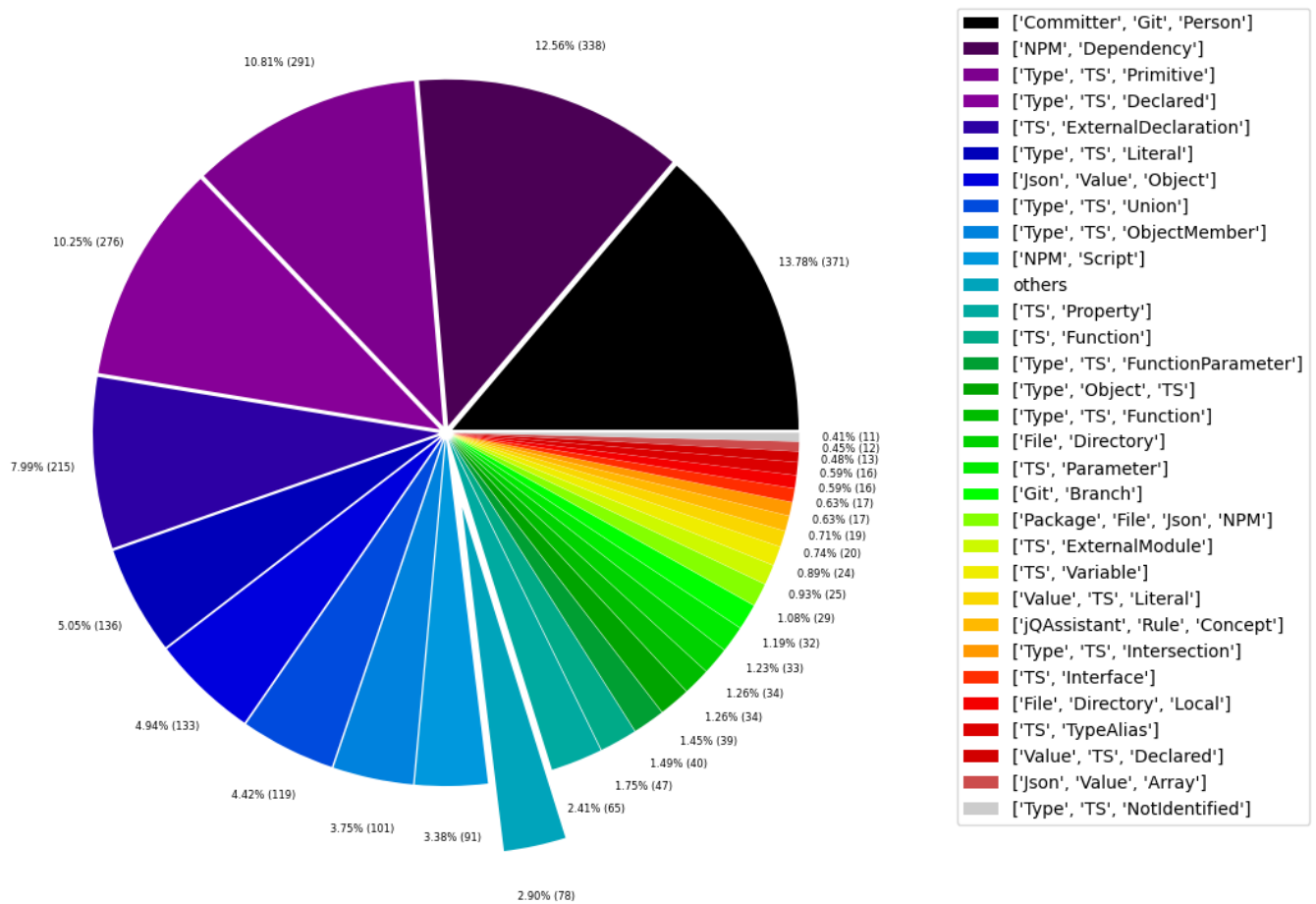


Table 1c - Highest node count by single label

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.

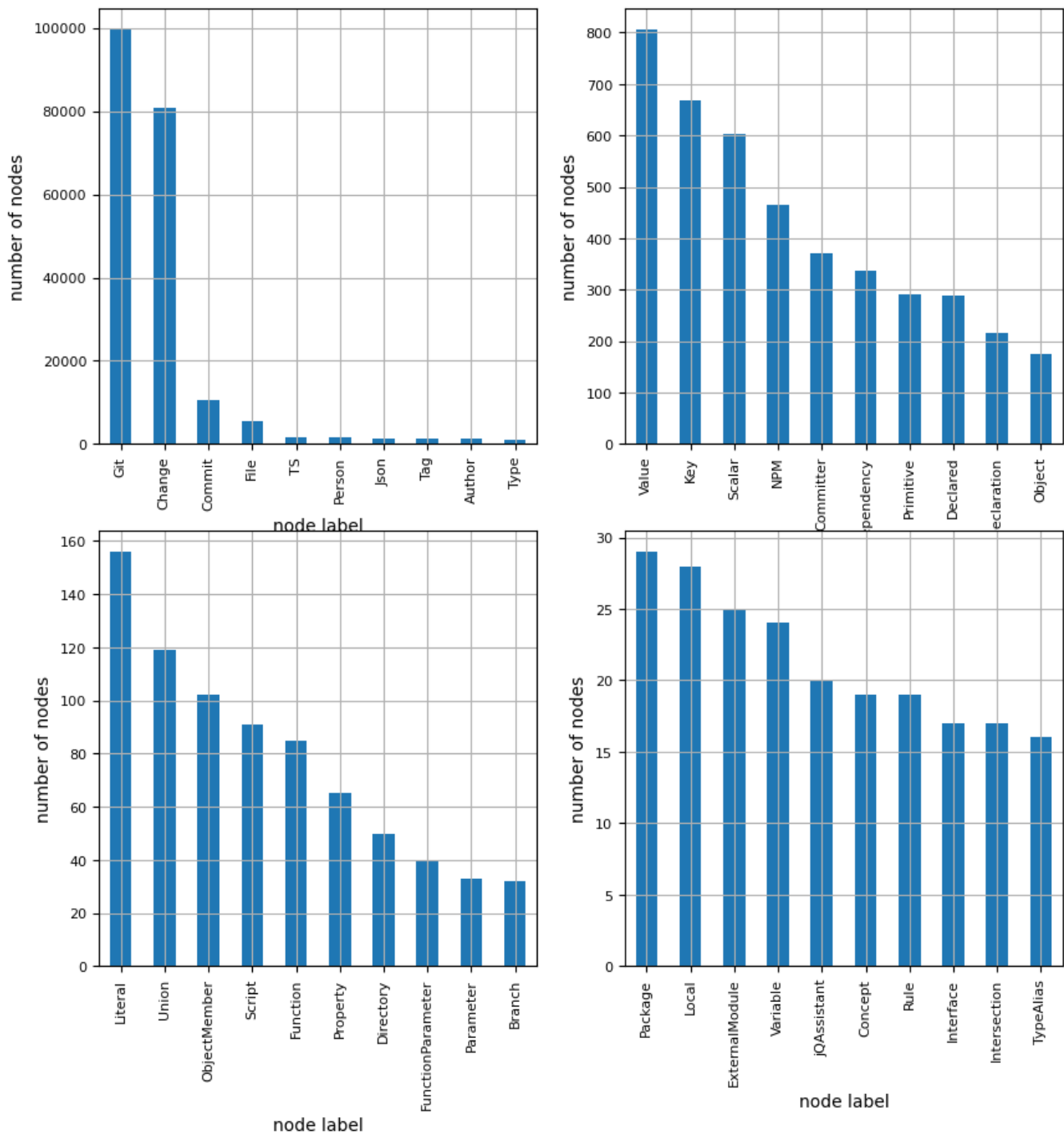
	nodeLabel	nodesWithThatLabel	nodesWithThatLabelPercent
0	Git	99625	96.550822
1	Change	80757	78.265041
2	Commit	10521	10.196348
3	File	5543	5.371957
4	TS	1603	1.553535
5	Person	1580	1.531245
6	Json	1445	1.400411
7	Tag	1284	1.244379
8	Author	1209	1.171693
9	Type	1073	1.039890
10	Value	806	0.781129
11	Key	668	0.647387
12	Scalar	603	0.584393
13	NPM	464	0.449682
14	Committer	371	0.359552
15	Dependency	338	0.327570
16	Primitive	291	0.282020
17	Declared	289	0.280082
18	ExternalDeclaration	215	0.208366
19	Object	175	0.169600
20	Literal	156	0.151186
21	Union	119	0.115328
22	ObjectMember	102	0.098853
23	Script	91	0.088192
24	Function	85	0.082377
25	Property	65	0.062994
26	Directory	50	0.048457
27	FunctionParameter	40	0.038766
28	Parameter	33	0.031982
29	Branch	32	0.031013
30	Package	29	0.028105
31	Local	28	0.027136
32	ExternalModule	25	0.024229
33	Variable	24	0.023259
34	jqAssistant	20	0.019383
35	Concept	19	0.018414
36	Rule	19	0.018414
37	Interface	17	0.016475
38	Intersection	17	0.016475
39	TypeAlias	16	0.015506

## 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: 308163

	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	CONTAINS_CHANGE	80757	26.205936
1	MODIFIES	80757	26.205936
2	UPDATES	52813	17.138008
3	COMMITTED	21042	6.828205
4	CREATES	19564	6.348588
5	HAS_PARENT	11561	3.751586
6	DELETES	11551	3.748341
7	HAS_COMMIT	10521	3.414102
8	HAS_FILE	5450	1.768545
9	RENAMES	3171	1.029001
10	HAS_NEW_NAME	1718	0.557497
11	HAS_TAG	1284	0.416663
12	ON_COMMIT	1284	0.416663
13	HAS_AUTHOR	1209	0.392325
14	DEPENDS_ON	959	0.311199
15	HAS_KEY	668	0.216768
16	HAS_VALUE	668	0.216768
17	CONTAINS	594	0.192755
18	HAS_COMMITTER	371	0.120391
19	OF_TYPE	337	0.109358
20	EXPORTS	276	0.089563
21	REFERENCES	197	0.063927
22	DECLARES	186	0.060358
23	DECLARES_DEV_DEPENDENCY	169	0.054841
24	DECLARES_DEPENDENCY	161	0.052245
25	HAS_MEMBER	102	0.033099
26	HAS_TYPE_ARGUMENT	94	0.030503
27	DECLARES_SCRIPT	91	0.029530
28	RETURNS	82	0.026609
29	HAS_PARAMETER	73	0.023689

## 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)

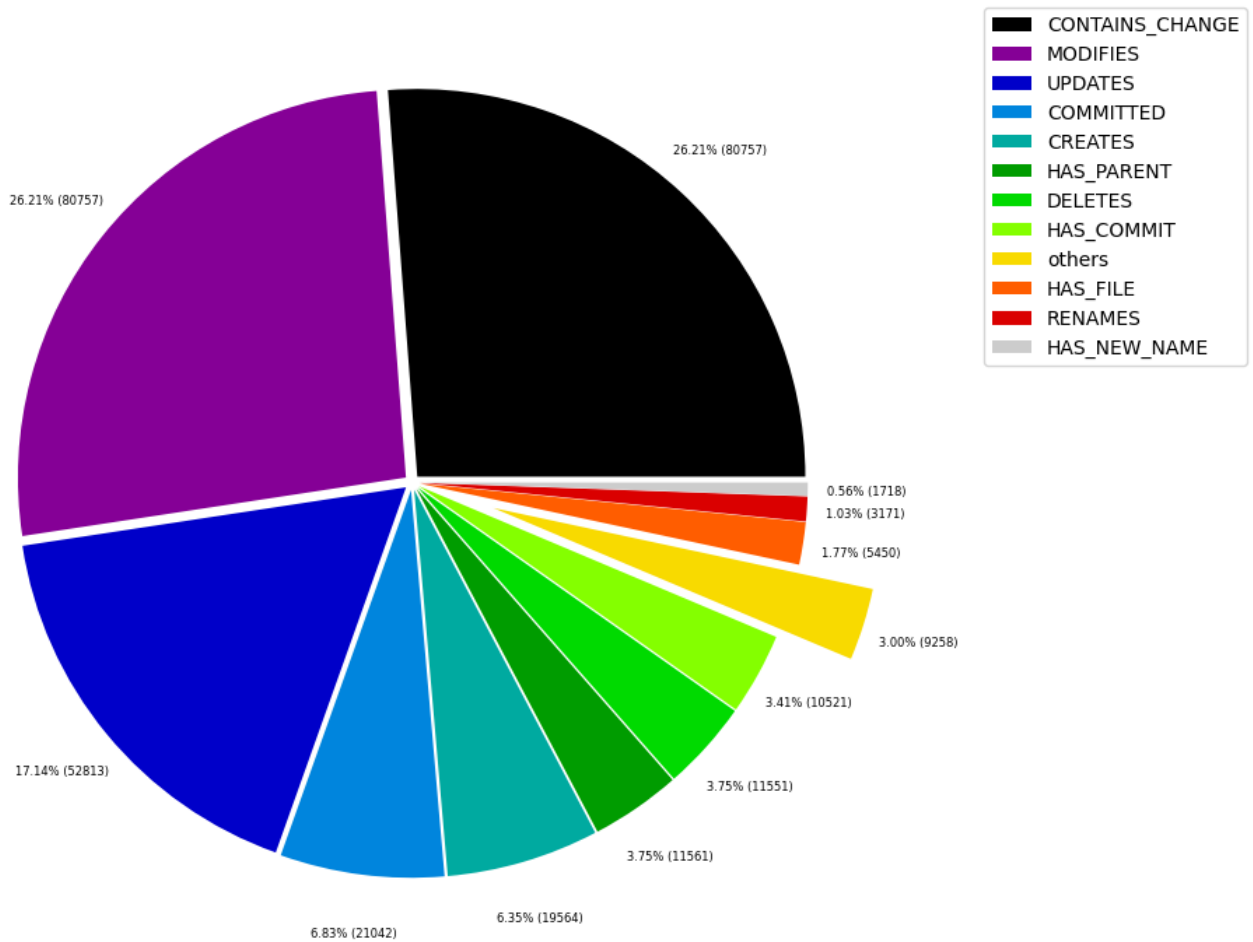


Table 2b - Lowest relationship count by type

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.

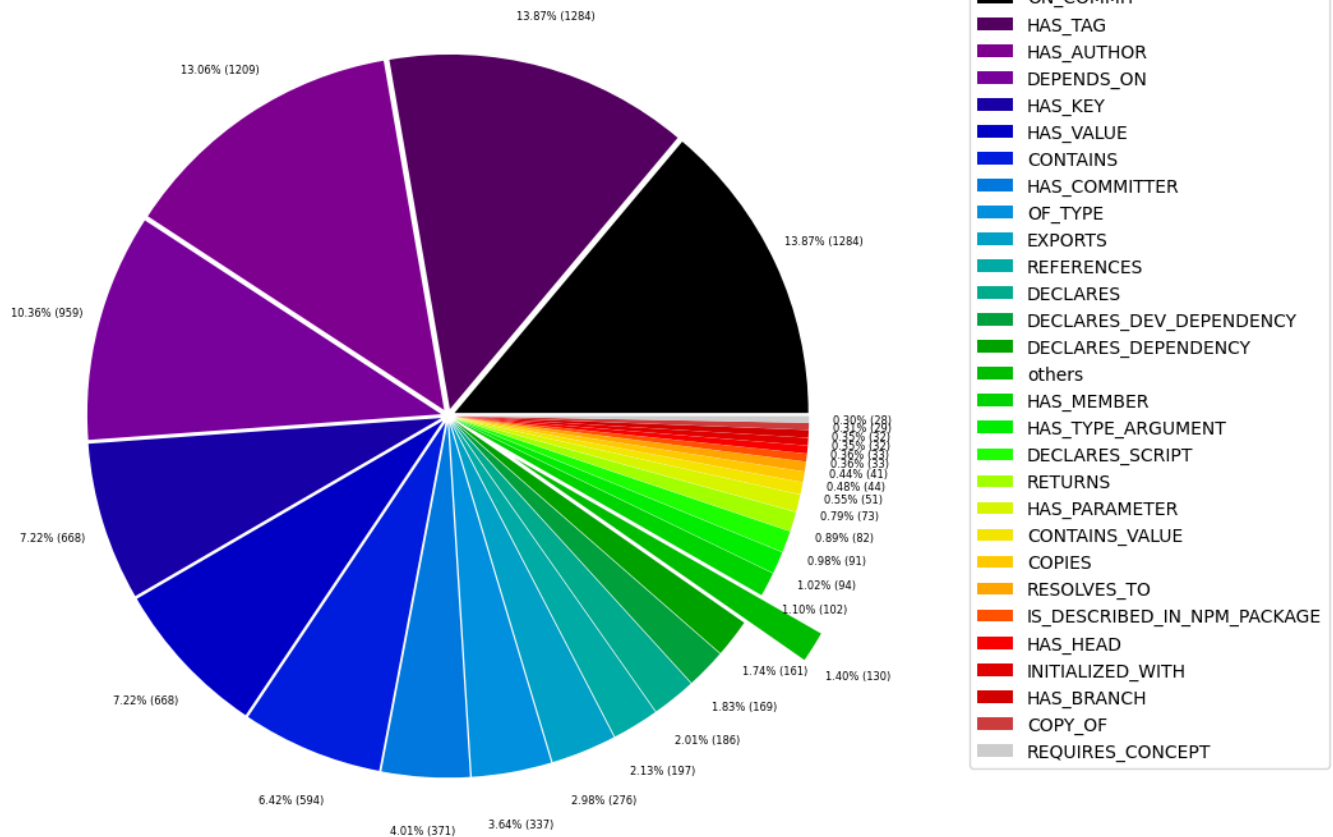
	relationshipType	nodesWithThatRelationshipType	nodesWithThatRelationshipTypePercent
0	PROVIDED_BY_NPM_DEPENDENCY	1	0.000325
1	IS_IMPLEMENTED_IN	2	0.000649
2	CONSTRAINED_BY	4	0.001298
3	REFERENCED_PROJECTS	5	0.001623
4	CONTAINS_PROJECT	6	0.001947
5	DECLARES_ENGINE	6	0.001947
6	EXTENDS	6	0.001947
7	HAS_ARGUMENT	6	0.001947
8	CALLS	6	0.001947
9	HAS_NPM_PACKAGE	6	0.001947
10	HAS_ROOT	6	0.001947
11	MEMBER	6	0.001947
12	PARENT	6	0.001947
13	HAS_CONFIG	6	0.001947
14	SIMILAR	6	0.001947
15	DECLARES_PEER_DEPENDENCY	8	0.002596
16	INCLUDES_CONCEPT	19	0.006166
17	USES	25	0.008113
18	REQUIRES_CONCEPT	28	0.009086
19	COPY_OF	29	0.009411
20	INITIALIZED_WITH	32	0.010384
21	HAS_BRANCH	32	0.010384
22	IS_DESCRIBED_IN_NPM_PACKAGE	33	0.010709
23	HAS_HEAD	33	0.010709
24	RESOLVES_TO	41	0.013305
25	COPIES	44	0.014278
26	CONTAINS_VALUE	51	0.016550
27	HAS_PARAMETER	73	0.023689
28	RETURNS	82	0.026609
29	DECLARES_SCRIPT	91	0.029530

## 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, Change]	MODIFIES	[File, Git]	80757	80757	
1	[Git, Commit]	CONTAINS_CHANGE	[Git, Change]	80757	10521	
2	[Git, Change]	UPDATES	[File, Git]	52813	80757	
3	[Git, Change]	CREATES	[File, Git]	19564	80757	
4	[Git, Commit]	HAS_PARENT	[Git, Commit]	11561	10521	
5	[Git, Change]	DELETES	[File, Git]	11551	80757	
6	[Repository, File, Git]	HAS_COMMIT	[Git, Commit]	10521	1	
7	[Author, Git, Person]	COMMITTED	[Git, Commit]	10521	1209	
8	[Committer, Git, Person]	COMMITTED	[Git, Commit]	10521	371	
9	[Repository, File, Git]	HAS_FILE	[File, Git]	5450	1	
10	[Git, Change]	RENAMES	[File, Git]	3171	80757	
11	[File, Git]	HAS_NEW_NAME	[File, Git]	1718	5450	
12	[Repository, File, Git]	HAS_TAG	[Git, Tag]	1284	1	
13	[Git, Tag]	ON_COMMIT	[Git, Commit]	1284	1284	
14	[Repository, File, Git]	HAS_AUTHOR	[Author, Git, Person]	1209	1	
15	[Json, Value, Object]	HAS_KEY	[Json, Key]	668	133	
16	[Json, Key]	HAS_VALUE	[Json, Value, Scalar]	552	668	
17	[Repository, File, Git]	HAS_COMMITTER	[Committer, Git, Person]	371	1	
18	[TS, Function]	DEPENDS_ON	[TS, ExternalDeclaration]	285	47	
19	[TS, ExternalModule]	EXPORTS	[TS, ExternalDeclaration]	215	25	
20	[File, TS, Local, Module, Mark4ModuleWeaklyCon...]	DEPENDS_ON	[TS, ExternalDeclaration]	192	2	
21	[Package, File, Json, NPM]	DECLARES_DEV_DEPENDENCY	[NPM, Dependency]	169	29	
22	[Package, File, Json, NPM]	DECLARES_DEPENDENCY	[NPM, Dependency]	161	29	
23	[Type, TS, Union]	CONTAINS	[Type, TS, Primitive]	147	119	
24	[Type, TS, Declared]	REFERENCES	[TS, ExternalDeclaration]	142	276	
25	[TS, Function]	DEPENDS_ON	[TS, ExternalModule]	131	47	
26	[Type, TS, Union]	CONTAINS	[Type, TS, Literal]	119	119	
27	[Json, Key]	HAS_VALUE	[Json, Value, Object]	104	668	
28	[Type, Object, TS]	HAS_MEMBER	[Type, TS, ObjectMember]	101	39	
29	[Package, File, Json, NPM]	DECLARES_SCRIPT	[NPM, Script]	91	29	

## Graph Density

total\_number\_of\_nodes (vertices): 103184

total\_number\_of\_relationships (edges): 308163

-> total directed graph density: 2.894409554517031e-05

-> total directed graph density in percent: 0.002894409554517031