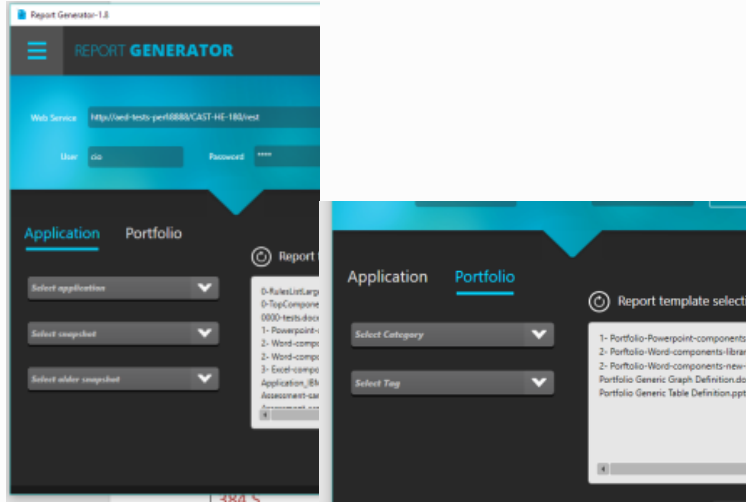


# CAST Report Generator - Table components - 1.9.0



- The **Constraint** column shows whether the component will retrieve data for an "engineering" (AED) or "analytics" domain (AAD), and whether an extension needs to be installed in order to generate results (and if we need a specific version or RestAPI).
- Due to backward compatibility, some components can have two different IDs, but the result will be the same.
- The **Mode** column shows whether the component is targeted at an **Application** or a **Portfolio** or an **Application** - the relevant option should be chosen in Report Generator (see image below). CAST recommends always selecting an Application when the target domain is "engineering" and when using Application mode, as it will avoid empty results (this is because in an "analytics" domain, violations and components does not exist for an application).



Component Id	Description	Mode	Constraints	Parameters	Configuration sample	Output	Result sample																																										
ACTION_PLANS	Display the action plan summary	Application	Having populated the action plan from the Engineering Dashboard.  This component is only relevant on an engineering database. It is empty on an analytics database.	None	TABLE; ACTION_PLANS	Display the number of new and old items in action plans by rules	<table border="1"> <thead> <tr> <th>Rule</th> <th>Old Violations (N)</th> <th>New Violations (P)</th> </tr> </thead> <tbody> <tr> <td>Close the outermost stream ASAP</td> <td>0</td> <td>4</td> </tr> <tr> <td>The exception Exception should never been thrown. Always Subclass Exception and throw the subclassed Classes.</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Rule	Old Violations (N)	New Violations (P)	Close the outermost stream ASAP	0	4	The exception Exception should never been thrown. Always Subclass Exception and throw the subclassed Classes.	0	0																																	
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ACTION_PLAN_VIOLATIONS	Display the action plan details	Application	Having populated the action plan from the Engineering Dashboard.  This component is only relevant on an engineering database. It is empty on an analytics database.	<ul style="list-style-type: none"> <li>COUNT= N ALL where N indicates the top N number ; default value = 10 (ALL for all violations)</li> <li>NAME=FULL SHORT to display short name or full name of objects (full name by default)</li> <li>FILTER= ADDED SOLVED PENDING  ALL to filter the list by the remedial action status; default is ALL</li> </ul>	TABLE; ACTION_PLAN_VIOLATIONS; COUNT=10, NAME=SHORT	List the violations in action plan	<table border="1"> <thead> <tr> <th>Rule Name</th> <th>Object Name</th> <th>Constraint</th> <th>Priority</th> <th>Status</th> <th>Last Updated</th> </tr> </thead> <tbody> <tr> <td>Close the outermost stream ASAP</td> <td>GetCommonTaggedApplications</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> <tr> <td>Close the outermost stream ASAP</td> <td>GetTags</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> <tr> <td>Close the outermost stream ASAP</td> <td>CaEWS&lt;T&gt;</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> <tr> <td>Close the outermost stream ASAP</td> <td>GetSampleResult&lt;T&gt;</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> <tr> <td>The exception Exception should never been thrown. Always Subclass Exception and throw the subclassed Classes.</td> <td>DownloadString</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> <tr> <td>The exception Exception should never been thrown. Always Subclass Exception</td> <td>DeserializeFromFile&lt;T&gt;</td> <td>test</td> <td>high</td> <td>added</td> <td>Dec 21 2018</td> </tr> </tbody> </table>	Rule Name	Object Name	Constraint	Priority	Status	Last Updated	Close the outermost stream ASAP	GetCommonTaggedApplications	test	high	added	Dec 21 2018	Close the outermost stream ASAP	GetTags	test	high	added	Dec 21 2018	Close the outermost stream ASAP	CaEWS<T>	test	high	added	Dec 21 2018	Close the outermost stream ASAP	GetSampleResult<T>	test	high	added	Dec 21 2018	The exception Exception should never been thrown. Always Subclass Exception and throw the subclassed Classes.	DownloadString	test	high	added	Dec 21 2018	The exception Exception should never been thrown. Always Subclass Exception	DeserializeFromFile<T>	test	high	added	Dec 21 2018
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AEEP_LIST	Display the list of AEEP  <b>New in 1.9.0</b>	Application	This component is only relevant on an engineering database. It is empty on an analytics database.	<ul style="list-style-type: none"> <li>• TYPE = type of the function to display, DF for data function, TF for transactions, by default both are listed</li> <li>• STATUS = status of the function to display, ADDED, MODIFIED or DELETE D, all statuses by default</li> <li>• COUNT = the number of lines to display, 10 by default (-1 for all functions)</li> </ul>	List all the modified data function :  TABLE; AEEP_LIST; TYPE=DF, STATUS=MODIFIED, COUNT=-1  List the top 10 functions (data functions and transactional, added, modified and deleted)  TABLE;AEEP_LIST	List the added, modified, deleted data functions and transactions	<table border="1"> <thead> <tr> <th>Element Type</th> <th>Function Name</th> <th>Object Type</th> <th>Technology</th> <th>Module Name</th> <th>Object Name</th> </tr> </thead> <tbody> <tr> <td>Data Function</td> <td>COCPF11</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF11</td> </tr> <tr> <td>Data Function</td> <td>COCPF12</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF12</td> </tr> <tr> <td>Data Function</td> <td>COCPF13</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF13</td> </tr> <tr> <td>Data Function</td> <td>COCPF14</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF14</td> </tr> <tr> <td>Data Function</td> <td>COCPF15</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF15</td> </tr> <tr> <td>Data Function</td> <td>COCPF16</td> <td>Cobol File Link</td> <td>Cobol</td> <td>Presales</td> <td>[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF16</td> </tr> </tbody> </table>	Element Type	Function Name	Object Type	Technology	Module Name	Object Name	Data Function	COCPF11	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF11	Data Function	COCPF12	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF12	Data Function	COCPF13	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF13	Data Function	COCPF14	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF14	Data Function	COCPF15	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF15	Data Function	COCPF16	Cobol File Link	Cobol	Presales	[c:\jenkins7_slave\workspace\CAIP_Trunk_k\CAST\Deploy\Big Ben\Presales\PROG-BATCH\COCPB10.COCPF16																																	
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CAST_DISTRIBUTION	Evolution of a specific distribution of objects	Application	This component is only relevant on an engineering database. It is empty on an analytics database.	<ul style="list-style-type: none"> <li>• PAR=ID where ID is the distribution ID</li> </ul> <p>List of distributions :</p> <ul style="list-style-type: none"> <li>• 65105 : Size Distribution</li> <li>• 65350 : Coupling distribution</li> <li>• 65501 : Cyclomatic complexity distribution</li> <li>• 65601 : 4GL complexity distribution</li> <li>• 65701 : OO complexity distribution</li> <li>• 65801 : SQL complexity distribution</li> <li>• 66010 : Reuse by call distribution</li> <li>• 66015 : Class complexity distribution (WMC)</li> <li>• 66020 : Class Fan-Out distribution</li> <li>• 66021 : Class Fan-In distribution</li> <li>• 67001 : Cost complexity distribution</li> <li>• 67020 : distribution of violations to critical diagnostic-based metrics per cost complexity</li> <li>• 67030 : distribution of defects to critical diagnostic-based metrics per cost complexity</li> </ul>	TABLE: CAST_DISTRIBUTION;PAR=65501	Evolution of the distribution of objects regarding specified distribution	<table border="1"> <thead> <tr> <th>Cyclomatic Complexity Distribution</th> <th>Current</th> <th>Previous</th> <th>Evol.</th> <th>% Evol.</th> <th>% Total</th> </tr> </thead> <tbody> <tr> <td>Low Complexity</td> <td>1,235</td> <td>1,176</td> <td>+57</td> <td>+4.85 %</td> <td>86.9 %</td> </tr> <tr> <td>Average Complexity</td> <td>131</td> <td>124</td> <td>+7</td> <td>+5.65 %</td> <td>9.23 %</td> </tr> <tr> <td>High Complexity</td> <td>38</td> <td>35</td> <td>+3</td> <td>+8.57 %</td> <td>2.68 %</td> </tr> <tr> <td>Extreme Complexity</td> <td>17</td> <td>16</td> <td>+1</td> <td>+6.25 %</td> <td>1.20 %</td> </tr> </tbody> </table>	Cyclomatic Complexity Distribution	Current	Previous	Evol.	% Evol.	% Total	Low Complexity	1,235	1,176	+57	+4.85 %	86.9 %	Average Complexity	131	124	+7	+5.65 %	9.23 %	High Complexity	38	35	+3	+8.57 %	2.68 %	Extreme Complexity	17	16	+1	+6.25 %	1.20 %
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<p>DELTA_COMPONENTS_LIST_BY_STATUS</p>	<p>List of added, deleted or updated components in application, module or technology</p> <p>New in 1.9.0</p>	<p>Application</p>	<p>This component is only relevant on an engineering database. It is empty on an analytics database.</p>	<ul style="list-style-type: none"> <li>• STATUS = status of the components to display, "added", "deleted" or "updated" by default</li> <li>• COUNT = the number of lines to display, 10 by default (-1 for all components)</li> <li>• MODULE = &lt;module_name&gt; if you want to filter components by module</li> <li>• TECHNOLOGY = &lt;technology_name&gt; if you want to filter components by technology</li> <li>• COMPLEXITY = to choose between "low", "moderate", "high" or "very high" if you want to filter by complexity (all by default)</li> <li>• CURRENT = first snapshot name for the comparison if different from the current selected snapshot</li> <li>• PREVIOUS = second snapshot name for the comparison if different from the previous selected snapshot</li> </ul> <p>By default (without options), the list displayed the top ten added components for the application, between current and previous snapshots. If module and technology are set in the same time, they will not be taken into account and list will be displayed for entire application</p>	<p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS</p> <p>No options =&gt; list top 10 added artifacts for application between selected current and previous snapshots</p> <p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS; STATUS=updated, COUNT=-1</p> <p>List all updated artifacts for application between selected current and previous snapshots</p> <p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS; STATUS=deleted, COMPLEXITY=very high</p> <p>List top 10 deleted artifacts with very high complexity for application between selected current and previous snapshots</p> <p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS; STATUS=updated, MODULE=MyModule</p> <p>List top 10 updated artifacts for module MyModule between selected current and previous snapshots</p> <p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS; STATUS=updated, TECHNOLOGY=.NET</p> <p>List top 10 updated artifacts for technology.NET between selected current and previous snapshots</p> <p>TABLE; DELTA_COMPONENTS_LIST_BY_STATUS; CURRENT=S2, PREVIOUS=S1</p> <p>List top 10 added artifacts between snapshot S1 and snapshot S2</p>	<p>List of components with Object name, Complexity, SQL complexity, granularity, Lack of comments, coupling, number of object updates and object full name</p>
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FUNCTIONAL_WEIGHT	Functional weight information	Application	No	None	TABLE: FUNCTIONAL_WEIGHT	Values of Automated Function points (10202), Decision Points (10506) and Backfired Function Points (10201) metrics for application	<table border="1"> <thead> <tr> <th colspan="2">FUNCTION WEIGHT</th> </tr> <tr> <th>Name</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Automated Function Points</td> <td>14</td> </tr> <tr> <td>Decision Points (total CC)</td> <td>8,399</td> </tr> <tr> <td>Backfired Function Points</td> <td>491</td> </tr> </tbody> </table>	FUNCTION WEIGHT		Name	Total	Automated Function Points	14	Decision Points (total CC)	8,399	Backfired Function Points	491																		
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GENERIC_TABLE	A Generic table component is built based on a table structure. The idea is to fill data into the table to populate it automatically	Application	The selection of metrics by standard quality tag name should only be used for an application where the extension "Quality Standards Support" is installed. If not, no metrics will be selected and graph will be empty	COL1=A, COL11=B, ROW1=C, ROW11=D, A=a, B=b, C=c, D=d, D=eflg  where A,B,C and D are one of the axis above  and a, b, c, d, e, f, g is one or multiple tags of the axis  See more information in section about Generic components (CAST Report Generator - Generic components - 1.9.0)	TABLE: GENERIC_TABLE; COL1=METRICS, ROW1=CRITICAL_VIOLATIONS, METRICS=HEALTH_FACTOR, CRITICAL_VIOLATIONS=ALL, SNAPSHOTS=CURRENT	Depends on the selection.  See more information in section about Generic Components (CAST Report Generator - Generic components - 1.9.0)	<table border="1"> <thead> <tr> <th>Critical Violations</th> <th>Transferability</th> <th>Changeability</th> </tr> </thead> <tbody> <tr> <td>Total Critical Violations</td> <td>38</td> <td>158</td> </tr> <tr> <td>Added Critical Violations</td> <td>0</td> <td>6</td> </tr> <tr> <td>Removed Critical Violations</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Critical Violations	Transferability	Changeability	Total Critical Violations	38	158	Added Critical Violations	0	6	Removed Critical Violations	0	0																
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HEALTH_FACTOR	Health factors scores and evolution between previous and current snapshots	Application	No	<ul style="list-style-type: none"> <li>HEADER=SHORT (indicates that short headers will be shown, obviously long)</li> <li>SHOW_EVOL=1 (displays a row indicating evolution as absolute values (delta), by default this row IS NOT displayed)</li> <li>SHOW_EVOL_PERCENT=0 (displays a row indicating evolution as relative values (percent), by default this row IS displayed)</li> </ul>	TABLE: HEALTH_FACTOR; HEADER=SHORT	Current and previous health factors scores with evolution	<table border="1"> <thead> <tr> <th></th> <th>TQJ</th> <th>Robu.</th> <th>Efcy</th> <th>Secu.</th> <th>Trans.</th> <th>Chang.</th> </tr> </thead> <tbody> <tr> <td>1.7</td> <td>2.73</td> <td>3.19</td> <td>2.33</td> <td>2.86</td> <td>2.97</td> <td>2.30</td> </tr> <tr> <td>1.6</td> <td>2.73</td> <td>3.18</td> <td>2.33</td> <td>2.85</td> <td>2.98</td> <td>2.31</td> </tr> <tr> <td>% Evol.</td> <td>-0.06 %</td> <td>+0.10 %</td> <td>0 %</td> <td>+0.40 %</td> <td>-0.49 %</td> <td>-0.17 %</td> </tr> </tbody> </table>		TQJ	Robu.	Efcy	Secu.	Trans.	Chang.	1.7	2.73	3.19	2.33	2.86	2.97	2.30	1.6	2.73	3.18	2.33	2.85	2.98	2.31	% Evol.	-0.06 %	+0.10 %	0 %	+0.40 %	-0.49 %	-0.17 %
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HF_BY_MODULE	Health factors scores and evolution between previous and current snapshots for modules	Application	No	<ul style="list-style-type: none"> <li>• HEADER=SHORT (indicates that short headers will be shown, obviously long header will be shown)</li> </ul>	TABLE; HF_BY_MODULE; HEADER=SHORT	Current and previous health factors scores by modules with evolution	<table border="1"> <thead> <tr> <th></th> <th>TQI</th> <th>Robu.</th> <th>Efcy</th> <th></th> </tr> </thead> <tbody> <tr> <td colspan="5"><b>ReportGenerator - 1.7</b></td> </tr> <tr> <td>Cast.Util.Log_f77e191e/ReportGenerator/code content</td> <td>3.70</td> <td>3.66</td> <td>3.81</td> <td>3</td> </tr> <tr> <td>Cast.Util_bb87efc6/ReportGenerator/code content</td> <td>3.58</td> <td>3.73</td> <td>3.84</td> <td>3</td> </tr> <tr> <td colspan="5"><b>ReportGenerator - 1.6</b></td> </tr> <tr> <td>Cast.Util.Log_f77e191e/ReportGenerator/code content</td> <td>3.72</td> <td>3.73</td> <td>3.81</td> <td>3</td> </tr> <tr> <td>Cast.Util_bb87efc6/ReportGenerator/code content</td> <td>3.56</td> <td>3.66</td> <td>3.84</td> <td>3</td> </tr> <tr> <td colspan="5"><b>Variation</b></td> </tr> <tr> <td>Cast.Util.Log_f77e191e/ReportGenerator/code content</td> <td>-0.60 %</td> <td>-1.88 %</td> <td>0 %</td> <td>0</td> </tr> <tr> <td>Cast.Util_bb87efc6/ReportGenerator/code content</td> <td>+0.62 %</td> <td>+1.85 %</td> <td>0 %</td> <td>+</td> </tr> </tbody> </table>		TQI	Robu.	Efcy		<b>ReportGenerator - 1.7</b>					Cast.Util.Log_f77e191e/ReportGenerator/code content	3.70	3.66	3.81	3	Cast.Util_bb87efc6/ReportGenerator/code content	3.58	3.73	3.84	3	<b>ReportGenerator - 1.6</b>					Cast.Util.Log_f77e191e/ReportGenerator/code content	3.72	3.73	3.81	3	Cast.Util_bb87efc6/ReportGenerator/code content	3.56	3.66	3.84	3	<b>Variation</b>					Cast.Util.Log_f77e191e/ReportGenerator/code content	-0.60 %	-1.88 %	0 %	0	Cast.Util_bb87efc6/ReportGenerator/code content	+0.62 %	+1.85 %	0 %	+
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ID_NAME_INDICATOR_MAPPING	Provides numbers to use for ID values (for BC and distribution)	Application	No	None	TABLE; ID_NAME_INDICATOR_MAPPING	List of BC and distributions ids	<table border="1"> <thead> <tr> <th>Name</th> <th>Id</th> </tr> </thead> <tbody> <tr><td>TechnicalQualityIndex</td><td>60017</td></tr> <tr><td>Security</td><td>60016</td></tr> <tr><td>Robustness</td><td>60013</td></tr> <tr><td>Performance</td><td>60014</td></tr> <tr><td>Changeability</td><td>60012</td></tr> <tr><td>Transferability</td><td>60011</td></tr> <tr><td>ProgrammingPractices</td><td>68031</td></tr> <tr><td>ArchitecturalDesign</td><td>68032</td></tr> <tr><td>Documentation</td><td>68033</td></tr> <tr><td>SEIMaintainability</td><td>60015</td></tr> <tr><td>CostComplexityDistribution</td><td>67001</td></tr> <tr><td>CyclomaticComplexityDistribution</td><td>65501</td></tr> <tr><td>OOCComplexityDistribution</td><td>65701</td></tr> <tr><td>SQLComplexityDistribution</td><td>65801</td></tr> <tr><td>CouplingDistribution</td><td>65350</td></tr> <tr><td>ClassFanOutDistribution</td><td>68020</td></tr> <tr><td>ClassFanInDistribution</td><td>68021</td></tr> <tr><td>SizeDistribution</td><td>65105</td></tr> </tbody> </table>	Name	Id	TechnicalQualityIndex	60017	Security	60016	Robustness	60013	Performance	60014	Changeability	60012	Transferability	60011	ProgrammingPractices	68031	ArchitecturalDesign	68032	Documentation	68033	SEIMaintainability	60015	CostComplexityDistribution	67001	CyclomaticComplexityDistribution	65501	OOCComplexityDistribution	65701	SQLComplexityDistribution	65801	CouplingDistribution	65350	ClassFanOutDistribution	68020	ClassFanInDistribution	68021	SizeDistribution	65105												
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METRIC_TOP_ARTIFACT	List of artifacts with violations to business criteria	Application	This component is only relevant on an engineering database. It is empty on an analytics database	<ul style="list-style-type: none"> <li>• COUNT=N where N indicate the number of the top N.</li> <li>• PAR=BC-ID where BC-ID indicate the ID of the business criterion. PAR also supports several business criteria. Multiple business criteria are indicated as a list of BCID separated by " ", for instance PAR=60011 60012</li> <li>• IDX=i where i indicates the index of the specific rule wanted, for instance i=0 1st rule, i=1 2nd rule, i=3 3rd rule...</li> </ul>	TABLE: METRIC_TOP_ARTIFACT; COUNT=10, PAR=60016,IDX=0	List of objects in violation for the idxx-eme rule of the specified BC	<table border="1"> <thead> <tr> <th>Sample Violating Artefacts for Rule 'Avoid cyclical calls and inheritances between namespaces content'</th> <th># of 9</th> </tr> </thead> <tbody> <tr><td>CastReporting.Mediation</td><td></td></tr> <tr><td>CastReporting.Mediation.Interfaces</td><td></td></tr> <tr><td>CastReporting.Reporting</td><td></td></tr> <tr><td>CastReporting.Reporting.Builder</td><td></td></tr> <tr><td>CastReporting.Reporting.Builder.BlockProcessing</td><td></td></tr> <tr><td>CastReporting.Reporting.Helper</td><td></td></tr> <tr><td>CastReporting.UI.WPF</td><td></td></tr> <tr><td>CastReporting.UI.WPF.Common</td><td></td></tr> <tr><td>CastReporting.UI.WPF.ViewModel</td><td></td></tr> </tbody> </table>	Sample Violating Artefacts for Rule 'Avoid cyclical calls and inheritances between namespaces content'	# of 9	CastReporting.Mediation		CastReporting.Mediation.Interfaces		CastReporting.Reporting		CastReporting.Reporting.Builder		CastReporting.Reporting.Builder.BlockProcessing		CastReporting.Reporting.Helper		CastReporting.UI.WPF		CastReporting.UI.WPF.Common		CastReporting.UI.WPF.ViewModel									
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MODULE_LIST	List of modules in application	Application	No	<ul style="list-style-type: none"> <li>• HEADER =SHORT (here HEADER =SHORT) Indicates that short headers will be shown, obviously long headers will be shown</li> </ul>	TABLE: MODULE_LIST	List of all modules names	<table border="1"> <thead> <tr> <th>Module Name</th> </tr> </thead> <tbody> <tr><td>Cast.Util.Log_f77e191e/ReportGenerator/code content</td></tr> <tr><td>Cast.Util_bb87efc6/ReportGenerator/code content</td></tr> <tr><td>CastReporting.BLL.Computing_4707565d/ReportGenerator/code content</td></tr> <tr><td>CastReporting.BLL_74f95f86/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Console_4cef3c2b/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Domain_8b3be37d/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Mediation.Interfaces_90b09dab/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Mediation_d1697cf1/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Reporting_9a19c084/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Repositories.Interfaces_b4d14542/ReportGenerator/code content</td></tr> <tr><td>CastReporting.Repositories_29e31997/ReportGenerator/code content</td></tr> <tr><td>CastReporting.UI.WPF.V2_76ca7f22/ReportGenerator/code content</td></tr> <tr><td>CastReporting.UnitTest_ef420cc4/ReportGenerator/code content</td></tr> </tbody> </table>	Module Name	Cast.Util.Log_f77e191e/ReportGenerator/code content	Cast.Util_bb87efc6/ReportGenerator/code content	CastReporting.BLL.Computing_4707565d/ReportGenerator/code content	CastReporting.BLL_74f95f86/ReportGenerator/code content	CastReporting.Console_4cef3c2b/ReportGenerator/code content	CastReporting.Domain_8b3be37d/ReportGenerator/code content	CastReporting.Mediation.Interfaces_90b09dab/ReportGenerator/code content	CastReporting.Mediation_d1697cf1/ReportGenerator/code content	CastReporting.Reporting_9a19c084/ReportGenerator/code content	CastReporting.Repositories.Interfaces_b4d14542/ReportGenerator/code content	CastReporting.Repositories_29e31997/ReportGenerator/code content	CastReporting.UI.WPF.V2_76ca7f22/ReportGenerator/code content	CastReporting.UnitTest_ef420cc4/ReportGenerator/code content														
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PF_IGNORED_SNAPSHOTS	Provides list of snapshots ignored during computation.	Portfolio	No	None	TABLE: PF_IGNORED_SNAPSHOTS	If not empty, investigation should be done to find corruption	<table border="1"> <tr><td>Ignored Snapshots</td></tr> <tr><td>No Ignored Snapshots</td></tr> </table>	Ignored Snapshots	No Ignored Snapshots										
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PF_GENERIC_TABLE	A Generic table component is built based on a table structure. The idea is to fill data into the table to populate it automatically	Portfolio	No	<p>COL1=A, COL11=B, ROW1=C, ROW11=D, A=a, B=b, C=c d, D=e fg</p> <ul style="list-style-type: none"> <li>• where A, B, C and D are one of the axis above</li> <li>• and a, b, c, d, e, f, g is one or multiple tags of the axis</li> <li>• AGGREGATORS</li> </ul> <p>See more information in section about Generic components (CAST Report Generator - Generic components - 1.9.0)</p>	TABLE: PF_GENERIC_TABLE: ROW1=APPLICATIONS, COL1=CRITICAL_VIOLATIONS, CRITICAL_VIOLATIONS=ALL, APPLICATIONS=ENCH	<p>Depends on the selection.</p> <p>See more information in section about Generic Components (CAST Report Generator - Generic components - 1.9.0)</p>	<table border="1"> <thead> <tr> <th>Applications</th> <th>Total Critical Violations</th> <th>Added Critical Violations</th> <th>Removed Critical Violations</th> </tr> </thead> <tbody> <tr> <td>AEDAADConso</td> <td>505</td> <td>31</td> <td>1</td> </tr> <tr> <td>ReportGenerator</td> <td>59</td> <td>3</td> <td>0</td> </tr> </tbody> </table>	Applications	Total Critical Violations	Added Critical Violations	Removed Critical Violations	AEDAADConso	505	31	1	ReportGenerator	59	3	0
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PF_BC_RELEASE_PERFORMANCE	SLA view	Portfolio	No	<ul style="list-style-type: none"> <li>BF=T1 T2 T3 T4 T5 T6 T7 T8 where Tx is a target to fix regarding each line</li> <li>SLA=X Y where X is corresponding to the 2% and Y is corresponding to the 5% in the formula below</li> </ul> <p>SLA Assessment thresholds :</p> <ul style="list-style-type: none"> <li>Good if % difference between Target and Actual is less than 2%</li> <li>Acceptable if % difference between Target and Actual is between 2% and 5%</li> <li>Poor if % difference between Target and Actual is greater than 5%</li> </ul> <p>Actual score : average score using latest snapshot data (even if snapshot date is before current quarter)</p> <p>Target score: score to reach, to be configured as an option of the component</p> <p>Score from previous quarter: average score using snapshot from previous quarter. If last snapshot date is old and previous current quarter, last snapshot date will be used also for previous quarter calculation</p>	TABLE: PF_BC_RELEASE_PERFORMANCE; BF=2.90 2.90 2.90 2.90 2.90 2.90 2.90 2.90, SLA=2 5	SLA view for Business Criterion : previous score, target score, current score and SLA	<table border="1"> <thead> <tr> <th>Business criterion name</th> <th>Previous score</th> <th>Target score</th> </tr> </thead> <tbody> <tr> <td>Robustness</td> <td>3.14</td> <td>2.90</td> </tr> <tr> <td>Security</td> <td>2.94</td> <td>2.90</td> </tr> <tr> <td>Efficiency</td> <td>2.08</td> <td>2.90</td> </tr> <tr> <td>Changeability</td> <td>2.69</td> <td>2.90</td> </tr> <tr> <td>Transferability</td> <td>2.85</td> <td>2.90</td> </tr> <tr> <td>Programming Practices</td> <td>2.92</td> <td>2.90</td> </tr> <tr> <td>Documentation</td> <td>2.30</td> <td>2.90</td> </tr> <tr> <td>Architectural Design</td> <td>2.31</td> <td>2.90</td> </tr> </tbody> </table>	Business criterion name	Previous score	Target score	Robustness	3.14	2.90	Security	2.94	2.90	Efficiency	2.08	2.90	Changeability	2.69	2.90	Transferability	2.85	2.90	Programming Practices	2.92	2.90	Documentation	2.30	2.90	Architectural Design	2.31	2.90
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PF_TOP_RISKIEST_APPS	Top riskiest applications regarding specific health factor	Portfolio	No	<ul style="list-style-type: none"> <li>COUNT=N where N is the shown technologies count (default value=5)</li> <li>ALT=N (where N is an health factor id - eg. 60017)</li> </ul>	TABLE: PF_TOP_RISKIEST_APPS; COUNT=5, ALT=60017	List of applications with number of critical violations, BC score and last snapshot date	<table border="1"> <thead> <tr> <th>Application</th> <th>Critical Violations</th> <th>TQI</th> </tr> </thead> <tbody> <tr> <td>ReportGenerator</td> <td>59</td> <td>2.73</td> </tr> <tr> <td>AEDAADConso</td> <td>505</td> <td>2.82</td> </tr> </tbody> </table>	Application	Critical Violations	TQI	ReportGenerator	59	2.73	AEDAADConso	505	2.82																		
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<p>QUALITY_RULE_VIOLATIONS</p>	<p>List of violations for a quality rule</p>	<p>Application</p>	<p>This component is only relevant on an engineering database. It is empty on an analytics database.</p>	<ul style="list-style-type: none"> <li>• BCID= The Id of the business criterion. If this id correspond to efficiency (60014), robustness (60013), or security (60016), the propagatedRiskIndex is displayed . By default, BCID = 60013</li> <li>• ID= The Id of the quality rule for which you want to display the list of violations . By default, ID=7788 (Avoid empty catch block)</li> <li>• COUNT= N where N indicates the top N number ; default value = 10</li> <li>• NAME=FULL SHORT to display short name or full name of objects (full name by default)</li> <li>• SNAPSHOT=CURRENT PREVIOUS to select from which snapshot we take results; default is Current</li> </ul> <p>If there is no previous snapshot, column Status is not displayed</p>	<p>TABLE: QUALITY_RULE_VIOLATIONS; BCID=60013, ID=7788, COUNT=10</p>	<p>List of objects in violation for the rule with their PRI and status</p>	<table border="1"> <thead> <tr> <th colspan="2">Objects in violation for rule Avoid empty catch blocks</th> </tr> </thead> <tbody> <tr> <td>com.castsoftware.util.ClassHelper.createInstance</td> <td></td> </tr> <tr> <td>com.castsoftware.util.row.SQLRowReader.read</td> <td></td> </tr> <tr> <td>com.castsoftware.util.row.SQLRowReader.callEndSqlProcQuery</td> <td></td> </tr> <tr> <td>com.castsoftware.util.row.SQLRowReader.prepare</td> <td></td> </tr> <tr> <td>com.castsoftware.util.sql.CachedDatabaseConnection.read</td> <td></td> </tr> <tr> <td>com.castsoftware.util.sql.DatabaseConnection.read</td> <td></td> </tr> <tr> <td>com.castsoftware.util.row.SQLRowWriter.prepareQuery</td> <td></td> </tr> <tr> <td>com.castsoftware.graph.GraphDoc.Definition.setProperty</td> <td></td> </tr> <tr> <td>com.castsoftware.util.io.FileHelper.getTmpFile</td> <td></td> </tr> <tr> <td>com.castsoftware.util.row.SQLRowWriter.write</td> <td></td> </tr> </tbody> </table>	Objects in violation for rule Avoid empty catch blocks		com.castsoftware.util.ClassHelper.createInstance		com.castsoftware.util.row.SQLRowReader.read		com.castsoftware.util.row.SQLRowReader.callEndSqlProcQuery		com.castsoftware.util.row.SQLRowReader.prepare		com.castsoftware.util.sql.CachedDatabaseConnection.read		com.castsoftware.util.sql.DatabaseConnection.read		com.castsoftware.util.row.SQLRowWriter.prepareQuery		com.castsoftware.graph.GraphDoc.Definition.setProperty		com.castsoftware.util.io.FileHelper.getTmpFile		com.castsoftware.util.row.SQLRowWriter.write	
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<p>QUALITY_RULE_VIOLATIONS_BOOKMARKS</p>	<p>List of violations for a rule with associated bookmarks</p>	<p>Application</p>	<p>This component is only relevant on an engineering database. It is empty on an analytics database.</p> <p>This component exists only for word document. The results would not be readable on powerpoint.</p>	<ul style="list-style-type: none"> <li>ID= The Id of the quality rule for which you want to display the list of violations . By default, ID=7788 (Avoid empty catch block)</li> <li>COUNT= N where N indicates the top number of violations ; by default 5 (-1 correspond to all violations ). All bookmarks from a violation are displayed.</li> </ul> <p>If there is no previous snapshot, status is not displayed</p>	<p>TABLE: QUALITY_RULE_VIOLATIONS_BOOKMARKS; ID=7788,COUNT=5</p>	<p>List of violations with object name, type, status, file path and bookmark</p>	<pre> Objects in violation for rule Avoid empty catch blocks  Violation #1 Avoid empty catch blocks Object Name: &lt;Default Package&gt;.DynGraph.InstantiateGraph Object Type: java Method Status: unchanged File path: D:\CASTMS\QATAGS\Deploy\TestQualityTag\adg-apple\src\main\java\DynGraph.java 118 : @SuppressWarnings( { "unchecked" } ) 119 : private boolean instantiateGraph(String instanceClassPath) 120 : { 121 :     boolean ret = false; 122 : 123 :     try 124 :     { 125 : Violation #2 Avoid empty catch blocks Object Name: com.castsoftware.graph.BubbleGraph.IntGraph Object Type: java Method Status: unchanged File path: D:\CASTMS\QATAGS\Deploy\TestQualityTag\adg\util\src\main\java\com\castsoftware\graph\BubbleGraph.java 23 : public void IntGraph(int sizeX, int sizeY, String legend, int sizeXLegend, int sizeYLegend, String axesPosition, String axesType, String axesStyle, String gridType, String gridStyle, String xLabelType, boolean autoComputeLegendSize, boolean needToolTip, 24 :     boolean needBottomMarginLabel, double xFrame, double yFrame, double xMin, double xMax, double yMin, double yMax, double xStep, double yStep, String graphType, ILanguage language) 25 : { 26 :     super.IntGraph(sizeX, sizeY, legend, sizeXLegend, sizeYLegend, axesPosition, axesType, 27 :     axesStyle, gridType, gridStyle, xLabelType, autoComputeLegendSize, needToolTip, </pre>														
<p>QUALITY_STANDARDS_EVOLUTION</p>	<p>Evolution of sub-standards for a quality standard</p>	<p>Application</p>	<p>To use this component, the Quality Standards Mapping extension should be installed on the central where the application resides, with minimum version 20181030</p>	<ul style="list-style-type: none"> <li>STD= Name of the parent quality standard you want the details, for example, CWE-2011-Top25 will list total, added and removed violations for standards CWE-22, CWE-78, CWE-79, CWE-89, CWE-134, CWE-327, CWE-434 and CWE-798.</li> <li>LBL=violations or vulnerabilities (vulnerabilities if not set), this change the headers from Vulnerabilities to Violations</li> </ul>	<p>TABLE: QUALITY_STANDARDS_EVOLUTION; STD=CWE-2011-Top25</p>	<p>List the sub standards with total, added and removed violations (row is highlighted if total or added violations are more than 0)</p>	<table border="1"> <thead> <tr> <th>CWE-2011-Top25</th> <th>Total Vulnerabilities</th> </tr> </thead> <tbody> <tr> <td>CWE-22 Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')</td> <td>3</td> </tr> <tr> <td>CWE-78 Improper Neutralization of Special Elements used in an OS Command ('OS Command Injection')</td> <td>1</td> </tr> <tr> <td>CWE-79 Improper Neutralization of Input During Web Page Generation ('Cross-site Scripting')</td> <td>0</td> </tr> <tr> <td>CWE-89 Improper Neutralization of Special Elements used in an SQL Command ('SQL Injection')</td> <td>0</td> </tr> <tr> <td>CWE-134 Use of Externally-Controlled Format String</td> <td>0</td> </tr> <tr> <td>CWE-327 Use of a Broken or Risky Cryptographic Algorithm</td> <td>0</td> </tr> </tbody> </table>	CWE-2011-Top25	Total Vulnerabilities	CWE-22 Improper Limitation of a Pathname to a Restricted Directory ('Path Traversal')	3	CWE-78 Improper Neutralization of Special Elements used in an OS Command ('OS Command Injection')	1	CWE-79 Improper Neutralization of Input During Web Page Generation ('Cross-site Scripting')	0	CWE-89 Improper Neutralization of Special Elements used in an SQL Command ('SQL Injection')	0	CWE-134 Use of Externally-Controlled Format String	0	CWE-327 Use of a Broken or Risky Cryptographic Algorithm	0
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REMOVED_VIOLATIONS_LIST	List of removed violations by Business Criterion	Application	This component is only relevant on an engineering database. It is empty on an analytics database.	<ul style="list-style-type: none"> <li>BCID = name of the BCID to get the rule's compound weight and to filter results (60017 by default)</li> <li>COUNT = the number of lines to display, 50 by default (-1 for all removed violations)</li> </ul>	TABLE: REMOVED_VIOLATIONS_LIST; BCID=60017, COUNT=10	List the violations that have been deleted, either fixed or disappeared (because of exclusion or deletion of object) with rule name, object name, compound weight of the rule, and action and exclusion status.	<table border="1"> <thead> <tr> <th>Violation Status</th> <th>Exclusion Status</th> <th>Action Status</th> <th>Rule Name</th> <th>Weight</th> <th>Object Name</th> </tr> </thead> <tbody> <tr> <td>disappeared</td> <td>n/a</td> <td>n/a</td> <td>Avoid Artifacts with High Fan-In</td> <td>51</td> <td>CastReporting.RepositoryInterfaces.ICastRepository.CResultsQualityIndicators</td> </tr> <tr> <td>disappeared</td> <td>n/a</td> <td>n/a</td> <td>Avoid Artifacts with High Fan-Out</td> <td>68</td> <td>CastReporting.Reporting.Finder.BlockProcessing.Tableck.ModifyWordCellTextContent</td> </tr> <tr> <td>disappeared</td> <td>n/a</td> <td>n/a</td> <td>Avoid Artifacts with High Fan-Out</td> <td>68</td> <td>CastReporting.Reporting.Finder.BlockProcessing.Tableck.ModifyWordParagraphContent</td> </tr> <tr> <td>disappeared</td> <td>n/a</td> <td>n/a</td> <td>Avoid Artifacts with lines longer than X characters</td> <td>12</td> <td>CastReporting.RepositoryCastRepository.ICastRepository.GetResultsQualityIndicators</td> </tr> <tr> <td>disappeared</td> <td>n/a</td> <td>n/a</td> <td>Avoid Artifacts with lines longer than X characters</td> <td>12</td> <td>CastReporting.RepositoryInterfaces.ICastRepository.CResultsQualityIndicators</td> </tr> <tr> <td>corrected</td> <td>n/a</td> <td>n/a</td> <td>Avoid Classes with a High Lack of Cohesion</td> <td>56</td> <td>CastReporting.Domain.QIFhicalCriteria</td> </tr> <tr> <td>corrected</td> <td>n/a</td> <td>n/a</td> <td>Avoid Classes with a High Lack of Cohesion - variant</td> <td>56</td> <td>CastReporting.Domain.QIFhicalCriteria</td> </tr> <tr> <td>corrected</td> <td>n/a</td> <td>n/a</td> <td>Avoid large Artifacts - too many Lines of Code</td> <td>18</td> <td>CastReporting.Reporting.Finder.Table.ViolationStatistiction.Content</td> </tr> <tr> <td>corrected</td> <td>n/a</td> <td>n/a</td> <td>Avoid large Methods - too many Lines of Code</td> <td>18</td> <td>CastReporting.Reporting.Finder.Table.ViolationStatistiction.Content</td> </tr> </tbody> </table>	Violation Status	Exclusion Status	Action Status	Rule Name	Weight	Object Name	disappeared	n/a	n/a	Avoid Artifacts with High Fan-In	51	CastReporting.RepositoryInterfaces.ICastRepository.CResultsQualityIndicators	disappeared	n/a	n/a	Avoid Artifacts with High Fan-Out	68	CastReporting.Reporting.Finder.BlockProcessing.Tableck.ModifyWordCellTextContent	disappeared	n/a	n/a	Avoid Artifacts with High Fan-Out	68	CastReporting.Reporting.Finder.BlockProcessing.Tableck.ModifyWordParagraphContent	disappeared	n/a	n/a	Avoid Artifacts with lines longer than X characters	12	CastReporting.RepositoryCastRepository.ICastRepository.GetResultsQualityIndicators	disappeared	n/a	n/a	Avoid Artifacts with lines longer than X characters	12	CastReporting.RepositoryInterfaces.ICastRepository.CResultsQualityIndicators	corrected	n/a	n/a	Avoid Classes with a High Lack of Cohesion	56	CastReporting.Domain.QIFhicalCriteria	corrected	n/a	n/a	Avoid Classes with a High Lack of Cohesion - variant	56	CastReporting.Domain.QIFhicalCriteria	corrected	n/a	n/a	Avoid large Artifacts - too many Lines of Code	18	CastReporting.Reporting.Finder.Table.ViolationStatistiction.Content	corrected	n/a	n/a	Avoid large Methods - too many Lines of Code	18	CastReporting.Reporting.Finder.Table.ViolationStatistiction.Content
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RULE_IMPROVEMENT_OPPORTUNITY	For a Business Criterion, list of rules sorted by highest improvement opportunity	Application	No	<ul style="list-style-type: none"> <li>• PAR=N where N indicate the Business Criterion Id</li> <li>• COUNT=N where N is the number of the top N</li> <li>• C=N where N represents the order of the result : <ul style="list-style-type: none"> <li>• C=0 or nothing indicates a descending Improvementment gap order</li> <li>• C=1 indicates a descending Improvementment variation order</li> <li>• C=2 indicates a descending Degradation variation order</li> </ul> </li> </ul> <p>Formula is: (quality rule weight x technical criterion weight) * (4 - quality rule grade)</p>	TABLE: RULE_IMPROVEMENT_OPPORTUNITY; PAR=60017, COUNT=10	List of rules with violations and scores e violations	<table border="1"> <thead> <tr> <th>Rule Name</th> <th>Current Violations</th> <th>Previous Violations</th> </tr> </thead> <tbody> <tr> <td>Avoid Methods with a very low comment/code ratio</td> <td>837</td> <td>77</td> </tr> <tr> <td>Avoid undocumented Methods</td> <td>829</td> <td>75</td> </tr> <tr> <td>Avoid unreferenced Methods</td> <td>725</td> <td>70</td> </tr> <tr> <td>Avoid Artifacts with lines longer than X characters</td> <td>676</td> <td>61</td> </tr> <tr> <td>Avoid Artifacts with High Fan-Out</td> <td>551</td> <td>52</td> </tr> <tr> <td>Avoid Classes with a High Lack of Cohesion</td> <td>318</td> <td>31</td> </tr> <tr> <td>Avoid Classes with a High Lack of Cohesion - variant</td> <td>277</td> <td>27</td> </tr> <tr> <td>Avoid Classes with a very low comment/code ratio</td> <td>233</td> <td>22</td> </tr> <tr> <td>Declare as Static all methods not using instance members</td> <td>210</td> <td>18</td> </tr> <tr> <td>Avoid undocumented Classes</td> <td>199</td> <td>19</td> </tr> </tbody> </table>	Rule Name	Current Violations	Previous Violations	Avoid Methods with a very low comment/code ratio	837	77	Avoid undocumented Methods	829	75	Avoid unreferenced Methods	725	70	Avoid Artifacts with lines longer than X characters	676	61	Avoid Artifacts with High Fan-Out	551	52	Avoid Classes with a High Lack of Cohesion	318	31	Avoid Classes with a High Lack of Cohesion - variant	277	27	Avoid Classes with a very low comment/code ratio	233	22	Declare as Static all methods not using instance members	210	18	Avoid undocumented Classes	199	19
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RULE_NAME_DESCRIPTION_TOPCRITVIOL or METRIC_NAME_DESCRIPTION	Rule Name Details & Violation Count For Top Critical Violations Rules	Application	No	<ul style="list-style-type: none"> <li>COUNT=N where N indicate the number of the top N.</li> <li>PAR=BC-ID where BC-ID indicate the ID of the business criterion. PAR also supports several business criteria. Multiple business criteria are indicated as a list of BCID separated by " ", for instance PAR=60011 60012</li> <li>IDX=i where i indicates the index of the specific rule wanted, for instance i=0 1st rule, i=1 2nd rule, i=3 3rd rule...</li> </ul>	TABLE; RULE_NAME_DESCRIPTION_TOPCRITVIOL; COUNT=3, PAR=60016	Description s of the top rules for a BC with count of violations in current snapshot	<table border="1"> <thead> <tr> <th colspan="2">Rules Descriptions for Top Critical Violation Rules For Business Criterion Security</th> </tr> </thead> <tbody> <tr> <td><b>Rule Name</b></td> <td>CWE-681: Avoid numerical data corruption during incompatible mutation</td> </tr> <tr> <td><b>Rationale</b></td> <td>The program could wind up using the wrong number and generate incorrect results. If the number is used to allocate resources or make a security decision, then this could introduce a vulnerability. - A widening conversion of an int or a long value to float, or of a long value to double, may result in loss of precision - that is, the result may lose some of the least significant bits of the value. In this case, the resulting floating-point value will be a correctly rounded version of the integer value, using IEEE 754 round-to-nearest mode</td> </tr> <tr> <td><b>Description</b></td> <td>Reports all incorrect numeric type conversions which may produce unexpected results: - int i = (int) 33457.8f; - int i1 = 1 + 2+ (int)(3.5 - f)(IntegerValue == (int)(floatValue) A violation is raised if converting from one data type to another, such as long to integer in the data which can be translated in a way that produces unexpected values.</td> </tr> <tr> <td><b>Remediation</b></td> <td>You can use Widening Primitive Conversion to avoid loss of precision.</td> </tr> <tr> <td><b># Violations</b></td> <td>56</td> </tr> <tr> <td><b>Rule Name</b></td> <td>Avoid empty catch blocks</td> </tr> <tr> <td><b>Rationale</b></td> <td>An empty catch block defeats the purpose of exceptions. When an exception occurs, nothing happens and the program fails for an unknown reason. The application can be in an unknown state that will affect subsequent processing. Since the reason for the issue (the exception type and potential embedded message) are ignored, it will require more time to fix the issue.</td> </tr> <tr> <td><b>Description</b></td> <td>This metric reports all methods with at least one empty catch block (empty or only containing comments). In a Try and Catch statement, Catch blocks should have code to handle the thrown exception. If they are empty or only contain comments, the Exception will not be</td> </tr> </tbody> </table>	Rules Descriptions for Top Critical Violation Rules For Business Criterion Security		<b>Rule Name</b>	CWE-681: Avoid numerical data corruption during incompatible mutation	<b>Rationale</b>	The program could wind up using the wrong number and generate incorrect results. If the number is used to allocate resources or make a security decision, then this could introduce a vulnerability. - A widening conversion of an int or a long value to float, or of a long value to double, may result in loss of precision - that is, the result may lose some of the least significant bits of the value. In this case, the resulting floating-point value will be a correctly rounded version of the integer value, using IEEE 754 round-to-nearest mode	<b>Description</b>	Reports all incorrect numeric type conversions which may produce unexpected results: - int i = (int) 33457.8f; - int i1 = 1 + 2+ (int)(3.5 - f)(IntegerValue == (int)(floatValue) A violation is raised if converting from one data type to another, such as long to integer in the data which can be translated in a way that produces unexpected values.	<b>Remediation</b>	You can use Widening Primitive Conversion to avoid loss of precision.	<b># Violations</b>	56	<b>Rule Name</b>	Avoid empty catch blocks	<b>Rationale</b>	An empty catch block defeats the purpose of exceptions. When an exception occurs, nothing happens and the program fails for an unknown reason. The application can be in an unknown state that will affect subsequent processing. Since the reason for the issue (the exception type and potential embedded message) are ignored, it will require more time to fix the issue.	<b>Description</b>	This metric reports all methods with at least one empty catch block (empty or only containing comments). In a Try and Catch statement, Catch blocks should have code to handle the thrown exception. If they are empty or only contain comments, the Exception will not be																	
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RULES_LIST_LARGEST_VARIATION	List of rules with largest variation	Application	No	<ul style="list-style-type: none"> <li>BCID = name of the BCID to get the rule's compound weight (60017 by default)</li> <li>VARIATION = increase or decrease (decrease by default)</li> <li>DATA = number or percent (number by default)</li> <li>COUNT = the number of lines to display, 50 by default (-1 for all rules)</li> </ul> <p>The formula are taken from the ones from CED :</p> <ul style="list-style-type: none"> <li>Decrease number : <math>\frac{\text{current failed checks} - \text{previous failed checks}}{\text{previous failed checks}}</math></li> <li>Decrease percent : <math>\frac{\text{current failed checks} / \text{current total checks} - \text{previous failed checks} / \text{previous total checks}}{\text{previous failed checks} / \text{previous total checks}}</math>, display in percentage (*100)</li> <li>Increase number : <math>\frac{\text{current failed checks} - \text{previous failed checks}}{\text{previous failed checks}}</math></li> <li>Increase percent : <math>\frac{\text{current failed checks} / \text{current total checks} - \text{previous failed checks} / \text{previous total checks}}{\text{previous failed checks} / \text{previous total checks}}</math>, display in percentage (*100)</li> </ul>	<p>TABLE: RULES_LIST_LARGEST_VARIATION; BCID=60017, VARIATION=decrease, DATA=number, COUNT=50</p>	List of rules with compound weight and number of violations variation	<table border="1"> <thead> <tr> <th>Weight</th> <th>Variation</th> <th>Rule Name</th> </tr> </thead> <tbody> <tr> <td>86</td> <td>28</td> <td>Avoid declaring public Fields</td> </tr> <tr> <td>22</td> <td>17</td> <td>Public Fields naming convention - case an</td> </tr> <tr> <td>66</td> <td>15</td> <td>Methods naming convention - case an</td> </tr> <tr> <td>80</td> <td>4</td> <td>Provide a private default Constructor f</td> </tr> <tr> <td>84</td> <td>2</td> <td>Avoid types that own disposable fields</td> </tr> <tr> <td>160</td> <td>2</td> <td>The exception Exception should never Exception and throw the subclassed Cl</td> </tr> <tr> <td>24</td> <td>1</td> <td>Avoid unreferenced Interfaces</td> </tr> </tbody> </table>	Weight	Variation	Rule Name	86	28	Avoid declaring public Fields	22	17	Public Fields naming convention - case an	66	15	Methods naming convention - case an	80	4	Provide a private default Constructor f	84	2	Avoid types that own disposable fields	160	2	The exception Exception should never Exception and throw the subclassed Cl	24	1	Avoid unreferenced Interfaces
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<p>RULES_LIST_STATISTICS_RATIO</p>	<p>List of violations statistics by BC, TC or Standard Quality Tag</p>	<p>Application</p>	<p>To use the quality standard tags selection, the Quality Standards Mapping extension should be installed on the central where the application resides.</p> <p>When you select the metric id for a BC or TC, all the QRs belonging to this BC or TC is added for displaying violations</p>	<ul style="list-style-type: none"> <li>• METRICS=List of metrics id (BC, TC or QR) or quality standards tags separated by  .</li> <li>• CRITICAL=true : add this option if you have selected a BC or a TC and want only critical rules to be selected (by default it is false). This option has no effect on selection by QR or quality standard tag.</li> <li>• COMPLIANCE=true : add this option if you want to display the compliance score column ; by default this column is not displayed.</li> <li>• SORTED=COMPLIANCE : add this option if you want to sort the data by compliance score, from worse to better ; by default the sort of data is from the max number of total violations to the min.</li> <li>• LBL=violations or vulnerabilities (vulnerabilities if not set), this change the headers from Vulnerabilities to Violations</li> </ul>	<p>TABLE: RULES_LIST_STATISTICS_RATIO; METRICS=CISQ-Security, COMPLIANCE=true ,LBL=violations</p>	<p>List of selected rules with total, added and removed violations, and optionnally the compliance ratio</p>	<div style="background-color: #92d050; padding: 5px;"> <p>CAST Rules</p> </div> <div style="border: 1px solid #92d050; padding: 5px;"> <p>Avoid artifacts having Incorrect Type Conversion or Cast (8148)</p> <p>Runtime Resource Management Control Element in a Component Bundle to Run on Application Servers (8158)</p> </div>
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<p>LIST_RULES_VIOLATIONS_BOOKMARKS</p>	<p>List of violations for a list of rules with bookmarks</p>	<p>Application</p>	<p>This component is only relevant on an engineering database. It is empty on an analytics database.</p> <p>This component exists only for word document. The results would not be readable on powerpoint.</p> <p>To use the quality standard tags selection, the Quality Standards Support extension should be installed on the central where the application resides.</p> <p>When you select the metric id for a BC or TC, all the QRs belonging to this BC or TC is added for displaying violations</p>	<ul style="list-style-type: none"> <li>METRICS=List of metrics id (BC, TC or QR) or quality standards tags separated by  .</li> <li>CRITICAL=true : add this option if you have selected a BC or a TC and want only critical rules to be selected (by default it is false). This option has no effect on selection by QR or quality standard tag.</li> <li>COUNT=N where N indicates the top number of violations ; by default 5 (-1 correspond to all violations ). All bookmarks of a violation are displayed.</li> </ul> <p>If there is no previous snapshot, status is not displayed</p>	<p>TABLE: LIST_RULES_VIOLATIONS_BOOKMARKS; METRICS=CWE; COUNT=2</p>	<p>Selected rules with list of detailed violations (object name, type, status, file path, bookmarks, ...)</p>													
<p>TC_IMPROVEMENT OPPORTUNITY</p>	<p>For a Business Criterion, list of technical criteria sorted by highest improvement opportunity</p>	<p>Application</p>	<p>No</p>	<ul style="list-style-type: none"> <li>PAR=N where N indicate the Business Criterion Id</li> <li>COUNT=N where N is the number of the top N</li> </ul> <p>Formula is : Sum (rule weight x technical criterion weight) * (4 – technical criterion grade)</p>	<p>TABLE: TC_IMPROVEMENT OPPORTUNITY; PAR=60017</p>	<p>List of technical criterion with number of violations, total checks and scores</p>	<table border="1"> <thead> <tr> <th>Technical criterion name</th> <th># Viol</th> </tr> </thead> <tbody> <tr> <td>Documentation - Volume of Comments</td> <td>2,</td> </tr> <tr> <td>Dead code (static)</td> <td>9</td> </tr> <tr> <td>Architecture - Object-level Dependencies</td> <td>8</td> </tr> <tr> <td>Documentation - Style Conformity</td> <td>6</td> </tr> <tr> <td>Programming Practices - Modularity and OO Encapsulation Conformity</td> <td>5</td> </tr> </tbody> </table>	Technical criterion name	# Viol	Documentation - Volume of Comments	2,	Dead code (static)	9	Architecture - Object-level Dependencies	8	Documentation - Style Conformity	6	Programming Practices - Modularity and OO Encapsulation Conformity	5
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TECHNICAL_CRITERIA_RULES	List of rules with new violations by technical criteria	Application	Behavior : if no new violation appeared on rule, rule description is not loaded	<ul style="list-style-type: none"> <li>CNT=N where N indicates the shown rule number; if this item missed, no limitation will be applied</li> <li>TCID=N where N indicates the technical criterion Id</li> <li>BZID=N where N indicates the business criterion Id</li> </ul>	TABLE: TECHNICAL_CRITERIA_RULES; TCID=61001, BZID=60016, CNT=1	Rules with name, description and number of violations	<table border="1"> <thead> <tr> <th>Rule Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Avoid cyclical calls and inheritances between namespaces content</td> <td>This metric reports all namespaces one and more static dependencies mean: - refer methods call - references through inheritance N are static links and not run parameter permit to define the namespaces to cross for a cycle. means here a directed path in a dependencies relations.</td> </tr> </tbody> </table>	Rule Name	Description	Avoid cyclical calls and inheritances between namespaces content	This metric reports all namespaces one and more static dependencies mean: - refer methods call - references through inheritance N are static links and not run parameter permit to define the namespaces to cross for a cycle. means here a directed path in a dependencies relations.																										
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<p>TOP_COMPONENTS_BY_PROPERTIES</p>	<p>List of top components by properties</p> <p>Can be used to replace CED reports :</p> <ul style="list-style-type: none"> <li>▪ Top cyclomatic complexity x High Fan Out</li> <li>▪ Top cyclomatic complexity x Low documentation</li> </ul>	<p>Application</p>	<p>This component is only relevant on an engineering database. It is empty on an analytics database.</p>	<ul style="list-style-type: none"> <li>• PROP1 = name of first property, cyclomatic complexity if not exists</li> <li>• PROP2 = name of second property, fanOut if not exists</li> <li>• ORDER1 = asc or desc for PROP1, desc by default</li> <li>• ORDER2 = asc or desc for PROP2, desc by default</li> <li>• COUNT = the number of lines to display, 50 by default (-1 or all is not allowed, it will take too much time and paper)</li> </ul> <p>For PROP1 and PROP2, the available values are :</p> <ul style="list-style-type: none"> <li>▪ codeLines,</li> <li>▪ commentedCodeLines,</li> <li>▪ commentLines,</li> <li>▪ coupling,</li> <li>▪ fanIn,</li> <li>▪ fanOut,</li> <li>▪ cyclomaticComplexity,</li> <li>▪ ratioCommentLinesCodeLines,</li> <li>▪ halsteadProgramLength,</li> <li>▪ halsteadProgramVocabulary,</li> <li>▪ halsteadVolume,</li> <li>▪ distinctOperators,</li> <li>▪ distinctOperators,</li> <li>▪ integrationComplexity,</li> <li>▪ essentialComplexity</li> </ul> <p>If PROP1 and/or PROP2 is not correctly set, list of available values is displayed</p>	<p>TABLE: TOP_COMPONENTS_BY_PROPERTIES;</p> <p>PROP1=cyclomaticComplexity, PROP2=ratioCommentLinesCodeLines, ORDER1=desc, ORDER2=asc, COUNT=10</p>	<p>List of top objects regarding 2 properties</p>	<table border="1"> <thead> <tr> <th>Object Name</th> <th>Cyclomatic Complexity</th> </tr> </thead> <tbody> <tr> <td>CastReporting.Reporting.Helper.GenericContent.Content</td> <td>3</td> </tr> <tr> <td>CastReporting.Reporting.Helper.PortfolioGenericContent.Content</td> <td>2</td> </tr> <tr> <td>CastReporting.Reporting.MetricsUtility.GetMetricNameAndResult</td> <td>9</td> </tr> <tr> <td>CastReporting.Reporting.Builder.BlockProcessing.GraphBlock.ApplyContent</td> <td>7</td> </tr> <tr> <td>CastReporting.Reporting.Helper.PortfolioGenericContent.BuildAggregatedMetricsList</td> <td>7</td> </tr> <tr> <td>CastReporting.Reporting.MetricsUtility.GetMetricEvolution</td> <td>6</td> </tr> <tr> <td>CastReporting.Reporting.Builder.BlockProcessing.GraphBlock.UpdateCachedValues</td> <td>5</td> </tr> <tr> <td>CastReporting.Console.Program.GenerateReport</td> <td>4</td> </tr> <tr> <td>CastReporting.Reporting.Block.Table.CastDistribution.Content</td> <td>4</td> </tr> <tr> <td>CastReporting.Reporting.Block.Graph.TrendMetricId.Content</td> <td>4</td> </tr> </tbody> </table>	Object Name	Cyclomatic Complexity	CastReporting.Reporting.Helper.GenericContent.Content	3	CastReporting.Reporting.Helper.PortfolioGenericContent.Content	2	CastReporting.Reporting.MetricsUtility.GetMetricNameAndResult	9	CastReporting.Reporting.Builder.BlockProcessing.GraphBlock.ApplyContent	7	CastReporting.Reporting.Helper.PortfolioGenericContent.BuildAggregatedMetricsList	7	CastReporting.Reporting.MetricsUtility.GetMetricEvolution	6	CastReporting.Reporting.Builder.BlockProcessing.GraphBlock.UpdateCachedValues	5	CastReporting.Console.Program.GenerateReport	4	CastReporting.Reporting.Block.Table.CastDistribution.Content	4	CastReporting.Reporting.Block.Graph.TrendMetricId.Content	4
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TQI_BY_MODULE	Technical Quality Index scores by modules	Application	No	<ul style="list-style-type: none"> <li>HEADER=SHORT (here HEADER=SHORT) Indicates that short headers will be shown, obviously long headers will be shown</li> </ul>	TABLE; TQI_BY_MODULE	TQI current and previous scores with variation by modules	<table border="1"> <thead> <tr> <th colspan="2">Current TQI</th> </tr> </thead> <tbody> <tr> <td>Cast.Util.Log_f77e191e/ReportGenerator/cod</td> <td>3.70</td> </tr> <tr> <td>Cast.Util_bb87efc6/ReportGenerator/code con</td> <td>3.58</td> </tr> <tr> <td>CastReporting.BLL.Computing_4707565d/ReportGenerator/</td> <td>3.48</td> </tr> <tr> <td>CastReporting.BLL_74f95f86/ReportGenerator/</td> <td>3.24</td> </tr> <tr> <td>CastReporting.Console_4cef3c2b/ReportGenerator/code cot</td> <td>3.19</td> </tr> <tr> <td>CastReporting.Domain_8b3be37d/ReportGenerator/code c</td> <td>3.62</td> </tr> <tr> <td>CastReporting.Mediation.Interfaces_gobogdab/</td> <td>3.59</td> </tr> <tr> <td>CastReporting.Mediation_d1697cf1/ReportGenerator/</td> <td>3.28</td> </tr> <tr> <td>CastReporting.Reporting_9a19c084/ReportGenerator/</td> <td>2.88</td> </tr> <tr> <td>CastReporting.Repositories.Interfaces_b4d14542/</td> <td>3.72</td> </tr> <tr> <td>CastReporting.Repositories_29e31997/ReportGenerator/</td> <td>2.92</td> </tr> <tr> <td>CastReporting.UI.WPF.V2_76ca7f22/ReportGenerator</td> <td>3.29</td> </tr> <tr> <td>CastReporting.UnitTest_ef420cc4/</td> <td>3.24</td> </tr> </tbody> </table>	Current TQI		Cast.Util.Log_f77e191e/ReportGenerator/cod	3.70	Cast.Util_bb87efc6/ReportGenerator/code con	3.58	CastReporting.BLL.Computing_4707565d/ReportGenerator/	3.48	CastReporting.BLL_74f95f86/ReportGenerator/	3.24	CastReporting.Console_4cef3c2b/ReportGenerator/code cot	3.19	CastReporting.Domain_8b3be37d/ReportGenerator/code c	3.62	CastReporting.Mediation.Interfaces_gobogdab/	3.59	CastReporting.Mediation_d1697cf1/ReportGenerator/	3.28	CastReporting.Reporting_9a19c084/ReportGenerator/	2.88	CastReporting.Repositories.Interfaces_b4d14542/	3.72	CastReporting.Repositories_29e31997/ReportGenerator/	2.92	CastReporting.UI.WPF.V2_76ca7f22/ReportGenerator	3.29	CastReporting.UnitTest_ef420cc4/	3.24
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VIOLATIONS_LIST	List of violations by health factor	Application	This component is only relevant on an engineering database. It is empty on an analytics database	<ul style="list-style-type: none"> <li>BCID= list of ids of business criterion, separated by   : 60011 60012 60013 60014 60016 60017 one or several ; default value = 60016 (Security)</li> <li>COUNT= N ALL where N indicates the top N number ; default value = 10 (ALL for all violations)</li> <li>NAME=FULL SHORT to display short name or full name of objects (full name by default)</li> <li>FILTER= ADDED  UNCHANGED  UPDATED  ALL to filter the list by the violation status; default is ALL</li> <li>VIOLATIONS=CRITICAL ALL by default, only CRITICAL violations are listed</li> <li>MODULE =Module Name, parameter used to restrict the list for one module, by default violation are listed for the application</li> <li>TECHNOLOGIES= techno1  techno2, parameter used to restrict the list of violations , by default all technologies</li> </ul>	TABLE: VIOLATIONS_LIST: BCID=60016, COUNT=10, NAME=SHORT, FILTER=ALL	Detailed list of violations with status, PRI, exclusion and action status, rule name, BC name, object name, object status	<table border="1"> <thead> <tr> <th>Violation Status</th> <th>PRI</th> <th>Exclusion Status</th> <th>Action Status</th> <th>Rule Name</th> <th>Business criterion name</th> <th>Of N2</th> </tr> </thead> <tbody> <tr> <td>unchanged</td> <td>6,272</td> <td>n/a</td> <td>n/a</td> <td>Avoid cyclical calls and inheritances between namespaces content</td> <td>Security</td> <td>Bl inj</td> </tr> <tr> <td>unchanged</td> <td>1,680</td> <td>n/a</td> <td>n/a</td> <td>Avoid cyclical calls and inheritances between namespaces content</td> <td>Security</td> <td>He</td> </tr> <tr> <td>unchanged</td> <td>640</td> <td>n/a</td> <td>added</td> <td>The exception <u>Exception</u> should never <u>been</u> thrown. Always Subclass Exception</td> <td>Security</td> <td>Dc in</td> </tr> </tbody> </table>	Violation Status	PRI	Exclusion Status	Action Status	Rule Name	Business criterion name	Of N2	unchanged	6,272	n/a	n/a	Avoid cyclical calls and inheritances between namespaces content	Security	Bl inj	unchanged	1,680	n/a	n/a	Avoid cyclical calls and inheritances between namespaces content	Security	He	unchanged	640	n/a	added	The exception <u>Exception</u> should never <u>been</u> thrown. Always Subclass Exception	Security	Dc in
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