

Quality and Sizing Model Resources - 1.22

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Glossary

| Term | Definition |
|---|---|
| Background Fact | An external information that can be related to Quality Indicators or Sizing Measures |
| Business Criterion | A Quality Criterion which grade is based upon contributing technical criteria grades and critical violations |
| Category | A Quality Distribution slot. There are 4 categories defined for each Quality Distribution. A category measure is an input value to compute the Quality Distribution grade. |
| Configuration Item | A Quality Indicator, Sizing Measure of Background Fact, implemented as calculation rule to measure an application or a module. |
| Distribution Pattern | The Distribution Pattern is the definition of the Object property to use to decide in which distribution category to assign Objects. It also includes the associated documentation: description, rationale, reference, remediation, ... |
| Grade Aggregator | An impacted Quality Indicator (see Grade Contributor) |
| Grade Contributor | A Quality Indicator which measure is used to compute another Quality Indicator (see Grade Aggregator) |
| Indirect Contributing Quality Indicator | A Quality Rule, Quality Distribution or Quality Measure contributing to a Business Criterion |
| Measure Pattern | The Measure Pattern is the definition of the measure to perform on each Module. It also includes the associated documentation: description, rationale, reference, remediation, ... |
| Quality Indicator | An calculation measure which unit is a grade between 1.0 (very high risk) and 4.0 (low risk) to assess a source code quality. |
| Quality Distribution | A Quality Criterion based on a distribution pattern |
| Quality Rule | A Quality Criterion to assess compliance of a source code with a Rule Pattern. |
| Quality Measure | A Quality Criterion based on a measure pattern |
| Rule Pattern | The Rule Pattern is the pattern that is searched for in the analysis results (source code, cartography, etc.) to pinpoint Violations. It also includes the associated documentation: description, rationale, reference, remediation, ... |
| Sizing Measure | A quantitative measure |
| Technical Criterion | A Quality Indicator which grade is based upon contributing Quality Rule , Quality Distribution and Quality Measures grades. |

Configuration Snapshot

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|-----------------------------------|
| GET | application/json | {Domain}/configuration/snapshots | Array of Configurations snapshots |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID} | A configuration snapshot content |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|-----------|--------|
| href | Auto reference | URI | 1 |
| name | Configuration name | String | 1 |
| number | Snapshot order number.Snapshots are ordered according to the annotation.date | Integer | 1 |
| annotation | User annotations describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |
| qualityIndicators.href | Reference to get a group of indicators | URI | 1 |
| sizingMeasures.href | Reference to get a group of sizing measures | URI | 1 |
| backgroundFacts.href | Reference to get background facts | URI | 1 |

JSON Example

GET DEMO/configuration/snapshots/5

```
{
  "href": "DEMO/configuration/snapshots/5",
  "name": "Configuration Snapshot #1",
  "number": 1,
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "qualityIndicators": {
    "href": "DEMO/configuration/snapshots/5/quality-indicators",
    "name": "All Quality Indicators"
  },
  "sizingMeasures": {
    "href": "DEMO/configuration/snapshots/5/sizing-measures",
    "name": "All Sizing Measures"
  },
  "backgroundFacts": {
    "href": "DEMO/configuration/snapshots/5/background-facts",
    "name": "All Background Facts"
  }
}
```

Configuration Models

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|--|---------------|
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/quality-indicators | Quality Model |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/sizing-measures | Sizing Model |

JSON Representation

| Quality Model | | | |
|---------------------------|---------------------------|------|--------|
| Properties | Description | Type | Occurs |
| businessCriteria.href | All Business criteria | URI | 1 |
| technicalCriteria.href | All Technical criteria. | URI | 1 |
| qualityRules.href | All Quality Rules | URI | 1 |
| qualityDistributions.href | All Quality Distributions | URI | 1 |
| qualityMeasures.href | All Quality Measures | URI | 1 |

| Sizing Model | | | |
|----------------------------------|-----------------------------------|------|--------|
| Properties | Description | Type | Occurs |
| technicalSizeMeasures.href | All Technical Size Measures | URI | 1 |
| functionalWeightMeasures.href | All Functional Weight Measures | URI | 1 |
| criticalViolationStatistics.href | All Critical Violation Statistics | URI | 1 |
| violationStatistics.href | All Violation Statistics | URI | 1 |
| technicalDebtStatistics.href | All Technical Debt Statistics | URI | 1 |
| runtimeStatistics.href | All Run-time Statistics | URI | 1 |

JSON Example

GET DEMO/configuration/snapshots/5/quality-indicators

```
{
  "businessCriteria": {
    "href": "DEMO/configuration/snapshots/5/business-criteria",
    "name": "All Business Criteria"
  },
  "technicalCriteria": {
    "href": "DEMO/configuration/snapshots/5/technical-criteria",
    "name": "All Technical Criteria"
  },
  "qualityRules": {
    "href": "DEMO/configuration/snapshots/5/quality-rules",
    "name": "All Quality Rules"
  },
  "qualityDistributions": {
    "href": "DEMO/configuration/snapshots/5/quality-distributions",
    "name": "All Quality Distributions"
  },
  "qualityMeasures": {
    "href": "DEMO/configuration/snapshots/5/quality-measures",
    "name": "All Quality Measures"
  }
}
```

Collection of Configuration Items

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|---|
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/business-criteria | Array of references to Quality Indicators definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/technical-criteria | Array of references to Quality Indicators definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/quality-rules | Array of references to Quality Indicators definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/quality-distributions | Array of references to Quality Indicators definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/quality-measures | Array of references to Quality Indicators definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/technical-size-measures | Array of references to Sizing Measures definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/functional-weight-measures | Array of references to Sizing Measures definitions |
| GET | application/json | {Domain}/configuration/snapshots/{snapshotID}/critical-violation-statistics | Array of references to Sizing Measures definitions |

| | | | |
|-----|----------------------|---|---|
| GET | application /json | {Domain}/configuration/snapshots/{snapshotID}/violation-statistics | Array of references to Sizing Measures definitions |
| GET | application /json | {Domain}/configuration/snapshots/{snapshotID}/technical-debt-statistics | Array of references to Sizing Measures definitions |
| GET | application /json | {Domain}/configuration/snapshots/{snapshotID}/runtime-statistics | Array of references to Sizing Measures definitions |
| GET | application /json | {Domain}/configuration/snapshots/{snapshotID}/background-facts | Array of references to Background Facts definitions |

Business Criterion

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|--|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID} | A snapshotted Quality Indicator definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|-----------|--------|
| href | Auto reference | URI | 1 |
| key | Metric Id | String | 1 |
| name | Business Criterion name | String | 1 |
| description | Metric description | String | 0..1 |
| type | Type | String | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |
| number | Snapshot order number | Integer | 1 |
| gradeAggregators | An empty array | Array | 1 |
| gradeContributors | An array of contributing Technical Criteria | Array | 1 |
| gradeContributors[].href | A contributing technical criteria | URI | 1 |
| baseQualityIndicators.href | Reference to get an array of indirect contributing quality indicators | URI | 1 |

JSON Example

GET DEMO/quality-indicators/66032/snapshots/5 (Business Criterion)

```
{
  "href": "DEMO/quality-indicators/66032/snapshots/5",
  "key": "66032",
  "name": "Architectural Design",
  "description": "Architectural Design",
  "type": "business-criteria",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
  "gradeAggregators": [],
  "gradeContributors": [
    {
      "href": "DEMO/quality-indicators/66070/snapshots/5",
      "key": "66070",
      "name": "Architecture - Architecture Models Automated Checks",
      "weight": 1,
      "critical": false
    },
    ...
  ],
  "baseQualityIndicators": {
    "href": "DEMO/quality-indicators/66032/snapshots/5/base-quality-indicators",
    "name": "All indirect grade contributors"
  }
}
```

Technical Criterion

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|--|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID} | A snapshotted Quality Indicator definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------|--|---------|--------|
| href | Auto reference | URI | 1 |
| name | Quality indicator name | String | 1 |
| shortName | Abbreviation | String | 0..1 |
| number | Snapshot order number | Integer | 1 |
| type | Type | String | 1 |
| gradeAggregators | Indicators depending on this indicator | Array | 0..1 |
| gradeAggregators[].href | Grade Aggregator reference | URI | 1 |
| gradeAggregators[].name | Grade Aggregator name | String | 1 |
| gradeAggregators[].key | Grade Aggregator key | String | 1 |
| gradeContributors.href | Reference to get an array of contributing Quality Indicators | URI | 1 |

| | | | |
|-------------------------------|---|-----------|------|
| rationale | Text | String | 0..1 |
| description | Tex | String | 0..1 |
| snapshots.href | Reference to get history of this item | URI | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |

JSON Example

GET DEMO/quality-indicators/61029/snapshots/5 (Technical Criterion)

```
{
  "href": "DEMO/quality-indicators/61029/snapshots/5",
  "key": "61029",
  "name": "Complexity - Dynamic Instantiation",
  "description": "Respect of practices regarding dynamic instantiation",
  "type": "technical-criteria",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
  "gradeAggregators": [
    {
      "href": "DEMO/quality-indicators/60012/snapshots/5",
      "key": "60012",
      "name": "Changeability"
    },
    {
      "href": "DEMO/quality-indicators/60014/snapshots/5",
      "key": "60014",
      "name": "Efficiency "
    },
    ...
  ],
  "gradeContributors": [
    {
      "href": "DEMO/quality-indicators/2572/snapshots/5",
      "key": "2572",
      "name": "Avoid declaring VB Variables without typing them"
    },
    ...
  ]
}
```

Indirect Grade Contributors

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------|---------------|-------------|
|-------------|------------|---------------|-------------|

| | | | |
|-----|------------------|---|---|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID}/base-quality-indicators | Array of Indirect Contributing Quality Indicators |
|-----|------------------|---|---|

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------|---|---------|--------|
| href | Quality Indicator reference | URI | 1 |
| key | Quality Indicator key | String | 1 |
| name | Quality Indicator name | String | 1 |
| compoundedWeight | A contributing weight of a quality indicator is the sum of all contributing path weights from the quality indicator to the business criterion. A contributing path weight is the product: contributing weight from the quality indicator to the technical criterion x contributing weight of the technical criterion to the business criterion | Integer | 1 |
| compoundedWeightFormula | Explicit formula used to calculate the compounded weight Ex: "(8x4)+(4x5)" | String | 1 |
| critical | Boolean if the quality indicator is critical for at least one technical criterion | Boolean | 1 |

JSON Example

| GET DEMO/quality-indicators/66032/snapshots/5/base-quality-indicators |
|---|
| <pre>[{ "href": "DEMO/quality-indicators/7140/snapshots/5", "key": "7140", "name": "Action artifacts should not directly call a JSP page", "compoundedWeight": 3, "compoundedWeightFormula": "(1x3)", "critical": true }, { "href": "DEMO/quality-indicators/7144/snapshots/5", "key": "7144", "name": "Action Artifacts should not directly use database objects", "compoundedWeight": 7, "compoundedWeightFormula": "(1x7)", "critical": true }, ...]</pre> |

Quality Rule

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|---|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID} | A snapshoted Quality Indicator definition |

JSON Representation

| Properties | Description | Type | Occurs |
|------------|-------------------|--------|--------|
| href | Auto reference | URI | 1 |
| name | Quality rule name | String | 1 |

| | | | |
|-------------------------------|---|------------------|------|
| shortName | Abbreviation | String | 0..1 |
| number | Snapshot order number | Integer | 1 |
| type | Type | String | 1 |
| rulePattern | Pattern | URI | 1 |
| gradeAggregators | Indicators depending on this indicator | Array | 0..1 |
| gradeAggregators[].href | Grade Aggregator reference | URI | 1 |
| gradeAggregators[].name | Grade Aggregator name | String | 1 |
| gradeAggregators[].key | Grade Aggregator key | String | 1 |
| gradeSettings.thresholds | Thresholds used in grade formula to transform a quality rule compliance ratio into a grade. | Array | 1 |
| gradeSettings.thresholds[] | A percentage threshold | Integer | 4 |
| snapshots.href | Reference to get history of this item | URI | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |
| parameters[] | | Array | 1 |
| parameters[].name | Parameter name; a threshold to distribute objects into categories | String | 1 |
| parameters[].technology | Applicable technology | String | 1 |
| parameters[].value | The threshold value | Number or String | 1 |

JSON Example

GET DEMO/quality-indicators/7298/snapshots/5 (Quality Rule)

```
{
  "href": "DEMO/quality-indicators/7298/snapshots/5",
  "key": "7298",
  "name": "A class that has pointer data members must provide a copy constructor",
  "description": "The report list...",
  "type": "quality-rules",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
  "gradeAggregators": [
    {
      "href": "DEMO/quality-indicators/66069/snapshots/5",
      "key": "66069",
      "name": "Programming Practices - Unexpected Behavior"
    }
  ],
  "gradeContributors": [],
  "thresholds": [
    98,
    99,
    99.5,
    99.99
  ],
  "rulePattern": {
    "href": "DEMO/rule-patterns/7298",
    "name": "A class that has pointer data members must provide a copy constructor"
  },
  "parameters": [
    {
      "name": "Maximum Line Count",
      "technology": "HTML5",
      "value": 100
    },
    {
      "name": "Maximum Line Count",
      "technology": "JEE",
      "value": 100
    },
    {
      "name": "Maximum Line Count",
      "technology": "PL/SQL",
      "value": 50
    }
  ]
}
```

Quality Distribution

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|--|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID} | A snapshotted Quality Indicator definition |

JSON Representation

| Properties | Description | Type | Occurs |
|---|---|-----------|--------|
| href | Auto reference | URI | 1 |
| name | Quality rule name | String | 1 |
| shortName | Abbreviation | String | 0..1 |
| number | Snapshot order number | Integer | 1 |
| type | Type | String | 1 |
| distributionPattern | Pattern | URI | 1 |
| gradeAggregators | Indicators depending on this indicator | Array | 0..1 |
| gradeAggregators[].href | Grade Aggregator reference | URI | 1 |
| gradeAggregators[].name | Grade Aggregator name | String | 1 |
| gradeAggregators[].key | Grade Aggregator key | String | 1 |
| gradeSettings.categories | 4 ordered categories | Array | 1 |
| gradeSettings.categories[] | A category (a distribution slot) | Structure | 0..* |
| gradeSettings.categories[].name | Category name | String | 1 |
| gradeSettings.categories[].thresholds | 4 thresholds | Array | 1 |
| gradeSettings.categories[].thresholds[] | A thresholds used in grade formula to transform a category measure into a category grade | Double | 0..4 |
| snapshots.href | Reference to get history of this item | URI | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |
| parameters[] | - | Array | 1 |
| parameters[].name | Parameter name; a threshold to distribute objects into catagerories | String | 1 |
| parameters[].technology | Applicable technology | String | 1 |
| parameters[].value | The threshold value | Number | 1 |

JSON Example

GET DEMO/quality-indicators/65601/snapshots/5 (Quality Distribution)

```
{
  "href": "DEMO/quality-indicators/65601/snapshots/5",
  "key": "65601",
  "name": "4GL Complexity Distribution",
  "description": "Distribution of Forms regarding their complexity",
  "type": "quality-distributions",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
  "gradeAggregators": [
    {
      "href": "DEMO/quality-indicators/61009/snapshots/5",
      "key": "61009",
      "name": "Complexity - Algorithmic and Control Structure Complexity"
    },
    {
      "href": "DEMO/quality-indicators/61026/snapshots/5",
      "key": "61026",
      "name": "Complexity - Technical Complexity"
    }
  ],
  "gradeContributors": [],
  "categories": [
    {
      "name": "Very High 4GL Complexity Forms",
      "thresholds": [
        5,
        4,
        2,
        0
      ]
    },
    ...
  ],
  "distributionPattern": {
    "href": "DEMO/distribution-patterns/65601",
    "name": "4GL Complexity Distribution"
  },
  "parameters": [
    {
      "name": "Heavy Forms threshold",
      "technology": ".Net",
      "value": 20
    },
    {
      "name": "Heavy Forms threshold",
      "technology": "C#",
      "value": 20
    },
    ...
  ]
}
```

Quality Measure

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|--|
| GET | application/json | {Domain}/quality-indicators/{metricID}/snapshots/{snapshotID} | A snapshotted Quality Indicator definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|-----------|--------|
| href | Auto reference | URI | 1 |
| name | Quality rule name | String | 1 |
| shortName | Abbreviation | String | 0..1 |
| number | Snapshot order number | Integer | 1 |
| type | Type | String | 1 |
| measurePattern | Pattern | URI | 1 |
| gradeAggregators | Indicators depending on this indicator | Array | 0..1 |
| gradeAggregators[].href | Grade Aggregator reference | URI | 1 |
| gradeAggregators[].name | Grade Aggregator name | String | 1 |
| gradeAggregators[].key | Grade Aggregator key | String | 1 |
| snapshots.href | Reference to get history of this item | URI | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |

JSON Example

DEMO/quality-indicators/66067/snapshots/5 (Quality Measure)

```
{
  "href": "DEMO/quality-indicators/66067/snapshots/5",
  "key": "66067",
  "name": "Avoid High Volume of Copy Pasted Code",
  "description": "This metric is based...",
  "type": "quality-measures",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
  "gradeAggregators": [
    {
      "href": "DEMO/quality-indicators/66009/snapshots/5",
      "key": "66009",
      "name": "Architecture - Reuse"
    }
  ],
  "gradeContributors": [],
  "measurePattern": {
    "href": "DEMO/measure-patterns/66067",
    "name": "Avoid High Volume of Copy Pasted Code"
  }
}
```

Sizing Measure

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|--|---|
| GET | application/json | {Domain}/sizing-measures/{metricID}/snapshots/{snapshotID} | A snapshotted Sizing Measure definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|-----------|--------|
| href | Auto reference | URI | 1 |
| name | Quality rule name | String | 1 |
| description | Text | String | 1 |
| type | Type | String | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.date | Snapshot date | Date | 1 |
| annotation.version | Assessment version number | String | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |

| | | | |
|--------|-----------------------|---------|---|
| number | Snapshot order number | Integer | 1 |
|--------|-----------------------|---------|---|

JSON Example

GET DEMO/sizing-measures/68001/snapshots/5

```
{
  "href": "DEMO/sizing-measures/68001/snapshots/5",
  "key": "68001",
  "name": "Technical Debt",
  "description": "Technical Debt estimates...",
  "type": "technical-debt-statistics",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
}
```

Background Fact

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|--|
| GET | application/json | {Domain}/background-facts/{metricID}/snapshots/{snapshotID} | A snapshotted Background Fact definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|-----------|--------|
| href | Auto reference | URI | 1 |
| name | Quality rule name | String | 1 |
| shortName | Abbreviation | String | 0..1 |
| number | Snapshot order number | Integer | 1 |
| type | Always "background-facts" | String | 1 |
| description | Text | String | 0..1 |
| snapshots.href | Reference to get history of this item | URI | 1 |
| annotation | User annotation describing this snapshot | Structure | 1 |
| annotation.version | Assessment point version number | String | 1 |
| annotation.date | Application date | Date | 1 |
| annotation.description | Snapshot description | String | 1 |
| annotation.name | Snapshot name | String | 1 |
| annotation.enhancementMeasure | Computation mode of enhancement data. It has one of the following values : "EFP" or "AEP" | String | 1 |

JSON Example

GET DEMO/background-facts/66061/snapshots/5

```
{
  "href": "DEMO/background-facts/66061/snapshots/5",
  "key": "66061",
  "name": "Business Value",
  "description": "description",
  "type": "background-facts",
  "annotation": {
    "version": "1.0",
    "date": {
      "time": 1338328800000
    },
    "description": null,
    "name": "GM_DRAS_201206180516",
    "enhancementMeasure": "EFP"
  },
  "number": 1,
}
```

Rule Pattern

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|-----------------------------------|---------------------------|
| GET | application/json | {Domain}/rule-patterns/{metricID} | A Rule Pattern definition |

JSON Representation

| Properties | Description | Type | Occurs |
|-------------------------------|---|--------|--------|
| href | Auto reference | URI | 1 |
| name | Pattern name | String | 1 |
| key | Pattern public identifier | String | 1 |
| rationale | Text | String | 1 |
| description | Text | String | 1 |
| remediation | Text | String | 1 |
| reference | Text: External reference | String | 0..1 |
| sample | Text: Code snippet of a bad practice | String | 0..1 |
| remediationSample | Text: Code snippet of a remediation | String | 0..1 |
| output | Diagnosis findings report | String | 0..1 |
| associatedValueName | Diagnosis findings name | String | 0..1 |
| total | Text: definition of the tested components | String | 0..1 |
| technologies | Applicable technologies | Array | 1 |
| technologies[] | An applicable technology | String | 1..* |
| qualityStandards | Quality Standard References | Array | 1 |
| qualityStandards[] | A Quality Standard Reference | Struct | 0..1 |
| qualityStandards[].standard | Quality Standard name | String | 1 |
| qualityStandards[].id | Quality Standard reference ID | String | 1 |
| qualityStandards[].reference | URL to get an external documentation | String | 1 |

| | | | |
|---------------------------------|----------|--------|---|
| qualityStandards[].description | RESERVED | String | 1 |
|---------------------------------|----------|--------|---|

JSON Example

GET DEMO/rule-patterns/7298

```
{
  "href": "DEMO/rule-patterns/7298",
  "key": "7298",
  "name": "A class that has pointer data members must provide a copy constructor",
  "description": "The report list all...",
  "technologies": [
    "C++"
  ],
  "rationale": "If you don't define a copy constructor...",
  "reference": null,
  "remediation": "Define a copy constructor to properly manage pointer data members.",
  "output": null,
  "associatedValueName": null,
  "total": null,
  "sample": "class MyClass {\n  char * apointermember;\n};",
  "remediationSample": "class MyClass...",
  "qualityStandards": [
    {
      "standard": "CISQ"
      "id": "ASCMM-MNT-15"
      "name": "Public Member Element"
      "reference": null
      "description": null
    }
  ]
}
```

Distribution Pattern

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|---|-----------------------------------|
| GET | application/json | {Domain}/distribution-patterns/{metricID} | A Distribution Pattern definition |

JSON Representation

| Properties | Description | Type | Occurs |
|---------------------|---------------------------|--------|--------|
| href | Auto reference | URI | 1 |
| name | Pattern name | String | 1 |
| key | Pattern public identifier | String | 1 |
| rationale | Text | String | 1 |
| description | Text | String | 1 |
| remediation | Text | String | 1 |
| reference | Text: External reference | String | 0..1 |
| output | Diagnosis findings report | String | 0..1 |
| associatedValueName | Diagnosis findings name | String | 0..1 |
| technologies | Applicable technologies | Array | 1 |

| | | | |
|-----------------|--------------------------|--------|------|
| technologies[] | An applicable technology | String | 1..* |
|-----------------|--------------------------|--------|------|

JSON Example

GET DEMO/distribution-patterns/65601

```
{
  "href": "DEMO/distribution-patterns/65601",
  "key": "65601",
  "name": "4GL Complexity Distribution",
  "description": "Distribution of Forms regarding their complexity",
  "technologies": [],
  "rationale": null,
  "reference": null,
  "remediation": null,
  "output": null,
  "associatedValueName": null
}
```

Measure Pattern

URI Templates

| HTTP Action | Media Type | URI Templates | Description |
|-------------|------------------|--------------------------------------|------------------------------|
| GET | application/json | {Domain}/measure-patterns/{metricID} | A Measure Pattern definition |

JSON Representation

| Properties | Description | Type | Occurs |
|---------------------|---|--------|--------|
| href | Auto reference | URI | 1 |
| name | Pattern name | String | 1 |
| key | Pattern public identifier | String | 1 |
| rationale | Text | String | 1 |
| description | Text | String | 1 |
| remediation | Text | String | 1 |
| reference | Text: External reference | String | 0..1 |
| output | deprecated | String | 0..1 |
| associatedValueName | Diagnosis findings name | String | 0..1 |
| total | Text: definition of the tested components | String | 0..1 |
| technologies | Applicable technologies | Array | 1 |
| technologies[] | An applicable technology | String | 1..* |

JSON Example

GET DEMO/measure-patterns/66067

```
{
  "href": "DEMO/measure-patterns/66067",
  "key": "66067",
  "name": "Avoid High Volume of Copy Pasted Code",
  "description": "This metric is based on the ratio...",
  "technologies": [],
  "rationale": "A program with a lot of duplication...",
  "reference": null,
  "remediation": null,
  "output": null,
  "associatedValueName": null,
  "total": "Artifacts larger than 10 lines of code ( default value of the CODELINE parameter ) "
}
```