

Red Hat CodeReady Toolchain for OpenShift Analytics Integration API Guide

Red Hat Developers Documentation Team

2018-12-20 14:15:48 UTC

Table of Contents

Before you start	2
1. About analytics platform	3
1.1. Supported ecosystems	3
2. Getting CodeReady Toolchain authentication token	4
Using analytics APIs	6
3. API specifications	7
3.1. POST /stack-analyses	7
3.1.1. Purpose	7
3.1.2. Resource URL	7
3.1.3. Resource information	7
3.1.4. Parameters	7
3.1.5. Example request with cURL	8
3.1.6. Example response:	8
3.2. GET /stack-analyses/{request ID}	8
3.2.1. Purpose	8
3.2.2. Resource URL	8
3.2.3. Resource information	8
3.2.4. Parameters	8
3.2.5. Example request with cURL	9
3.2.6. Example response	9
3.3. GET /component-analyses/{ecosystem}/{component name}/{component version}	19
3.3.1. Purpose	19
3.3.2. Resource URL	19
3.3.3. Resource information	19
3.3.4. Parameters	19
3.3.5. Example request with cURL	19
3.3.6. Example response	19

The Analytics integration API guide is written for developers who are interested in integrating [Fabric8-Analytics](#) *stack-analyses* or *component-analyses* services within their applications.

Before you start

Chapter 1. About analytics platform

Analytics is an open source platform aimed primarily at assisting developers in getting insights and recommendations on the stacks used for developing applications. This platform can be used to get an overview and recommendations for single application components as well.

1.1. Supported ecosystems

The analytics *stack-analyses* endpoint currently analyzes all application stacks in the Java (Maven) and Node (npm) ecosystems.

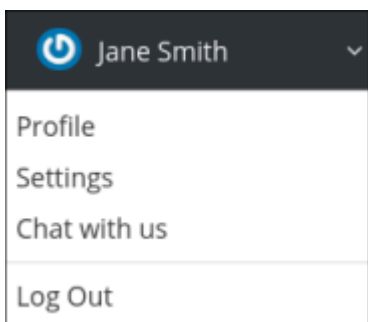
Support for more ecosystems will be introduced in the near future.

Chapter 2. Getting CodeReady Toolchain authentication token

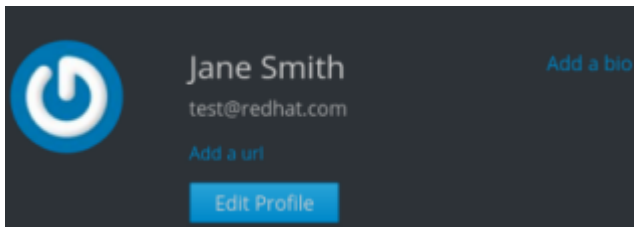
You require an CodeReady Toolchain authentication token to invoke all CodeReady Toolchain-analytics API resources. Note that the authentication should be kept private and secure.

Get the CodeReady Toolchain authentication token as follows:

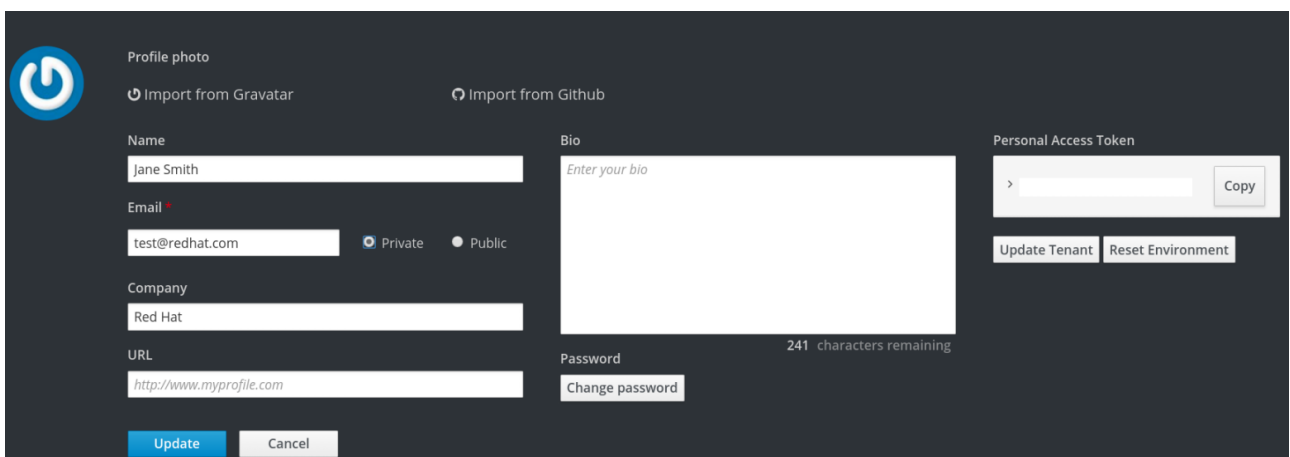
1. Log into [CodeReady Toolchain](#).
2. On your CodeReady Toolchain home page, click your name on the top right corner of the screen to see the drop-down list.
3. Select **Profile** from the list to see your profile page.



4. Click [**Edit Profile**] to edit your profile.



5. In the edit profile page displayed, copy your **Personal Access Token**.



Your personal access token is meant to be private and confidential. Do not share it with others.

You can now use this token in the various API resources mentioned below.

Using analytics APIs

Chapter 3. API specifications

The following section lists the primary API endpoints you can use to integrate CodeReady Toolchain-analytics within your application.

3.1. POST /stack-analyses

3.1.1. Purpose

Submits an application stack analysis request.



You require an CodeReady Toolchain authentication token to invoke this method.

3.1.2. Resource URL

For information about the resource URL, reach out to us on the [CodeReady Toolchain support chat channel](#) or send an email to the [CodeReady Toolchain mailing list](#).

3.1.3. Resource information

Response Format	JSON
Requires Authentication	Yes

3.1.4. Parameters

Name	Required	Description	Example
manifest[]	required	Ecosystem specific Manifest file(s) available in the application. One can provide multiple manifest files to invoke the method.	@pom.xml
filePath[]	required	Corresponding manifest file's directory information. Care has to be taken to map the manifest filenames and file paths correctly.	/home/JohnDoe
origin	optional	Originator of the request. Can be the name of an application integrating to the endpoint. Maintained for historical reasons.	"my-app"

3.1.5. Example request with cURL

```
curl -k -H "Authorization: Bearer <CodeReady Toolchain authentication token>" -F "manifest[]=@./pom.xml" -F "filePath[]=/home/JohnDoe"https://<recommender api url>/api/v1/stack-analyses
```

3.1.6. Example response:

Success

```
{
  "id": "add9caf0a1ff47969a8f27a4241a0230",
  "status": "success",
  "submitted_at": "2018-04-10 08:59:24.472832"
}
```

Failure

```
401:
{
  "error": "Authentication failed - could not decode JWT token"
}
```

3.2. GET /stack-analyses/{request ID}

3.2.1. Purpose

Fetches stack analysis response by using the request identifier returned by /stack-analyses POST.



You require an CodeReady Toolchain authentication token to invoke this method.

3.2.2. Resource URL

For information about the resource URL, reach out to us on the [CodeReady Toolchain support](#) chat channel or send an email to the [CodeReady Toolchain mailing list](#).

3.2.3. Resource information

Response Format	JSON
Requires Authentication	Yes

3.2.4. Parameters

None

3.2.5. Example request with cURL

```
curl -k -H "Authorization: Bearer <CodeReady Toolchain authentication token>"  
https://<recommender api url>/api/v1/stack-analyses/421249d9e1e5464cbf3e77dde4941463
```

3.2.6. Example response

Success

```
{  
  "finished_at": "2018-04-10T08:59:25.010455",  
  "release": "None:None:None",  
  "request_id": "add9caf0a1ff47969a8f27a4241a0230",  
  "result": [  
    {  
      "manifest_file_path": "/some",  
      "manifest_name": "pom.xml",  
      "recommendation": {  
        "alternate": [],  
        "companion": [  
          {  
            "code_metrics": {  
              "average_cyclomatic_complexity": -1,  
              "code_lines": -1,  
              "total_files": -1  
            },  
            "confidence_reason": 28.57142857142857,  
            "cooccurrence_count": 4,  
            "cooccurrence_probability": 28.57142857142857,  
            "ecosystem": "maven",  
            "github": {  
              "contributors": -1,  
              "dependent_projects": "0",  
              "dependent_repos": "65",  
              "first_release_date": "N/A",  
              "forks_count": -1,  
              "issues": {  
                "month": {  
                  "closed": -1,  
                  "opened": -1  
                },  
                "year": {  
                  "closed": -1,  
                  "opened": -1  
                }  
              }  
            },  
            "latest_release_duration": "2018-01-15 15:59:36",  
            "pull_requests": {  
              "month": {
```

lab",

```
        "closed": -1,
        "opened": -1
    },
    "year": {
        "closed": -1,
        "opened": -1
    }
},
"size": "N/A",
"stargazers_count": -1,
"total_releases": "37",
"used_by": [
    {
        "name": "Craftware/Kornell",
        "stars": 12
    },
    {
        "name": "fabric8-launcher/launcher-backend",
        "stars": 4
    },
    {
        "name": "fabric8io/fabric8-forge",
        "stars": 7
    },
    {
        "name": "kiegroup/guvnor",
        "stars": 159
    },
    {
        "name": "m-reza-rahman/pragmatic-microservices-
lab",
        "stars": 20
    },
    {
        "name": "mbiarnes/guvnor",
        "stars": 0
    },
    {
        "name": "redhat-developer-demos/kubernetes-lab",
        "stars": 7
    },
    {
        "name": "redhat-helloworld-msa/hola",
        "stars": 7
    },
    {
        "name": "wildfly-swarm/tutorial",
        "stars": 14
    },
    {
        "name": "wildfly-swarm/wildfly-swarm",
```

```

        "stars": 203
      }
    ],
    "watchers": -1
  },
  "latest_version": "2018.3.1",
  "licenses": [
    "AL2"
  ],
  "name": "org.wildfly.swarm:jaxrs-cdi",
  "osio_user_count": 0,
  "reason": "Package org.wildfly.swarm:jaxrs-cdi appears in 4
different stacks along with the provided input stack. Do you want to consider adding
this Package?",
  "security": [],
  "topic_list": [
    "http",
    "service",
    "rest"
  ],
  "version": "2018.3.1"
},
{
  "code_metrics": {
    "average_cyclomatic_complexity": -1,
    "code_lines": -1,
    "total_files": -1
  },
  "confidence_reason": 50,
  "cooccurrence_count": 7,
  "cooccurrence_probability": 50,
  "ecosystem": "maven",
  "github": {
    "contributors": -1,
    "dependent_projects": "0",
    "dependent_repos": "138",
    "first_release_date": "N/A",
    "forks_count": -1,
    "issues": {
      "month": {
        "closed": -1,
        "opened": -1
      },
      "year": {
        "closed": -1,
        "opened": -1
      }
    }
  },
  "latest_release_duration": "2017-11-06 19:17:18",
  "pull_requests": {
    "month": {

```

```
        "closed": -1,
        "opened": -1
    },
    "year": {
        "closed": -1,
        "opened": -1
    }
},
"size": "N/A",
"stargazers_count": -1,
"total_releases": "33",
"used_by": [
    {
        "name": "ALRubinger/hc-swarm-alr-oso",
        "stars": 0
    },
    {
        "name": "bfh-study/sanctions-list-backend",
        "stars": 1
    },
    {
        "name": "fabric8-launcher/launcher-backend",
        "stars": 3
    },
    {
        "name": "gastaldi/hc",
        "stars": 0
    },
    {
        "name": "jclingan/swarm-crud-jc",
        "stars": 0
    },
    {
        "name": "mbiarnes/guvnor",
        "stars": 0
    },
    {
        "name": "redhat-helloworld-msa/hola",
        "stars": 7
    },
    {
        "name": "weweave/tubewarder",
        "stars": 10
    },
    {
        "name": "wildfly-extras/wildfly-microprofile-
config",
        "stars": 3
    },
    {
        "name": "wildfly-swarm/wildfly-swarm",
```

```

        "stars": 196
      }
    ],
    "watchers": -1
  },
  "latest_version": "2018.3.2",
  "licenses": [
    "AL2"
  ],
  "name": "org.wildfly.swarm:cdi",
  "osio_user_count": 0,
  "reason": "Package org.wildfly.swarm:cdi appears in 7
different stacks along with the provided input stack. Do you want to consider adding
this Package?",
  "security": [],
  "topic_list": [
    "integration"
  ],
  "version": "2018.3.2"
}
],
"input_stack_topics": {
  "org.wildfly.swarm:jaxrs": [
    "webservice",
    "rest"
  ],
  "org.wildfly.swarm:monitor": [
    "monitor"
  ]
},
"manifest_file_path": "/some",
"missing_packages_pgm": [],
"usage_outliers": []
},
"user_stack_info": {
  "analyzed_dependencies": [
    {
      "code_metrics": {
        "average_cyclomatic_complexity": -1,
        "code_lines": -1,
        "total_files": -1
      },
      "ecosystem": "maven",
      "github": {
        "contributors": -1,
        "dependent_projects": "0",
        "dependent_repos": "39",
        "first_release_date": "Apr 16, 2010",
        "forks_count": -1,
        "issues": {
          "month": {

```

```
        "closed": -1,
        "opened": -1
    },
    "year": {
        "closed": -1,
        "opened": -1
    }
},
"latest_release_duration": "2017-09-05 19:59:04",
"open_issues_count": -1,
"pull_requests": {
    "month": {
        "closed": -1,
        "opened": -1
    },
    "year": {
        "closed": -1,
        "opened": -1
    }
},
"size": "N/A",
"stargazers_count": -1,
"total_releases": "33",
"used_by": [
    {
        "name": "ALRubinger/hc-swarm-alr-oso",
        "stars": 0
    },
    {
        "name": "davsclaus/minishift-hello",
        "stars": 3
    },
    {
        "name": "eclipse/microprofile-health",
        "stars": 8
    },
    {
        "name": "gastaldi/hc",
        "stars": 0
    },
    {
        "name": "inoxx03/wf-swarm-hc-nexus",
        "stars": 0
    },
    {
        "name": "inoxx03/wfs-hc",
        "stars": 0
    },
    {
        "name": "inoxx03/wfs-health-check-live",
        "stars": 0
    }
]
```



```

        },
        {
            "name": "nickschuetz/nickswarm",
            "stars": 0
        },
        {
            "name": "wildfly-swarm-openshiftio-boosters/wfswarm-health-check-redhat",
            "stars": 0
        },
        {
            "name": "wildfly-swarm/wildfly-swarm",
            "stars": 201
        }
    ]
},
"latest_version": "2017.10.0",
"license_analysis": {
    "_message": "Representative license found",
    "_representative_licenses": "apache 2.0",
    "conflict_licenses": [],
    "outlier_licenses": [],
    "status": "Successful",
    "synonyms": {
        "AL2": "apache 2.0"
    },
    "unknown_licenses": []
},
"licenses": [
    "AL2"
],
"name": "org.wildfly.swarm:monitor",
"osio_user_count": 0,
"security": [],
"topic_list": [
    "monitor"
],
"version": "2017.10.0"
},
{
    "code_metrics": {
        "average_cyclomatic_complexity": -1,
        "code_lines": -1,
        "total_files": -1
    },
    "ecosystem": "maven",
    "github": {
        "contributors": -1,
        "dependent_projects": "0",
        "dependent_repos": "227",
        "first_release_date": "Apr 16, 2010",

```

```
"forks_count": -1,
"issues": {
  "month": {
    "closed": -1,
    "opened": -1
  },
  "year": {
    "closed": -1,
    "opened": -1
  }
},
"latest_release_duration": "2018-02-08 16:22:40",
"open_issues_count": -1,
"pull_requests": {
  "month": {
    "closed": -1,
    "opened": -1
  },
  "year": {
    "closed": -1,
    "opened": -1
  }
},
"size": "N/A",
"stargazers_count": -1,
"total_releases": "47",
"used_by": [
  {
    "name": "ALRubinger/hc-swarm-alr-oso",
    "stars": 0
  },
  {
    "name": "arun-gupta/docker-javaee",
    "stars": 6
  },
  {
    "name": "bfh-study/sanctions-list-backend",
    "stars": 1
  },
  {
    "name": "eclipse/microprofile-health",
    "stars": 8
  },
  {
    "name": "mbiarnes/guvnor",
    "stars": 0
  },
  {
    "name": "weweave/tubewarder",
    "stars": 10
  },
]
```

```

        {
            "name": "wildfly-extras/wildfly-microprofile-
config",
            "stars": 3
        },
        {
            "name": "wildfly-swarm-archive/wildfly-swarm-
drools",
            "stars": 1
        },
        {
            "name": "wildfly-swarm-openshiftio-
boosters/wfswarm-health-check-redhat",
            "stars": 0
        },
        {
            "name": "wildfly-swarm/wildfly-swarm",
            "stars": 203
        }
    ]
},
"latest_version": "2018.2.0",
"license_analysis": {
    "_message": "Representative license found",
    "_representative_licenses": "apache 2.0",
    "conflict_licenses": [],
    "outlier_licenses": [],
    "status": "Successful",
    "synonyms": {
        "AL2": "apache 2.0"
    },
    "unknown_licenses": []
},
"licenses": [
    "AL2"
],
"name": "org.wildfly.swarm:jaxrs",
"osio_user_count": 0,
"security": [],
"topic_list": [
    "webservice",
    "rest"
],
"version": "2017.10.0"
}
],
"analyzed_dependencies_count": 2,
"dependencies": [
    {
        "package": "org.wildfly.swarm:monitor",
        "version": "2017.10.0"
    }
]

```

```

    },
    {
      "package": "org.wildfly.swarm:jaxrs",
      "version": "2017.10.0"
    }
  ],
  "distinct_licenses": [
    "AL2"
  ],
  "ecosystem": "maven",
  "license_analysis": {
    "conflict_packages": [],
    "current_stack_license": {},
    "f8a_stack_licenses": [
      "apache 2.0"
    ],
    "outlier_packages": [],
    "status": "Successful",
    "unknown_licenses": {
      "component_conflict": [],
      "really_unknown": []
    }
  },
  "recommendation_ready": true,
  "stack_license_conflict": false,
  "total_licenses": 1,
  "unknown_dependencies": [],
  "unknown_dependencies_count": 0
}
}
],
"started_at": "2018-04-10T08:59:24.939611",
"version": "v1"
}

```

For further information refer to the [Swagger specification](#).

In-Progress

```

200:
{
  "error": "Analysis for request ID 'add9caf0a1ff47969a8f27a4241a0230' is in
progress"
}

```

Failure

```
401:
{
  "error": "Authentication failed - could not decode JWT token"
}
```

3.3. GET /component-analyses/{ecosystem}/{component name}/{component version}

3.3.1. Purpose

Fetches various data points for a selected component.



You require an CodeReady Toolchain authentication token to invoke this method.

3.3.2. Resource URL

For information about the resource URL, reach out to us on the [CodeReady Toolchain support](#) chat channel or send an email to the [CodeReady Toolchain mailing list](#).

3.3.3. Resource information

Response Format	JSON
Requires Authentication	Yes

3.3.4. Parameters

None

3.3.5. Example request with cURL

```
curl -k -H "Authorization: Bearer <CodeReady Toolchain authentication token>"
https://<recommender api url>/api/v1/component-analyses/maven/io.vertx:vertx-
core/3.4.1
```

3.3.6. Example response

Success

```
{
  "result": {
    "data": [
      {
```

```
"package": {
  "ecosystem": [
    "maven"
  ],
  "gh_contributors_count": [
    30
  ],
  "gh_forks": [
    1314
  ],
  "gh_issues_last_month_closed": [
    -1
  ],
  "gh_issues_last_month_opened": [
    -1
  ],
  "gh_issues_last_year_closed": [
    -1
  ],
  "gh_issues_last_year_opened": [
    -1
  ],
  "gh_open_issues_count": [
    156
  ],
  "gh_prs_last_month_closed": [
    -1
  ],
  "gh_prs_last_month_opened": [
    -1
  ],
  "gh_prs_last_year_closed": [
    -1
  ],
  "gh_prs_last_year_opened": [
    -1
  ],
  "gh_stargazers": [
    7381
  ],
  "gh_subscribers_count": [
    591
  ],
  "last_updated": [
    1520569765.48
  ],
  "last_updated_sentiment_score": [
    "2017-10-09"
  ],
  "latest_version": [
    "-1"
  ]
}
```

```
],
"libio_dependents_projects": [
  "144"
],
"libio_dependents_repos": [
  "3454"
],
"libio_latest_release": [
  1502117662
],
"libio_latest_version": [
  "3.5.0.Beta1"
],
"libio_total_releases": [
  "48"
],
"libio_usedby": [
  "TechEmpower/FrameworkBenchmarks:2976",
  "apiman/apiman:366",
  "boonproject/boon:474",
  "hawkular/hawkular-apm:132",
  "isaiah/jubilee:342",
  "jbosstm/narayana:77",
  "jhalterman/failsafe:1981",
  "vert-x3/vertx-stack:78",
  "wildfly-swarm/wildfly-swarm:204",
  "wisdom-framework/wisdom:72"
],
"name": [
  "io.vertx:vertx-core"
],
"package_dependents_count": [
  -1
],
"package_relative_used": [
  "not used"
],
"sentiment_magnitude": [
  "0"
],
"sentiment_score": [
  "0"
],
"tokens": [
  "core",
  "io",
  "vertx"
],
"vertex_label": [
  "Package"
]
```

```
    },  
    "version": {  
      "cm_avg_cyclomatic_complexity": [  
        1.34  
      ],  
      "cm_loc": [  
        80586  
      ],  
      "cm_num_files": [  
        441  
      ],  
      "declared_licenses": [  
        "Eclipse Public License - v 1.0",  
        "The Apache Software License, Version 2.0"  
      ],  
      "dependents_count": [  
        11  
      ],  
      "description": [  
        "Sonatype helps open source projects to set up Maven  
repositories on https://oss.sonatype.org/"  
      ],  
      "last_updated": [  
        1517474419.35  
      ],  
      "licenses": [  
        "Apache 2.0",  
        "EPL 1.0",  
        "MIT License"  
      ],  
      "osio_usage_count": [  
        11  
      ],  
      "pecosystem": [  
        "maven"  
      ],  
      "pname": [  
        "io.vertx:vertx-core"  
      ],  
      "relative_used": [  
        ""  
      ],  
      "shipped_as_downstream": [  
        false  
      ],  
      "version": [  
        "3.4.1"  
      ],  
      "vertex_label": [  
        "Version"  
      ]  
    ]  
  ]  
}
```



```
    }
  },
  "recommendation": {}
},
"schema": {
  "name": "analyses_graphdb",
  "url": "http://<recommender api url>/api/v1/schemas/api/analyses_graphdb/1-2-0/",
  "version": "1-2-0"
}
}
```

For further information refer to the [Swagger specification](#).

Failure

```
401:
{
  "error": "Authentication failed - could not decode JWT token"
}
```

```
404:
{
  "error": "No data found for maven Package io.vertx:vertx-core/3.4.1"
}
```