

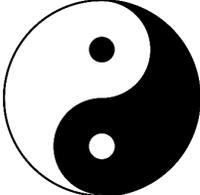
Related Open Source Projects and Components

ONAP depends on or has integration capabilities with the open source software projects or standards listed on this page.

The "Category" column may contain:

- **Component:** something linked with ONAP. This includes frameworks, libraries
- **Database:** a separate executable
- **Notation or Language**
- **Tool:** something used in the development process only, such as a Utility, Compiler

	Project Name	ONAP Projects	Description	License	Category
blocked URL	AngularJS		A complete JavaScript-based front-end web application framework	MIT	Framework (Component)
blocked URL	Bower		Bower is a package manager for web-based frameworks, libraries, utilities and other assets	BSD	Utility (Tool)
	BPEL		BPEL (Business Process Execution Language) is an XML-based language that allows Web services in a service-oriented architecture (SOA) to interconnect and share data		Notation
blocked URL	BPMN		Business Process Model and Notation	N/A	Notation
blocked URL	Cask, CDAP		The Cask Data Application Platform (CDAP) is an open source project for distributed data and applications. CDAP is a layer of software running on top of Hadoop platforms	Apache 2.0	Database Layer
blocked URL	Cassandra		Apache Cassandra is a distributed (NoSQL) database management system designed to handle large amounts of data across many commodity servers, providing high availability with no single point of failure.	Apache 2.0	Database
	Docker		Containerization (along with compose)		Component
blocked URL	Drools		A business rules management system (BRMS) with a forward and backward chaining inference based rules engine, using an enhanced implementation of the Rete algorithm.	ASL 2	Component
	EELF	Logging	Event and Error Logging Framework in conjunction with the ELK stack (Elasticsearch, Logstash and Kibana)	BSD	Component
blocked URL	Elastic Search		A search engine based on Apache Lucene , providing a distributed, multitenant-capable full-text search engine with an HTTP web interface and schema-free JSON documents	Apache 2.0	Database
	Gerrit		A web based code review and repository management for the Git version control system.	Apache 2.0	Tool
blocked URL	Git		Distributed version control system	GPLv2	Tool
blocked URL	Grunt		A JavaScript task runner, a tool used to automatically perform frequently used tasks such as minification, compilation, unit testing, linting, etc. It uses a command-line interface to run custom tasks defined in a file (known as a Gruntfile)	MIT	Tool
blocked URL	Hadoop		Apache Hadoop is a framework that allows for the distributed processing of large data sets across clusters of computers using simple programming models. It is designed to scale up from single servers to thousands of machines, each offering local computation and storage	Apache 2.0	Database
blocked URL	HBase		Apache HBase is a distributed, versioned, non-relational database modeled after Google's Bigtable. HBase provides random, realtime read/write access to Big Data, especially hosting very large tables -- billions of rows X millions of columns -- atop clusters of commodity hardware.	Apache 2.0	Database
	Hibernate		Hibernate (our JPA 2.0 provider ORM)		Component
	Helm		2.8.2	CNCF	Deployment
blocked URL	Java (v7 and 8)		Version 8 of the Java OpenJDK and run-time	GPLv2 with Classpath Exception. See OpenJDK Legal pages	Language / Platform
blocked URL	Jetty		Provides a web server and javax.servlet container, plus support for HTTP/2, WebSocket, OSGi, JMX, JNDI, JAAS and many other integrations	Eclipse	Tool
	JPA		Java Persistence Architecture (JSR-317) - the specification level of the Object Relation Mapping layer. Where EclipseLink is the RI and Hibernate is the JPA provider.		Component
	JUnit		A simple framework to write repeatable tests. It is an instance of the xUnit architecture for unit testing frameworks.	Eclipse Public License 1.0	Test Framework (Tool)

	Kubernetes		1.8.10 Container orchestration https://github.com/kubernetes/kubernetes/issues/57528	CNCF	Deployment
blocked URL	Kibana		A data visualization plugin for Elasticsearch, providing visualization capabilities on top of the content indexed on an Elasticsearch cluster	Apache 2.0	Plug-in (Component)
	MariaDB		A community-developed fork of the MySQL relational database management system intended to remain free under the GNU GPL	GPLv2, LGPLv2	Database
blocked URL	Maven		Apache Maven is a software project management and comprehension tool. Based on a project object model (POM), Maven can manage project build, reporting and documentation from a central piece of information.	Apache 2.0	Tool
blocked URL	MySQL		A popular and widely deployed relational database management system (RDBMS)	GPLv2	Database
blocked URL	MySQL Connector/J		Provides connectivity for client applications developed in the Java programming language with MySQL Connector/J, a driver that implements the Java Database Connectivity (JDBC) API.	GPLv2	Database
blocked URL	NPM		A package manager for Javascript	Artistic License 2.0	Tool
blocked URL	OpenStack Heat		The main project in the OpenStack Orchestration program, Heat implements an orchestration engine to launch multiple composite cloud applications based on templates.	Apache 2.0	Component
blocked URL	PostgreSQL		An object-relational database management system (ORDBMS) with an emphasis on extensibility and standards compliance	PostgreSQL License	Database
blocked URL	Spring		An application framework and inversion of control container for the Java platform	Apache 2.0	Framework
	Swagger		An open source framework backed by a large ecosystem of tools that helps you design, build, document, and consume your RESTful APIs. The Swagger API specification has been renamed the OpenAPI Specification .	Apache 2.0	Framework
	TestNG		A testing framework inspired from JUnit and NUnit but introducing some new functionalities that make it more powerful and easier to use	Apache 2.0	Tool
blocked URL	Titan Graph DB		A scalable graph database optimized for storing and querying graphs containing hundreds of billions of vertices and edges distributed across a multi-machine cluster.	Apache 2.0	Database
	Tomcat		We use version 8 of this web container that implements version 3.1 of the Servlet spec JSR-340.		Web Container
blocked URL	TOSCA		Topology and Orchestration Specification for Cloud Applications (TOSCA), is an OASIS standard language to describe a topology of cloud based web services, their components, relationships, and the processes that manage them. The TOSCA standard includes specifications to describe processes that create or modify web services.	N/A	Standard Language
blocked URL	ARIA	SO, Modeling, VNF SDK	Reference implementation of the TOSCA Simple Yaml Profile 1.0 .	Apache 2.0	Component
blocked URL	TypeScript		A programming language developed and maintained by Microsoft, as a strict superset of JavaScript, adding optional static typing and class-based object-oriented programming to the language.	Apache 2.0	Language
	UML		A general-purpose, developmental, modeling language in the field of software engineering, that is intended to provide a standard way to visualize the design of a system (originated by Booch, Jacobson and Rumbaugh).		Notation
	woorea		openstack-client SDK	Apache 2.0	Component
blocked URL	YAML		A human-readable data serialization standard language (YAML Ain't Markup Language), used to implement Heat templates.	Standard/ML	Markup Language
	YANG		A data modeling language for the definition of data sent over the NETCONF network configuration protocol	Multiple, by source directory. See ReadMe.md	Standard Language

TBD

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Beijing SO workaround for Azure - <https://github.com/onapdemo>