

# Transport

## Transports

Apache Camel supports a number of different plugable componets for talking to different transports. The transports is implement as Camel components.

## Components Included

Camel includes the following [Component](#) implementations via [URIs](#).



### important

Make sure to read [How Do I Configure Endpoints?](#) to learn more about configuring endpoints. For example how to refer to beans in the [Registry](#) or how to use raw values for password options, and using [property placeholders](#) etc.

Component / ArtifactId / URI	Description
<b>AHC</b> / camel-ahc <pre>ahc:http [s]://hostName[:port] /resourceUri [?options]</pre>	To call external HTTP services using <a href="#">Async Http Client</a>
<b>AHC-WS</b> / camel-ahc-ws <pre>ahc-ws [s]://hostName[:port] /resourceUri [?options]</pre>	To exchange data with external Websocket servers using <a href="#">Async Http Client</a>
<b>AMQP</b> / camel-amqp <pre>amqp:[queue:  topic:] destinationName [?options]</pre>	For Messaging with <a href="#">AMQP protocol</a>
<b>APNS</b> / camel-apns <pre>apns: &lt;notify consumer&gt;[? options]</pre>	For sending notifications to Apple iOS devices

<p><a href="#">Atmosphere-Websocket</a> / camel-atmosphere-websocket</p> <pre>atmosphere- websocket:/// relative path [?options]</pre>	<p>To exchange data with external Websocket clients using <a href="#">Atmosphere</a></p>
<p><a href="#">Atom</a> / camel-atom</p> <pre>atom:atomUri [?options]</pre>	<p>Working with <a href="#">Apache Abdera</a> for atom integration, such as consuming an atom feed.</p>
<p><a href="#">Avro</a> / camel-avro</p> <pre>avro: [transport]: [host]:[port] [ /messageName] [?options]</pre>	<p>Working with <a href="#">Apache Avro</a> for data serialization.</p>
<p><a href="#">AWS-CW</a> / camel-aws</p> <pre>aws- cw://namespac e[?options]</pre>	<p>For working with <a href="#">Amazon's CloudWatch (CW)</a>.</p>
<p><a href="#">AWS-DDB</a> / camel-aws</p> <pre>aws- ddb://tableNa me[?options]</pre>	<p>For working with <a href="#">Amazon's DynamoDB (DDB)</a>.</p>
<p><a href="#">AWS-DDBSTREAM</a> / camel-aws</p> <pre>aws- ddbstream://t ableName[? options]</pre>	<p>For working with <a href="#">Amazon's DynamoDB Streams (DDB Streams)</a>.</p>
<p><a href="#">AWS-EC2</a> / camel-aws</p> <pre>aws- ec2://label[? options]</pre>	<p>For working with <a href="#">Amazon's Elastic Compute Cloud (EC2)</a>.</p>

<a href="#">AWS-SDB / camel-aws</a>  <pre>aws- sdb://domainName[?options]</pre>	For working with <a href="#">Amazon's SimpleDB (SDB)</a> .
<a href="#">AWS-SES / camel-aws</a>  <pre>aws- ses://from[?options]</pre>	For working with <a href="#">Amazon's Simple Email Service (SES)</a> .
<a href="#">AWS-SNS / camel-aws</a>  <pre>aws- sns://topicName[?options]</pre>	For Messaging with <a href="#">Amazon's Simple Notification Service (SNS)</a> .
<a href="#">AWS-SQS / camel-aws</a>  <pre>aws- sqs://queueName[?options]</pre>	For Messaging with <a href="#">Amazon's Simple Queue Service (SQS)</a> .
<a href="#">AWS-SWF / camel-aws</a>  <pre>aws- swf://&lt;workflow activity&gt;[?options]</pre>	For Messaging with <a href="#">Amazon's Simple Workflow Service (SWF)</a> .
<a href="#">AWS-S3 / camel-aws</a>  <pre>aws- s3://bucketName[?options]</pre>	For working with <a href="#">Amazon's Simple Storage Service (S3)</a> .
<a href="#">Bean / camel-core</a>  <pre>bean:beanName[?options]</pre>	Uses the <a href="#">Bean Binding</a> to bind message exchanges to beans in the <a href="#">Registry</a> . Is also used for exposing and invoking POJO (Plain Old Java Objects).

<a href="#">Beanstalk</a> / camel-beanstalk <div> <pre>beanstalk: hostname:port /tube[? options]</pre> </div>	For working with <a href="#">Amazon's Beanstalk</a> .
<a href="#">Bean Validator</a> / camel-bean-validator <div> <pre>bean- validator: label[? options]</pre> </div>	Validates the payload of a message using the Java Validation API ( <a href="#">JSR 303</a> and JAXP Validation) and its reference implementation <a href="#">Hibernate Validator</a>
<a href="#">Box</a> / camel-box <div> <pre>box://endpoin t-prefix /endpoint? [options]</pre> </div>	For uploading, downloading and managing files, managing files, folders, groups, collaborations, etc. on <a href="#">Box.com</a> .
<a href="#">Braintree</a> / camel-braintree <div> <pre>braintree://e ndpoint- prefix /endpoint? [options]</pre> </div>	Component for interacting with Braintree Payments via Braintree Java SDK
<a href="#">Browse</a> / camel-core <div> <pre>browse: someName</pre> </div>	Provides a simple <a href="#">BrowsableEndpoint</a> which can be useful for testing, visualisation tools or debugging. The exchanges sent to the endpoint are all available to be browsed.
<a href="#">Cache</a> / camel-cache <div> <pre>cache://cache Name[? options]</pre> </div>	The cache component facilitates creation of caching endpoints and processors using <a href="#">EHCACHE</a> as the cache implementation.
<a href="#">Cassandra</a> / camel-cassandraql <div> <pre>cql:localhost /keyspace</pre> </div>	For integrating with <a href="#">Apache Cassandra</a> .

<p><b>Class</b> / camel-core</p> <pre>class: className[? options]</pre>	<p>Uses the <a href="#">Bean Binding</a> to bind message exchanges to beans in the <a href="#">Registry</a>. Is also used for exposing and invoking POJO (Plain Old Java Objects).</p>
<p><b>Chronicle Engine</b> / camel-chronicle</p> <pre>chronicle- engine: addresses /path[? options]</pre>	<p><a href="#">Chronicle Engine</a> is a high performance, low latency, reactive processing framework.</p>
<p><b>Chunk</b> / camel-chunk</p> <pre>chunk: templateName [?options]</pre>	<p>Generates a response using a <a href="#">Chunk</a> template</p>
<p><b>CMIS</b> / camel-cmis</p> <pre>cmis://cmisSe rverUrl[? options]</pre>	<p>Uses the <a href="#">Apache Chemistry</a> client API to interface with CMIS supporting CMS</p>
<p><b>Cometd</b> / camel-cometd</p> <pre>cometd://host Name:port /channelName [?options]</pre>	<p>Used to deliver messages using the <a href="#">jetty cometd implementation</a> of the <a href="#">bayeux protocol</a></p>
<p><b>Consul</b> / camel-consul</p> <pre>consul: apiEndpoint[? options]</pre>	<p>For interfacing with an <a href="#">Consul</a>.</p>
<p><b>Context</b> / camel-context</p> <pre>context: camelContextI d: localEndpoint Name[? options]</pre>	<p>Used to refer to endpoints within a separate CamelContext to provide a simple <a href="#">black box composition</a> approach so that routes can be combined into a CamelContext and then used as a black box component inside other routes in other CamelContexts</p>

<b>ControlBus</b> / camel-core  <pre>controlbus: command[? options]</pre>	<b>ControlBus</b> EIP that allows to send messages to <a href="#">Endpoints</a> for managing and monitoring your Camel applications.
<b>CouchDB</b> / camel-couchdb  <pre>couchdb: hostName[: port] /database[? options]</pre>	To integrate with <a href="#">Apache CouchDB</a> .
<b>Crypto (Digital Signatures)</b> / camel-crypto  <pre>crypto: &lt;sign verify&gt; :name[? options]</pre>	Used to sign and verify exchanges using the Signature Service of the Java Cryptographic Extension.
<b>CXF</b> / camel-cxf  <pre>cxf:&lt;bean: cxfEndpoint  //someAddress &gt;[?options]</pre>	Working with <a href="#">Apache CXF</a> for web services integration
<b>CXF Bean</b> / camel-cxf  <pre>cxfbean: serviceBeanRe f[?options]</pre>	Process the exchange using a JAX WS or JAX RS annotated bean from the registry. Requires less configuration than the above CXF Component
<b>CXFRS</b> / camel-cxf  <pre>cxfrs:&lt;bean: rsEndpoint  //address&gt;[? options]</pre>	Working with <a href="#">Apache CXF</a> for REST services integration
<b>DataFormat</b> / camel-core  <pre>dataformat: name: &lt;marshal unma rshal&gt;[? options]</pre>	for working with <a href="#">Data Formats</a> as if it was a regular Component supporting Endpoints and URIs.

<a href="#">DataSet</a> / camel-core  <div>dataset:name [?options]</div>	For load & soak testing the <a href="#">DataSet</a> provides a way to create huge numbers of messages for sending to <a href="#">Components</a> or asserting that they are consumed correctly
<a href="#">Direct</a> / camel-core  <div>direct: someName[? options]</div>	Synchronous call to another endpoint from <b>same</b> CamelContext.
<a href="#">Direct-VM</a> / camel-core  <div>direct-vm: someName[? options]</div>	Synchronous call to another endpoint in another CamelContext running in the same JVM.
<a href="#">DNS</a> / camel-dns  <div>dns:operation [?options]</div>	To lookup domain information and run DNS queries using <a href="#">DNSJava</a>
<a href="#">Disruptor</a> / camel-disruptor  <div>disruptor: someName[? &lt;option&gt;] disruptor-vm: someName[? &lt;option&gt;]</div>	To provide the implementation of <a href="#">SEDA</a> which is based on <a href="#">disruptor</a>
<a href="#">Docker</a> / camel-docker  <div>docker:// [operation]? [options]</div>	To communicate with <a href="#">Docker</a>
<a href="#">Dozer</a> / camel-dozer  <div>dozer://name? [options]</div>	To convert message body using the Dozer type converter library.

<a href="#">Dropbox</a> / camel-dropbox <div> <pre>dropbox:// [operation]? [options]</pre> </div>	The <b>dropbox</b> : component allows you to treat <a href="#">Dropbox</a> remote folders as a producer or consumer of messages.
<a href="#">EJB</a> / camel-ejb <div> <pre>ejb:ejbName[? options]</pre> </div>	Uses the <a href="#">Bean Binding</a> to bind message exchanges to EJBs. It works like the <a href="#">Bean</a> component but just for accessing EJBs. Supports EJB 3.0 onwards.
<a href="#">Ehcache</a> / camel-ehcache <div> <pre>ehcache://cac heName[? options]</pre> </div>	The cache component facilitates creation of caching endpoints and processors using <a href="#">Ehcache 3</a> as the cache implementation.
<a href="#">ElasticSearch</a> / camel-elasticsearch <div> <pre>elasticsearch ://clusterName[?options]</pre> </div>	For interfacing with an <a href="#">ElasticSearch</a> server.
<a href="#">Etcd</a> / camel-etcd <div> <pre>etcd: namespace[ /path][? options]</pre> </div>	For interfacing with an <a href="#">Etcd</a> key value store.
<a href="#">Spring Event</a> / camel-spring <div> <pre>spring- event://defau lt</pre> </div>	Working with Spring ApplicationEvents
<a href="#">EventAdmin</a> / camel-eventadmin <div> <pre>eventadmin: topic[? options]</pre> </div>	Receiving OSGi EventAdmin events
<a href="#">Exec</a> / camel-exec <div> <pre>exec://execut able[? options]</pre> </div>	For executing system commands



<a href="#">Facebook</a> / camel-facebook <div> <pre>facebook://endpoint[?options]</pre> </div>	Providing access to all of the Facebook APIs accessible using <a href="#">Facebook4J</a>
<a href="#">File</a> / camel-core <div> <pre>file://nameOfFileOrDirectory[?options]</pre> </div>	Sending messages to a file or polling a file or directory.
<a href="#">Flatpack</a> / camel-flatpack <div> <pre>flatpack:[fixed delim]:configFile[?options]</pre> </div>	Processing fixed width or delimited files or messages using the <a href="#">FlatPack</a> library
<a href="#">Flink</a> / camel-flink <div> <pre>flink:dataset[?options] flink:datastream[?options]</pre> </div>	Bridges Camel connectors with <a href="#">Apache Flink</a> tasks.
<a href="#">FOP</a> / camel-fop <div> <pre>fop:outputFormat[?options]</pre> </div>	Renders the message into different output formats using <a href="#">Apache FOP</a>
<a href="#">FreeMarker</a> / camel-freemarker <div> <pre>freemarker:templateName[?options]</pre> </div>	Generates a response using a <a href="#">FreeMarker</a> template
<a href="#">FTP</a> / camel-ftp <div> <pre>ftp:contextPath[?options]</pre> </div>	Sending and receiving files over FTP.

<b>FTPS</b> / camel-ftp <div> <pre> ftps:// [username@] hostName[: port] /directoryName [?options] </pre> </div>	Sending and receiving files over FTP Secure (TLS and SSL).
<b>Ganglia</b> / camel-ganglia <div> <pre> ganglia: destination: port[? options] </pre> </div>	Sends values as metrics to the <a href="#">Ganglia</a> performance monitoring system using <a href="#">gmetric4j</a> . Can be used along with <a href="#">JMXetric</a> .
<b>GAAuth</b> / camel-gae <div> <pre> gauth://name [?options] </pre> </div>	Used by web applications to implement an <a href="#">OAuth</a> consumer. See also <a href="#">Camel Components for Google App Engine</a> .
<b>GHttp</b> / camel-gae <div> <pre> ghttp: contextPath[? options] </pre> </div>	Provides connectivity to the <a href="#">URL fetch service</a> of Google App Engine but can also be used to receive messages from servlets. See also <a href="#">Camel Components for Google App Engine</a> .
<b>Git</b> / camel-git <div> <pre> git: localRepositoryPath[? options] </pre> </div>	Supports interaction with <a href="#">Git</a> repositories
<b>Github</b> / camel-github <div> <pre> github: endpoint[? options] </pre> </div>	Supports interaction with <a href="#">Github</a>
<b>GLogin</b> / camel-gae <div> <pre> glogin://hostname[:port][? options] </pre> </div>	Used by Camel applications outside Google App Engine (GAE) for programmatic login to GAE applications. See also <a href="#">Camel Components for Google App Engine</a> .
<b>GTask</b> / camel-gae <div> <pre> gtask://queue-name[? options] </pre> </div>	Supports asynchronous message processing on Google App Engine by using the <a href="#">task queueing service</a> as message queue. See also <a href="#">Camel Components for Google App Engine</a> .

<p><a href="#">Google Calendar</a> / <a href="#">camel-google-calendar</a></p> <pre>google- calendar://en dpoint-prefix /endpoint? [options]</pre>	<p>Supports interaction with <a href="#">Google Calendar's REST API</a>.</p>
<p><a href="#">Google Drive</a> / <a href="#">camel-google-drive</a></p> <pre>google- drive://endpo int-prefix /endpoint? [options]</pre>	<p>Supports interaction with <a href="#">Google Drive's REST API</a>.</p>
<p><a href="#">Google Mail</a> / <a href="#">camel-google-mail</a></p> <pre>google- mail://endpoi nt-prefix /endpoint? [options]</pre>	<p>Supports interaction with <a href="#">Google Mail's REST API</a>.</p>
<p><a href="#">GMail</a> / <a href="#">camel-gae</a></p> <pre>gmail://user@ g[oogle]mail. com[?options]</pre>	<p>Supports sending of emails via the <a href="#">mail service</a> of Google App Engine. See also <a href="#">Camel Components for Google App Engine</a>.</p>
<p><a href="#">Gora</a> / <a href="#">camel-gora</a></p> <pre>gora: instanceName [?options]</pre>	<p>Supports to work with NoSQL databases using the <a href="#">Apache Gora</a> framework.</p>
<p><a href="#">Grape</a> / <a href="#">camel-grape</a></p> <pre>grape: defaultMavenC oordinates</pre>	<p><a href="#">Grape</a> component allows you to fetch, load and manage additional jars when CamelContext is running.</p>
<p><a href="#">Geocoder</a> / <a href="#">camel-geocoder</a></p> <pre>geocoder: &lt;address latl ng:latitude, longitude&gt;[? options]</pre>	<p>Supports looking up geocoders for an address, or reverse lookup geocoders from an address.</p>

<a href="#">Google Guava EventBus</a> / camel-guava-eventbus <div> <pre>guava-eventbus:   busName[?   options]</pre> </div>	<p>The <a href="#">Google Guava EventBus</a> allows publish-subscribe-style communication between components without requiring the components to explicitly register with one another (and thus be aware of each other). This component provides integration bridge between Camel and <a href="#">Google Guava EventBus</a> infrastructure.</p>
<a href="#">Hazelcast</a> / camel-hazelcast <div> <pre>hazelcast:// [type]: cachename[? options]</pre> </div>	<p><a href="#">Hazelcast</a> is a data grid entirely implemented in Java (single jar). This component supports map, multimap, seda, queue, set, atomic number and simple cluster support.</p>
<a href="#">HBase</a> / camel-hbase <div> <pre>hbase://table [?options]</pre> </div>	<p>For reading/writing from/to an <a href="#">HBase</a> store (Hadoop database)</p>
<a href="#">HDFS</a> / camel-hdfs <div> <pre>hdfs://hostName[:port][ /path][? options]</pre> </div>	<p>For reading/writing from/to an <a href="#">HDFS</a> filesystem using Hadoop 1.x</p>
<a href="#">HDFS2</a> / camel-hdfs2 <div> <pre>hdfs2://hostName[:port][ /path][? options]</pre> </div>	<p>For reading/writing from/to an <a href="#">HDFS</a> filesystem using Hadoop 2.x</p>
<a href="#">Hipchat</a> / camel-hipchat <div> <pre>hipchat:// [host][: port]?options</pre> </div>	<p>For sending/receiving messages to <a href="#">Hipchat</a> using v2 API</p>
<a href="#">HL7</a> / camel-hl7 <div> <pre>mina2: tcp://hostName[:port][? options]</pre> </div>	<p>For working with the HL7 MLLP protocol and the HL7 data format using the <a href="#">HAPI library</a></p>

<a href="#">Infinispan</a> / camel-infinispan  <pre>infinispan:// cacheName[? options]</pre>	For reading/writing from/to <a href="#">Infinispan</a> distributed key/value store and data grid
<a href="#">HTTP</a> / camel-http  <pre>http:hostname [:port][ /resourceUri] [?options]</pre>	For calling out to external HTTP servers using Apache HTTP Client 3.x
<a href="#">HTTP4</a> / camel-http4  <pre>http4: hostname[: port][ /resourceUri] [?options]</pre>	For calling out to external HTTP servers using Apache HTTP Client 4.x
<a href="#">iBATIS</a> / camel-ibatis  <pre>ibatis://stat ementName[? options]</pre>	Performs a query, poll, insert, update or delete in a relational database using <a href="#">Apache iBATIS</a>
<a href="#">Ignite</a> / camel-ignite  <pre>ignite:[cache /compute /messaging /...][? options]</pre>	<a href="#">Apache Ignite</a> In-Memory Data Fabric is a high-performance, integrated and distributed in-memory platform for computing and transacting on large-scale data sets in real-time, orders of magnitude faster than possible with traditional disk-based or flash technologies. It is designed to deliver uncompromised performance for a wide set of in-memory computing use cases from high performance computing, to the industry most advanced data grid, highly available service grid, and streaming.
<a href="#">IMAP</a> / camel-mail  <pre>imap:// [username@] hostname[: port][? options]</pre>	Receiving email using <a href="#">IMAP</a>

<b>IMAPS</b> / camel-mail <div> <pre> imaps:// [username@] hostName[: port][? options] </pre> </div>	...
<b>IRC</b> / camel-irc <div> <pre> irc:[login@] hostName[: port]/#room[? options] </pre> </div>	For IRC communication
<b>IronMQ</b> / camel-ironmq <div> <pre> ironmq: queueName[? options] </pre> </div>	For working with <b>IronMQ</b> a elastic and durable hosted message queue as a service.
<b>JavaSpace</b> / camel-javaspacespace <div> <pre> javaspace: jini://hostNa me[?options] </pre> </div>	Sending and receiving messages through <b>JavaSpace</b>
<b>JBPM</b> / camel-jbpm <div> <pre> jbpm:hostName [:port][ /resourceUri] [?options] </pre> </div>	Sending messages through kie-remote-client API to jBPM.
<b>jcache</b> / camel-jcache <div> <pre> jcache: cacheName[? options] </pre> </div>	The JCache component facilitates creation of caching endpoints and processors using <b>JCache</b> / <b>jsr107</b> as the cache implementation.
<b>jclouds</b> / camel-jclouds <div> <pre> jclouds: &lt;blobstore co mpute&gt;: [provider id] [?options] </pre> </div>	For interacting with cloud compute & blobstore service via <b>jclouds</b>

<b>JCR</b> / camel-jcr  <pre>jcr://user:password@repository/path/to/node[?options]</pre>	Storing a message in a JCR compliant repository like <a href="#">Apache Jackrabbit</a>
<b>JDBC</b> / camel-jdbc  <pre>jdbc:datasourceName[?options]</pre>	For performing JDBC queries and operations
<b>Jetty</b> / camel-jetty  <pre>jetty:hostname[:port[/resourceUri][?options]</pre>	For exposing or consuming services over HTTP
<b>JGroups</b> / camel-jgroups  <pre>jgroups:clusterName[?options]</pre>	The <code>jgroups:</code> component provides exchange of messages between Camel infrastructure and <a href="#">JGroups</a> clusters.
<b>JIRA</b> / camel-jira  <pre>jira://endpoint[?options]</pre>	For interacting with JIRA
<b>JMS</b> / camel-jms  <pre>jms:[queue: topic:]destinationName[?options]</pre>	Working with JMS providers
<b>JMX</b> / camel-jmx  <pre>jmx://platform[?options]</pre>	For working with JMX notification listeners
<b>JPA</b> / camel-jpa  <pre>jpa://entityName[?options]</pre>	For using a database as a queue via the JPA specification for working with <a href="#">OpenJPA</a> , <a href="#">Hibernate</a> or <a href="#">TopLink</a>

<b>JOLT</b> / camel-jolt  <pre>jolt:specName [?options]</pre>	The <b>jolt:</b> component allows you to process a JSON messages using an <b>JOLT</b> specification. This can be ideal when doing JSON to JSON transformation.
<b>Jsch</b> / camel-jsch  <pre>scp://hostName[:port] /destination [?options]</pre>	Support for the scp protocol
<b>JT/400</b> / camel-jt400  <pre>jt400://user: pwd@system /&lt;path_to_data&gt;[?options]</pre>	For integrating with data queues on an AS/400 (aka System i, IBM i, i5, ...) system
<b>Kafka</b> / camel-kafka  <pre>kafka://server:port[?options]</pre>	For producing to or consuming from <a href="#">Apache Kafka</a> message brokers.
<b>Kestrel</b> / camel-kestrel  <pre>kestrel://[addresslist] /queueName[?options]</pre>	For producing to or consuming from <a href="#">Kestrel</a> queues
<b>Krati</b> / camel-krati  <pre>krati://[path to datastore/][?options]</pre>	For producing to or consuming to <a href="#">Krati</a> datastores
<b>Kubernetes</b> / camel-kubernetes  <pre>kubernetes:masterUrl[?options]</pre>	For integrating your application with <a href="#">Kubernetes</a> standalone or on top of OpenShift.
<b>Kura</b> / camel-kura	For deploying Camel OSGi routes into the <a href="#">Eclipse Kura</a> M2M container.



<a href="#">Language</a> / camel-core <div> <pre>language://languageName[:script][?options]</pre> </div>	Executes <a href="#">Languages</a> scripts
<a href="#">LDAP</a> / camel-ldap <div> <pre>ldap:host[:port][?options]</pre> </div>	Performing searches on LDAP servers (<scope> must be one of object onelevel subtree)
<a href="#">LinkedIn</a> / camel-linkedin <div> <pre>linkedin://endpoint-prefix/endpoint?[options]</pre> </div>	Component for retrieving LinkedIn user profiles, connections, companies, groups, posts, etc. using LinkedIn REST API.
<a href="#">Log</a> / camel-core <div> <pre>log:loggingCategory[?options]</pre> </div>	Uses Jakarta Commons Logging to log the message exchange to some underlying logging system like log4j
<a href="#">Lucene</a> / camel-lucene <div> <pre>lucene:searcherName:&lt;insert query&gt;[?options]</pre> </div>	Uses Apache Lucene to perform Java-based indexing and full text based searches using advanced analysis/tokenization capabilities
<a href="#">Lumberjack</a> / camel-lumberjack <div> <pre>lumberjack:host[:port]</pre> </div>	Uses the Lumberjack protocol for retrieving logs (from Filebeat for instance)
<a href="#">Metrics</a> / camel-metrics <div> <pre>metrics:[meter counter histogram timer]:metricname[?options]</pre> </div>	Uses <a href="#">Metrics</a> to collect application statistics directly from Camel routes.

<b>MINA</b> / camel-mina  <pre>mina: [tcp udp vm]: host[:port][? options]</pre>	Working with <a href="#">Apache MINA 1.x</a>
<b>MINA2</b> / camel-mina2  <pre>mina2: [tcp udp vm]: host[:port][? options]</pre>	Working with <a href="#">Apache MINA 2.x</a>
<b>Mock</b> / camel-core  <pre>mock:name[? options]</pre>	For testing routes and mediation rules using mocks
<b>MLLP</b> / camel-mllp  <pre>mllp:host: port[? options]</pre>	The MLLP component is specifically designed to handle the nuances of the MLLP protocol and provide the functionality required by Healthcare providers to communicate with other systems using the MLLP protocol
<b>MongoDB</b> / camel-mongodb  <pre>mongodb: connectionBean[?options]</pre>	Interacts with <a href="#">MongoDB</a> databases and collections. Offers producer endpoints to perform CRUD-style operations and more against databases and collections, as well as consumer endpoints to listen on collections and dispatch objects to Camel routes
<b>MongoDB GridFS</b> / camel-mongodb-gridfs  <pre>mongodb- gridfs:dbName [?options]</pre>	Sending and receiving files via MongoDB's GridFS system. <b>Note:</b> for Camel < 2.19, the URI syntax is gridfs:dbName[?options]
<b>MQTT</b> / camel-mqtt  <pre>mqtt:name[? options]</pre>	Component for communicating with <a href="#">MQTT</a> M2M message brokers

<b>MSV</b> / camel-msv  <pre>msv:   someLocalOrRemoteResource   [?options]</pre>	Validates the payload of a message using the <a href="#">MSV Library</a>
<b>Mustache</b> / camel-mustache  <pre>mustache:   templateName   [?options]</pre>	Generates a response using a <a href="#">Mustache</a> template
<b>MVEL</b> / camel-mvel  <pre>mvel:   templateName   [?options]</pre>	Generates a response using an <a href="#">MVEL</a> template
<b>MyBatis</b> / camel-mybatis  <pre>mybatis://statementName[?options]</pre>	Performs a query, poll, insert, update or delete in a relational database using <a href="#">MyBatis</a>
<b>Nagios</b> / camel-nagios  <pre>nagios://hostName[:port][?options]</pre>	Sending passive checks to <a href="#">Nagios</a> using <a href="#">JSendNSCA</a>
<b>NATS</b> / camel-nats  <pre>nats://servers[?options]</pre>	For messaging with the <a href="#">NATS</a> platform.
<b>Netty</b> / camel-netty  <pre>netty:   &lt;tcp udp&gt;   //host[:port]   [?options]</pre>	Working with TCP and UDP protocols using Java NIO based capabilities offered by the <a href="#">Netty</a> project

<a href="#">Netty4</a> / camel-netty4 <div> <pre> netty4: &lt;tcp udp&gt; //host[:port] [?options] </pre> </div>	Working with TCP and UDP protocols using Java NIO based capabilities offered by the <a href="#">Netty</a> project
<a href="#">Netty HTTP</a> / camel-netty-http <div> <pre> netty-http: http:[port] /context-path [?options] </pre> </div>	Netty HTTP server and client using the <a href="#">Netty</a> project
<a href="#">Netty4 HTTP</a> / camel-netty4-http <div> <pre> netty4-http: http:[port] /context-path [?options] </pre> </div>	Netty HTTP server and client using the <a href="#">Netty</a> project 4.x
<a href="#">Olingo2</a> / camel-olingo2 <div> <pre> olingo2: endpoint /resource-path[?options] </pre> </div>	Communicates with <a href="#">OData 2.0</a> services using <a href="#">Apache Olingo 2.0</a> .
<a href="#">Openshift</a> / camel-openshift <div> <pre> openshift: clientId[?options] </pre> </div>	To manage your <a href="#">Openshift</a> applications.
<a href="#">OptaPlanner</a> / camel-optaplanner <div> <pre> optaplanner: solverConfig [?options] </pre> </div>	Solves the planning problem contained in a message with <a href="#">OptaPlanner</a> .
<a href="#">Paho</a> / camel-paho <div> <pre> paho:topic[?options] </pre> </div>	Paho component provides connector for the MQTT messaging protocol using the <a href="#">Paho</a> library.

<a href="#">Pax-Logging</a> / camel-l-paxlogging  <pre>paxlogging: appender</pre>	Receiving Pax-Logging events in OSGi
<a href="#">PDF</a> / camel-pdf  <pre>pdf:operation [?options]</pre>	Allows to work with Apache <a href="#">PDFBox</a> PDF documents
<a href="#">PGEvent</a> / camel-pgevent  <pre>pgevent: dataSource[? options]</pre>	Allows for Producing/Consuming PostgreSQL events related to the LISTEN/NOTIFY commands added since PostgreSQL 8.3

<a href="#">POP3</a> / camel-mail  <pre>pop3s://[username@] hostName port][?options]</pre>	Receiving email using POP3 and JavaMail
<a href="#">POP3S</a> / camel-mail  <pre>pop3s://[username@] hostName port][?options]</pre>	...
<a href="#">Printer</a> / camel-printer  <pre>lpr://host:port/path/to /prINTER[?options]</pre>	The printer component facilitates creation of printer endpoints to local, remote and wireless printers. The endpoints provide the ability to print camel directed payloads when utilized on camel routes.
<a href="#">Properties</a> / camel-core  <pre>properties://key[?options]</pre>	The properties component facilitates using property placeholders directly in endpoint URI definitions.
<a href="#">Quartz</a> / camel-quartz  <pre>quartz://groupName /timerName[?options]</pre>	Provides a scheduled delivery of messages using the <a href="#">Quartz 1.x scheduler</a>
<a href="#">Quartz2</a> / camel-quartz2  <pre>quartz2://groupName /timerName[?options]</pre>	Provides a scheduled delivery of messages using the <a href="#">Quartz 2.x scheduler</a>

<a href="#">Quickfix</a> / camel-quickfix <div>quickfix:configFile[?options]</div>	Implementation of the QuickFix for Java engine which allow to send/receive <a href="#">FIX</a> messages
<a href="#">RabbitMQ</a> / camel-rabbitmq <div>rabbitmq://hostname[:port]/exchangeName[?options]</div>	Component for integrating with RabbitMQ
<a href="#">Ref</a> / camel-core <div>ref:name</div>	Component for lookup of existing endpoints bound in the <a href="#">Registry</a> .
<a href="#">Rest</a> / camel-core <div>rest:verb:path[?options]</div>	Component for consuming Restful resources supporting the <a href="#">Rest DSL</a> and plugins to other Camel rest components.
<a href="#">Restlet</a> / camel-restlet <div>restlet:restletUrl[?options]</div>	Component for consuming and producing Restful resources using <a href="#">Restlet</a>
<a href="#">REST Swagger</a> / <b>camel-rest-swagger</b> <div>rest-swagger:[specificationUri#]operationId[?options]</div>	Component for accessing REST resources using <a href="#">Swagger</a> specification as configuration.
<a href="#">RMI</a> / camel-rmi <div>rmi://hostName[:port][?options]</div>	Working with RMI
<a href="#">RNC</a> / camel-jing <div>rnc:/relativeOrAbsoluteUri[?options]</div>	Validates the payload of a message using <a href="#">RelaxNG Compact Syntax</a>
<a href="#">RNG</a> / camel-jing <div>rng:/relativeOrAbsoluteUri[?options]</div>	Validates the payload of a message using <a href="#">RelaxNG</a>
<a href="#">Routebox</a> / camel-routebox <div>routebox:routeBoxName[?options]</div>	Facilitates the creation of specialized endpoints that offer encapsulation and a strategy/map based indirection service to a collection of camel routes hosted in an automatically created or user injected camel context

<b>RSS</b> / camel-rss <div>rss:uri[?options]</div>	Working with <a href="#">ROME</a> for RSS integration, such as consuming an RSS feed.
<b>Salesforce</b> / camel-salesforce <div>salesforce:topic[?options]</div>	To integrate with Salesforce
<b>SAP NetWeaver</b> / camel-sap-netweaver <div>sap-netweaver:hostName[:port][?options]</div>	To integrate with <a href="#">SAP NetWeaver Gateway</a>
<b>Scheduler</b> / camel-core <div>scheduler://name?[options]</div>	Used to generate message exchanges when a scheduler fires. The scheduler has more functionality than the <a href="#">timer</a> component.
<b>schematron</b> / camel-schematron <div>schematron://path?[options]</div>	Camel component of <a href="#">Schematron</a> which supports to validate the XML instance documents.
<b>SEDA</b> / camel-core <div>seda:someName[?options]</div>	Asynchronous call to another endpoint in the same CamelContext
<b>ServiceNow</b> / camel-servicenow <div>servicenow:instanceName[?options]</div>	Camel component for <a href="#">ServiceNow</a>
<b>SERVLET</b> / camel-servlet <div>servlet:relativePath[?options]</div>	For exposing services over HTTP through the servlet which is deployed into the Web container.
<b>SFTP</b> / camel-ftp <div>sftp://[username@]hostName[:port]/directoryName[?options]</div>	Sending and receiving files over SFTP (FTP over SSH).
<b>Sip</b> / camel-sip <div>sip://user@hostName[:port][?options]</div>	Publish/Subscribe communication capability using the Telecom SIP protocol. <a href="#">RFC3903 - Session Initiation Protocol (SIP) Extension for Event</a>

<p><b>SIPS</b> / camel-sip</p> <pre>sips://user@hostName[:port] [?options]</pre>	...
<p><b>SJMS</b> / camel-sjms</p> <pre>sjms:[queue: topic:] destinationName[?options]</pre>	A ground up implementation of a JMS client
<p><b>SJMS Batch</b> / camel-sjms</p> <pre>sjms-batch:[queue:] destinationName[?options]</pre>	A specialized JMS component for highly-performant transactional batch consumption from a queue.
<p><b>Slack</b> / camel-slack</p> <pre>slack:#channel[?options]</pre>	The <b>slack</b> component allows you to connect to an instance of <a href="#">Slack</a> and delivers a message contained in the message body via a pre established <a href="#">Slack incoming webhook</a> .
<p><b>SMTP</b> / camel-mail</p> <pre>smtps://[username@]hostName [:port][?options]</pre>	Sending email using SMTP and JavaMail
<p><b>SMTP</b> / camel-mail</p> <pre>smtps://[username@]hostName [:port][?options]</pre>	...
<p><b>SMPP</b> / camel-smpp</p> <pre>smpp://[username@]hostName [:port][?options]</pre>	To send and receive SMS using Short Messaging Service Center using the <a href="#">JSMPP library</a>
<p><b>SMPPS</b> / camel-smpp</p> <pre>smpps://[username@]hostName [:port][?options]</pre>	...
<p><b>SNMP</b> / camel-snmp</p> <pre>snmp://hostName[:port][? options]</pre>	Polling OID values and receiving traps using SNMP via <a href="#">SNMP4J</a> library



<a href="#">Solr</a> / camel-solr <div> <pre>solr://hostName[:port]/solr [?options]</pre> </div>	Uses the <a href="#">Solrj</a> client API to interface with an <a href="#">Apache Lucene Solr</a> server
<a href="#">Apache Spark</a> / camel-spark <div> <pre>spark:{rdd dataframe hive} [?options]</pre> </div>	Bridges <a href="#">Apache Spark</a> computations with Camel endpoints.
<a href="#">Spark-rest</a> / camel-spark-rest <div> <pre>spark-rest://verb:path[? options]</pre> </div>	For easily defining REST services endpoints using <a href="#">Spark REST Java</a> library.
<a href="#">Splunk</a> / camel-splunk <div> <pre>splunk://[endpoint][? options]</pre> </div>	For working with <a href="#">Splunk</a>
<a href="#">SpringBatch</a> / camel-spring-batch <div> <pre>spring-batch://jobName[? options]</pre> </div>	To bridge Camel and <a href="#">Spring Batch</a>
<a href="#">SpringIntegration</a> / camel-spring-integration <div> <pre>spring-integration: defaultChannelName[? options]</pre> </div>	The bridge component of Camel and <a href="#">Spring Integration</a>
<a href="#">Spring LDAP</a> / camel-spring-ldap <div> <pre>spring-ldap: springLdapTemplateBean[? options]</pre> </div>	Camel wrapper for <a href="#">Spring LDAP</a>
<a href="#">Spring Redis</a> / camel-spring-redis <div> <pre>spring-redis://hostName: port[?options]</pre> </div>	Component for consuming and producing from Redis key-value store <a href="#">Redis</a>
<a href="#">Spring Web Services</a> / camel-spring-ws <div> <pre>spring-ws:[mapping-type:] address[?options]</pre> </div>	Client-side support for accessing web services, and server-side support for creating your own contract-first web services using <a href="#">Spring Web Services</a>

<p><a href="#">SQL</a> / camel-sql</p> <pre>sql:select * from table where id=#{?options}</pre>	Performing SQL queries using JDBC
<p><a href="#">SQL Stored Procedure</a> / camel-sql</p> <pre>sql-stored:template[? options]</pre>	Performing SQL queries using Stored Procedure calls
<p><a href="#">SSH</a> component / camel-ssh</p> <pre>ssh:[username[:password]@] hostName[:port][?options]</pre>	For sending commands to a SSH server
<p><a href="#">StAX</a> / camel-stax</p> <pre>stax: (contentHandlerClassName #m yHandler)</pre>	Process messages through a SAX <a href="#">ContentHandler</a> .
<p><a href="#">Stream</a> / camel-stream</p> <pre>stream: [in out err file header url ][?options]</pre>	Read or write to an input/output/error/file stream rather like unix pipes
<p><a href="#">Stomp</a> / camel-stomp</p> <pre>stomp:queue:destinationName [?options]</pre>	For communicating with <a href="#">Stomp</a> compliant message brokers, like <a href="#">Apache ActiveMQ</a> or <a href="#">ActiveMQ Apollo</a>
<p><a href="#">StringTemplate</a> / camel-stringtemplate</p> <pre>string-template: templateName[?options]</pre>	Generates a response using a <a href="#">String Template</a>
<p><a href="#">Stub</a> / camel-core</p> <pre>stub:someOtherCamelUri[? options]</pre>	Allows you to <a href="#">stub out some physical middleware endpoint</a> for easier testing or debugging
<p><a href="#">Telegram</a> / camel-telegram</p> <pre>telegram://bots/authToken[? options]</pre>	Allows to exchange data with the Telegram messaging network

<b>Test</b> / camel-spring <div> test:  expectedMessagesEndpointUri  [?options] </div>	Creates a <a href="#">Mock</a> endpoint which expects to receive all the message bodies that could be polled from the given underlying endpoint
<b>Timer</b> / camel-core <div> timer:timerName[?options] </div>	Used to generate message exchanges when a timer fires You can only consume events from this endpoint.
<b>Twitter</b> / camel-twitter <div> twitter://endpoint[?  options] </div>	A twitter endpoint
<b>Undertow</b> / camel-undertow <div> undertow://host:port  /context-path[?options] </div>	HTTP server and client using the light-weight <a href="#">Undertow</a> server.
<b>Validation</b> / camel-core (camel-spring for Camel 2.8 or older) <div> validation:  someLocalOrRemoteResource[?  options] </div>	Validates the payload of a message using <a href="#">XML Schema</a> and JAXP Validation
<b>Velocity</b> / camel-velocity <div> velocity:templateName[?  options] </div>	Generates a response using an <a href="#">Apache Velocity</a> template
<b>Vertx</b> / camel-vertx <div> vertx:eventBusName </div>	Working with the <a href="#">vertx</a> event bus
<b>VM</b> / camel-core <div> vm:queueName[?options] </div>	Asynchronous call to another endpoint in the same JVM
<b>Weather</b> / camel-weather <div> wweather://name[?options] </div>	Polls the weather information from <a href="#">Open Weather Map</a>
<b>Websocket</b> / camel-websocket <div> websocket://hostname[:port]  [/resourceUri][?options] </div>	Communicating with <a href="#">Websocket</a> clients

<a href="#">XML Security</a> / camel-xmlsecurity <div> xmlsecurity:&lt;sign verify&gt;: name[?options] </div>	Used to sign and verify exchanges using the XML signature specification.
<a href="#">XMPP</a> / camel-xmpp <div> xmpp://[login@]hostname[: port][/?participant][? options] </div>	Working with XMPP and Jabber
<a href="#">XQuery</a> / camel-saxon <div> xquery:someXQueryResource </div>	Generates a response using an <a href="#">XQuery</a> template
<a href="#">XSLT</a> / camel-core (camel-spring for Camel 2.8 or older) <div> xslt:templateName[?options] </div>	Generates a response using an <a href="#">XSLT</a> template
<a href="#">Yammer</a> / camel-yammer <div> yammer://function[?options] </div>	Allows you to interact with the <a href="#">Yammer</a> enterprise social network
<a href="#">Zookeeper</a> / camel-zookeeper <div> zookeeper://zookeeperServer [:port][/?path][?options] </div>	Working with <a href="#">ZooKeeper</a> cluster(s)

## External Components

The following components are not part of the standard Apache Camel distribution and are available under a variety of licenses but can be used to extend Camel's functionality.

### Error rendering macro 'include'

org.owasp.validator.html.ScanException: java.util.EmptyStackException

## See Also

- [Component](#)
- [Endpoint](#)
- [URIs](#)

- [Writing Components](#)
- [How do I add a component](#)
- [How Do I Configure Endpoints?](#)
- [Using PropertyPlaceholder](#)