Camel 2.10.0 Release

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New and Noteworthy

Welcome to the 2.10.0 release with approximately 483 issues resolved - including new features, improvements, and bug fixes, such as:

- · Added support for Java 1.7
- Added consumer to JCR component
- Internal code cleanup to reduce warnings reported by Eclipse
- Moved Spring Testing from camel-test to camel-test-spring component.
- Camel Property Placeholders are now supported in embedded Expressions within Camel routes.
- · Added missing options in the XML DSL for the XPath language to control and set which XPath Engine to use, etc.
- Added option logNamespaces to the XPath language to have INFO logging of detected namespaces from message. This can be used to
 troubleshoot issues where an XPath expression doesn't work as expected (as it's often a namespace conflict).
- Added replyToCacheLevelName option to the JMS component, allowing configuration of cache levels for persistent reply consumers when doing request/reply over JMS. Some message brokers do not work well with caching, so users may need to set this option to CACHE_NONE.
- Added antInclude and antExclude options to File and FTP components to make it easier to specify include/exclude filters using ANT syntax.
- The Camel archetypes for Java and Scala no longer generate projects with Spring dependencies.
- Improved JdbcMessageIdRepository in the SQL to use custom SQL statements/queries.
- · Added option to Properties to allow silently ignoring property locations not found, such as a .properties file.
- Added managementNamePattern attribute to <camelContext> to make it very easy to customize and control the JMX naming of the Camel
 application. See details at Camel JMX. For example, in OSGi environments you can explicitly configure a managementNamePattern in case
 you do not want the bundleId as part of MBean names.
- Added streaming update support to Solr as well as support for SolrInputDocuments
- Added SolrJ DirectXMLRequest support to Solr to support XML based index updates
- Improved Camel Mail to support the replyTo option
- Added traceEnabled option to Jetty component so you have control over whether to allow HTTP TRACE calls against your Jetty endpoints.
- Polished the Camel Maven Archetypes to let the projects be prepared for Testing, and fixed any WARNs from Maven.
- Added dumpRouteStatsAsXml methods to JMX to make it easier to get the total performance stats as XML, and in one JMX call.
- Graceful Shutdown is now more aggressive if timeout occurred during shutdown, rejecting continued processing of messages or redeliveries.
- Add ShutdownPrepared SPI to allow custom Services (also EIPs) in routes to do custom code in preparation for shutdown.
- The camel-archetype-java Camel Maven Archetypes is now a pure Java DSL based project (no longer Spring)
- JMS consumer is less verbose when logging uncaught exceptions thrown while processing a message. Added errorHandlerLoggingLevel, and errorHandlerLogStackTrace options to tweak the logging verbosity.
- Added messageId as an MDC logging key.
- Improved Camel's Transaction Error Handler logging to better pinpoint and correlate redelivered messages (from, e.g., a JMS broker), making the
 logs much easier to read.
- Added a timeout option to Spring Web Services for specifying the read timeout while invoking a webservice.
- Optimized Type Converter registry for possible concurrency contention when looking up a type converter.
- Improved Simple language to work better with floating point numbers in Predicates
- Camel is now less verbose when starting and stopping, with less being logged at INFO level.
- Add support for keyed data queues to JT400 component.
- Idempotent Consumer is now enlisted in JMX, which allows monitoring the duplicate message count as well as the operation to reset it.
- Thread pools registered in JMX are now unregistered when Camel shuts them down. Note that all MBeans will be unregistered from JMX when
 Camel shuts itself down. This improvement is to unregister thread pools more eagerly, such as when routes are removed at runtime.
- Camel will now also copy the message headers for a JmsMessage if you leverage useOriginalMessage in an onException definition.
- Added mockEndpointsAndSkip to AdviceWith and the Test Kit
- The File and FTP components now support filtering directories. The isDirectory method on the GenericFile class can be used to skip unwanted directories, accelerating file consumption.
- SMPP connections can now be tunneled through an HTTP proxy by configuring HTTP proxy settings.
- Camel now also checks, when starting a route dynamically, whether there would be any violations on multiple consumers from the same Endpoint.
 Previously this check only occurred during Camel startup now it always happens.
- Stopping a ConsumerTemplate or a ProducerTemplate will now stop and shutdown its cache to cleanup any resources which otherwise may not have been reclaimed until shutdown.
- ScheduledPollConsumer will now shutdown thread pools more eagerly, such as when stopping a ConsumerTemplate.

- Added option asyncStartListener to JMS to allow starting JMS consumers (e.g. routes) asynchronously. This can be used to avoid blocking
 in case the JMS consumer takes long time to establish a connection to the JMS broker.
- Wire Tap now supports Error Handling when sending a tapped message to an Endpoint.
- Added the autogenColumns, configRef and strategyRef options to the CSV dataformat in XML DSL whereas the new skipFirstLine option is
 provided in Java API as well.
- Validator component will now fail with a better error message if resource schema refers to element which cannot be resolved.
- Added support for retrieving generated keys from JDBC component.
- Added support for Spring 3.1.x.
- Added retainFirst, and retainLast options to Mock component.
- Improved Simple language to allow referring to headers using bracket notation.
- Added support for the scp: protocol via Jsch.
- · Added support to exclude certain fields when marshalling POJO's to JSON. Available with both the Jackson and GSON library.
- Allow to configure frequency of timeout checker when doing request/reply over JMS
- Improved the Java DSL to make it easier to use predicates from the build-in DSL, that has commonly used predicates and expressions.
- Aggregate EIP now supports TimeoutAwareAggregationStrategy aggregation strategies.
- The default Injector now performs bean post processing to inject @Produce, @Consume, @EndpointInject fields etc.
- The camel-run maven plugin now supports running OSGi Blueprint applications.
- Added utilization statistics to the type converter registry (which can be accessed from JMX), and are logged as Camel is shutting down.
- Improved JMX to work better with servers such as WebSphere which alters MBean names when enlisting mbeans into the server (Camel now
 have an internal mapping table).
- All EIPs out of the box from Camel now provides JMX utilization statistics.
- The File and FTP consumers will now let org.apache.camel.spi.ExceptionHandler deal with exceptions occurred during acquiring real lock as well. See File page for example of using a custom ExceptionHandler.
- Reduce the logging level from ERROR to WARN on the default LoggingExceptionHandler.
- Added option consumer.bridgeErrorHandler to allow consumers such as File and FTP to use the routing engine Error Handler to deal with
 exceptions occurring in the consumer (outside the routing engine), for example if having trouble picking up a file from a shared network drive etc.
 See more details at File page. This option applies to all consumers which extends the DefaultConsumer from camel-core.
- Added eagerMaxMessagesPerPoll option to File, and FTP endpoints to allow to do a full sorting of the files and also limit the pool at the same time
- The XSLT, Velocity, FreeMarker, and StringTemplate components using http resource for the template now supports query parameters
- You can specify the class type with Bindy to make it stand out what type is being used, as well the unmarshal operation returns a list of the
 pojos (and the pojo directly if only 1). Which makes it easier to use/work with.
- Added group option to Tokenizer to make it easier with the Splitter to split by combining N number of parts together, eg splitting files in chunks by N lines combined.
- Camel is now compatible to the upcoming Karaf 3 release
- Added ExchangeSendingEvent to EventNotifier to emit an event before sending an Exchange to an Endpoint. Then we have events for both before and after.
- Relaxed syntax check in Simple language to only scan for functions if a start token was explicit configured. This allows to easier do json like expressions.
- Added support for escaping values in Simple language using the \ character.
- Added new Camel Maven Archetypes for creating new Component using Scala.
- Added trim option to Languages in the XML DSL, to control trimming the expression values, to remove the whitespace noise from XML tags.
- Improved the File consumer to support competing consumers on a shared drive to not pickup files from other consumers, as marker file is always used, for readLock strategies such as changed, rename and fileLock. For example if you have a clustered environment and have multiple Camel applications pickup files from a shared drive with readLock=changed.
- The File consumer with readLock=changed will now consider zero length file as in progress files.
- Made it easier to bridge Spring and Camel property placeholders, by configuring only once, using a new BridgePropertyPlaceholderConfigurer bean type.
- Improved the SMPP component to refer to a org.jsmpp.session.SessionStateListener to receive callbacks when the session state changed.
- Added connection pooling to JT400 component
- Restlet component can be configured with Restlet Server parameters, for example to configure thread pool sizes.
- CamelContext MBean in JMX now shows aggregated performance stats for all the routes
- Made it easy to override properties when Testing with Camel when Using PropertyPlaceholder. For example unit testing with OSGi Blueprint
 using config admin service to provide properties, is now easy as you can provide the properties from directly within the unit test source code itself.
- Improved Netty to support both shareable and non-shareable encoders and decoders.
- Improved Netty to support proxy use cases (eg from(netty).to(netty))
- Added CompletionAwareAggregationStrategy to Aggregator EIP as callback when the aggregated exchange is completed.
- Scheduled Polling Consumer and poll based Components such as File, and FTP can now use a custom/shared thread pool for its consumer(s). For example having many file routes, can now share a thread pool, and reduce number of overall threads in the JVM.
- Optimized Bean expressions to cache bean introspections so subsequent evaluations is faster.

Fixed issues

- · Fixed memory leak when dynamically adding and removing many routes at runtime. See this FAQ for more information.
- Fixed potential NPE in FTP consumer when using double slashes as starting directory.
- Fixed InterceptSendToEndpoint when using skipSendToEndpoint=true with a when predicate to only skip sending if the predicate was true.
- · Fixed an issue with Bean Binding directly in a method name not working properly with method call expressions.
- Fixed issue with using custom namespaces in XPath expressions when using OSGi Blueprint
- Fixed Validation to support xs:import in the schema files.
- · Fixed Poll Enrich where the timeout was not explicitly configured to use blocking mode (was wrongly using non-blocking mode).
- Fixed Threads EIP to handle rejected policies, ensuring the Exchange will finish the UnitOfWork and will be de-registered from the inflight registry.
- Fixed Delayer not working with a Bean expression to define the delay when using XML DSL
- Fixed JMS consumer to no longer complain by default if no errorHandler is configured when an uncaught exception was thrown while processing a message.
- Fixed the String trim issue in Simple expressions.
- · Fixed the issue with Recipient List not triggering Error Handler for endpoints with non existing Components.

- Fixed Load Balancer to update statistics in JMX
- Fixed SEDA producer configured with waitForTaskToComplete=Always to not hand over on-completion tasks, which otherwise could be processed prematurely.
- Fixed a potential issue with configuring custom start and end tokens for the Simple language when using Spring XML.
- Fixed an issue with Type Converter where NaN values were converted to integers.
- · Fixed HTTP, HTTP4, and Jetty producers to send empty HTTP headers for Exchange headers with an empty value.
- Fixed an issue with configuring a custom thread pool profile on some EIPs.
- Fixed an issue with Intercept causing processors to not update their performance statistics in JMX
- Fixed using <errorHandler> with embedded <redeliveryPolicy> to support Using PropertyPlaceholder
- Fixed issue with using <redeliveryPolicy>, and <redeliveryPolicyProfile> with OSGi Blueprint.
- Fixed failover Load Balancer to perform defensive copy of the message before attempting failover, to ensure previous attempts do not propagate back into succeeding attempts.
- · Fixed issue when restarting application using Quartz with a persistent (non clustered) job store, where the app was not shutdown cleanly (such as
- Fixed issue when using consumer endpoints with Property placeholders not working with inteceptors such as interceptFrom.
- Fixed issue with suspend/resume a Timer consumer, not causing timer task to stop firing.
- Fixed Netty producer to re-use existing connections when sending. This avoid re-creating a new connection for every message being sent.
- Fixed issue with Simple invoking overloaded methods using OGNL notation, where method name was explicitly declared to invoke the noparameter method
- Fixed continued and handled Predicates of OnException to be evaluated once per exception, instead of twice.
- Fixed Throttler and Delayer EIPs when evaluating of max/delay expression fails at runtime, not causing error handling to react.
- Fixed Mail message with attachments may appear to be lost when Error Handler performs 2+ redelivery attempts.
- · Fixed issue with a failed type conversion using JAXB may cause subsequent attempts to be regarded as failed as well
- Fixed method call Expression to preserve headers and Exchange properties, which allow to use it for storing state with the Dynamic Router EIP
- Fixed locale issue with configuring endpoints using uris, such as Turkish with the lower/upper case of the letter i.
- Fixed issue reading and writing files when a charset was configured on the file endpoint.
- Fixed issue with convertBodyTo not working internally as transform and setBody, by resetting the message type to DefaultMessage.
- Fixed issue with Loop using copy and an exception occurred
- Fixed so File consumer using done file name, will not automatic delete the done file if noop=true is configured.
- Fixed issue with SERVLET may send back incorrect content length for data with unicode characters outside the normal ASCII range.
- Fixed Jetty http producer (client) may corrupt streams if used in a bridge mode (eg like a proxy)
- Fixed Jetty http consumer (server) may corrupt streams if chunked was disabled
- Fixed issue with camel-blueprint and using CamelContextAware beans for EventNotifier (and the beans from this list) injecting the Cam elContext which is not ready, causing the blueprint container to hang waiting for the service.
- Fixed Bindy to not use default locale, but only use locale if explicit configured.
- Fixed Restlet not propagating headers during routing.

 Fixed running multiple Camel apps with same CamelContext name in a single JVM with Quartz component, causing jobs to pick wrong CamelContext.
- Fixed URI normalization to support % sign itself, by specifying the % sign using its encoded value (eg %25).
- Fixed JMS producer to trigger Camel error handling if destination resolution failed due to an exception.
- Fixed Error Handler with async redelivery to use shared thread pool per CamelContext, instead of per JVM
- Fixed issue with added headers, using setHeader may be lost if a JMS route uses the Dynamic Router EIP

New Enterprise Integration Patterns

New Camel Karaf Command

Add camel:endpoint-list to list all Camel endpoints available in Camel Context deployed on Karaf/ServiceMix

New Components

- camel-avro for Apache Avro integration
- came1-aws for DynamoDB integration within Amazon Web Services
- camel-beanio Data Format to map objects to flat structured format
- camel-cdi to deploy Apache Camel in CDI container with Dependency Injection (JSR299, 330)
- came1-core new support for "stubbing" endpoints, for development and testing purposes
- camel-core new direct-vm for synchronous messaging between different CamelContext in the same JVM (for example to support transactions, across CamelContexts).
- camel-fop to render messages into different outputs using Apache FOP
- came1-gson provides a JSON data format using the Google GSON project
- camel-guava-eventbus provides a integration bridge between Camel and Google Guava EventBus infrastructure.
- came1-hbase provides integration with HBase
- camel-jsch Secure Copy using JSCH
- came1-mina2 came1-mina2 is expected to be refactored in Camel 2.11, so use on own risk of having to migrate.
- came1-mongodb for MongoDB integration
- camel-spring-batch For using Spring Batch with Camel.
- camel-ssh For executing commands on an SSH server
- camel-test-blueprint for testing Blueprint routes
- camel-test-spring for testing Spring routes • camel-twitter - for Twitter integration
- camel-websocket for WebSocket integration

DSL Changes

New Annotations

New Data Formats

- camel-avro for Apache Avro integration
- camel-beanio for mapping objects to flat structured format
- camel-gson provides a JSON data format using the Google GSON project

New Languages

New Examples

- camel-example-ssh
- camel-example-twitter-websocket shows how to use Twitter to push live tweet updates to a webpage with Websocket
- camel-example-console a new beginner example that shows how to read input from the console

New Tutorials

API changes/breaking

- Added shutdownForced and forceShutdown methods to org.apache.camel.spi.ShutdownStrategy
- Add boolean parameter to prepareShutdown on ShutdownAware
- The errorHandler method in RouteBuilder now returns void, as it's only used for configuring context-scoped error handlers.
- Removed the SimpleLanguage constructor that takes custom start and end tokens. Instead use the change methods to set custom tokens.
- Added onThreadPoolRemove and onErrorHandlerRemove methods to LifecycleStrategy
- Removed retryWhile(Expression) on OnExceptionDefinition; use retryWhile(Predicate).
- Removed options corePoolSize and maxPoolSize on Netty endpoint, as we rely on Netty default implementation.
- The resourceClasses option on CXFRS no longer supports the semicolon (for separating class names. Now only the comma (,) is supported (which is the standard in Camel)
- Added tryConvertTo methods to TypeConverter, which works as the regular convertTo methods, by ignoring any exceptions during
 conversion.
- The convertTo methods on TypeConverter now throws TypeConversionException if an exception occurred during type conversion.
- The getBody(type), and getHeader(name, type methods on Message now throws TypeConversionException if an exception occurred during type conversion.
- The Simple language no longer trim the expression in Java DSL. Instead we introduced a trim option in the XML DSL to remove the white space noise from XML tags.
- Added containsSynchronization to UnitOfWork and Exchange to check if a given on completion has already been added to the given
 exchange.

Internal/Non API refactorings that may affect users

- Removed method setManagementName from CamelContext as it should not be used by Camel end users
- Added method isTransactedRedelivered to Exchange
- Added method isDirectory to GenericFile
- API changed in the ClientPipelineFactory and ServerPipelineFactory abstract classes in Netty
- Added getStatistics method to TypeConverterRegistry, and the registry now extends Service as well.
- The convertBodyTo with a charset configured, will not propagate the charset as an Exchange property (Exchange . CHARSET_NAME), which
 otherwise may lead to payload being double converted.
- Added abort method to GenericFileProcessStrategy.
- camel-mail now excludes dependency on javax activation JAR as thats embedded in the JVM from JRE6 onwards.
- URI normalization will now better detect pre existing % decimal encoded values.

Known Issues

- The Tracer may not output all details for some situations, such as when using onCompletion or intercept, etc.
- The project cannot fully build the site using Maven (e.g. running "mvn site"). There is no plan to fix this, as the project does not use maven site.
- JBoss 7 may log a WARNing when running Camel as a WAR file.
- camel-spring-test bundle has the classes from camel-test, if you are using camel-spring-test in OSGi platform, please don't install the camel-test
 at the same time.
- CXF Example OSGi doesn't work without enabling dynamic imports for this bundle.

Dependency Upgrades

- AHC 1.6.5 to 1.7.5
- AWS 1.2.2 to 1.3.10
- Commons-codec 1.4 to 1.6
- Commons-net 2.2 to 3.1.0
- CXF 2.5.1 to 2.6.1
- EHCache 2.4.3 to 2.5.1
- Freemarker 2.3.18 to 2.3.19
- Google App Engine 1.5.0 to 1.6.6
- Groovy 1.8.5 to 1.8.6
- Hadoop 0.20.203.0 to 1.0.3

- HTTP4 core 4.1.2 to 4.1.4
- HTTP4 client 4.1.2 to 4.1.3
- Hazelcast 1.9.4.4 to 2.0.2
- Hawtbuf 1.7 to 1.9
- Jackson 1.9.2 to 1.9.7
- Jackrabbit 2.2.4 to 2.2.11
- Jasypt 1.7 to 1.9.0
- Javax Mail 1.4.4. to 1.4.5
- Jersey 1.10 to 1.12
- JClouds 1.3.1 to 1.4.0
- Jettison 1.3 to 1.3.1
- Jetty 7.5.3 to 7.5.4
- JRuby 1.6.6 to 1.6.7
- JSCH 0.1.44 to 0.1.48
- JuEL 2.1.3 to 2.1.4
- Kratti 0.4.1 to 0.4.5
- Logback 1.0.0 to 1.0.6
- Lucene 3.0.3 to 3.6.0
- MyBatis 3.0.6 to 3.1.1
- Netty 3.2.6 to 3.5.1
- OGNL 3.0.2 to 3.0.4
- QPid 0.12 to 0.16
- QuickFIX/J 1.5.1 to 1.5.2
- Resetlet 2.0.10 to 2.0.14
- SNMP 1.8.1 to 1.10.1
- Solr 3.5.0 to 3.6.0
- Shiro 1.1.0 to 1.2.0
- Stringtemplate 3.0 to 3.2.1
- Spring 3.0.6 to 3.0.7/3.1.1
- Spring Integration 2.0.5 to 2.1.2
- Spring Security 3.0.7 to 3.1.0
- Spymemcached 2.5 to 2.8.0
- Tagsoup 1.2 to 1.2.1
- Woodstox 4.1.1 to 4.1.2
- XStream 1.4.1 to 1.4.2
- XML Security 1.4.5 to 1.5.1

Important changes to consider when upgrading

- Moved Spring Testing from camel-test to camel-test-spring component.
- Combination of skipSendToEndpoint=true and when predicate now triggers conditional skipping (you may have been relying on unconditional skipping up until now)
- The thread name pattern has changed tokens to avoid clashing with Using PropertyPlaceholder (see Threading Model for more details).
- Poll Enrich will now block if no messages are available and no explicit timeout has been configured.
- The option lazyLoadTypeConverter=true has been deprecated, and will be removed in a future release. The best practice is to load type converters while bootstrapping Camel.
- The Camel Test kit no longer lazily loads type converters.
- Keys for MDC logging have been prefixed with "came1.".
- Wire Tap can no longer change destination from JMX
- Camel now fail faster during type conversion, by throwing TypeConversionException to the caller, from APIs such as TypeConverter and M essage. For example $\mathtt{getBody}(\mathtt{type})$ on the $\mathtt{Message}$ API.
- Camel no longer supports using java.beans.PropertyEditor for type conversion. These are slow, neither thread safe, and using 3rd party JARs on the classpath may cause side effect as if they install java.beans.PropertyEditor.
- Use the charset option on the File component to explicit specify encoding for reading and writing files.
- Maven 3.0.2 or better is required to build the Source

Notice

- · If you want to deploy Apache Camel 2.10.0 into Apache Karaf, we highly recommend to use the 'jre.properties.cxt' configuration, which is part of Apache Karaf 2.2.5 onwards. For example camel-cxf, and camel-spring-ws requires this to be installable; as well other features may as well.
- · Support for JUnit 3.x in the Camel Tests components is being discontinued and expected to be removed from Camel 2.11 onwards.

Getting the Distributions

Binary Distributions

Description	Download Link	PGP Signature file of download
Windows Distribution	apache-camel-2.10.0.zip	apache-camel-2.10.0.zip.asc
Unix/Linux/Cygwin Distribution	apache-camel-2.10.0.tar.gz	apache-camel-2.10.0.tar.gz.asc

The above URLs use the Apache Mirror system to redirect you to a suitable mirror for your download. Some users have experienced issues with some versions of browsers (e.g. some Safari browsers). If the download doesn't seem to work for you from the above URL then try using Firefox

Source Distributions

Description	Download Link	PGP Signature file of download
Source Distribution apache-camel-2.10.0-src.zip		apache-camel-2.10.0-src.zip.asc