


Spring Redis

Spring Redis Component

Available as of Camel 2.11

This component allows sending and receiving messages from [Redis](#). Redis is advanced key-value store where keys can contain strings, hashes, lists, sets and sorted sets. In addition it provides pub/sub functionality for inter-app communications. Camel provides a producer for executing commands, consumer for subscribing to pub/sub messages and an idempotent repository for filtering out duplicate messages.

Prerequisites

 In order to use this component, you must have a Redis server running.

URI Format

```
spring-redis://host:port[?options]
```

You can append query options to the URI in the following format, `?options=value&option2=value&...`

URI Options

Name	Default Value	Context	Description
host	null	Both	The host where Redis server is running.
port	null	Both	Redis port number.
command	SET	Both	Default command, which can be overridden by message header.
channels	SET	Consumer	List of topic names or name patterns to subscribe to.
redisTemplate	null	Producer	Reference to a pre-configured <code>org.springframework.data.redis.core.RedisTemplate</code> instance in the Registry.
connectionFactory	null	Both	Reference to an <code>org.springframework.data.redis.connection.RedisConnectionFactory</code> instance in the Registry.
listenerContainer	null	Consumer	Reference to an <code>org.springframework.data.redis.listener.RedisMessageListenerContainer</code> instance in the Registry.
serializer	null	Consumer	Reference to an <code>org.springframework.data.redis.serializer.RedisSerializer</code> instance in the Registry.

Usage

See also the unit tests available at <https://github.com/apache/camel/tree/master/components/camel-spring-redis/src/test/java/org/apache/camel/component/redis>.

Message headers evaluated by the Redis producer

The producer issues commands to the server and each command has different set of parameters with specific types. The result from the command execution is returned in the message body.

Hash Commands	Description	Parameters	Result
HSET	Set the string value of a hash field	CamelRedis.Key (String), CamelRedis.Field (String), CamelRedis.Value (Object)	void
HGET	Get the value of a hash field	CamelRedis.Key (String), CamelRedis.Field (String)	String
HSETNX	Set the value of a hash field, only if the field does not exist	CamelRedis.Key (String), CamelRedis.Field (String), CamelRedis.Value (Object)	void
HMSET	Set multiple hash fields to multiple values	CamelRedis.Key (String), CamelRedis.Values(Map<String, Object>)	void
HMGET	Get the values of all the given hash fields	CamelRedis.Key (String), CamelRedis.Fields (Collection<String>)	Collection<Object>
HINCRBY	Increment the integer value of a hash field by the given number	CamelRedis.Key (String), CamelRedis.Field (String), CamelRedis.Value (Long)	Long
HEXISTS	Determine if a hash field exists	CamelRedis.Key (String), CamelRedis.Field (String)	Boolean
HDEL	Delete one or more hash fields	CamelRedis.Key (String), CamelRedis.Field (String)	void

HLEN	Get the number of fields in a hash	CamelRedis.Key (String)	Long
HKEYS	Get all the fields in a hash	CamelRedis.Key (String)	Set<String>
HVALS	Get all the values in a hash	CamelRedis.Key (String)	Collection<Object>
HGETALL	Get all the fields and values in a hash	CamelRedis.Key (String)	Map<String, Object>

List Commands	Description	Parameters	Result
RPUSH	Append one or multiple values to a list	CamelRedis.Key (String), CamelRedis.Value (Object)	Long
RPUSHX	Append a value to a list, only if the list exists	CamelRedis.Key (String), CamelRedis.Value (Object)	Long
LPUSH	Prepend one or multiple values to a list	CamelRedis.Key (String), CamelRedis.Value (Object)	Long
LLEN	Get the length of a list	CamelRedis.Key (String)	Long
LRANGE	Get a range of elements from a list	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long)	List<Object>
LTRIM	Trim a list to the specified range	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long)	void
LINDEX	Get an element from a list by its index	CamelRedis.Key (String), CamelRedis.Index (Long)	String
LINSERT	Insert an element before or after another element in a list	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Pivot (String), CamelRedis.Position (String)	Long
LSET	Set the value of an element in a list by its index	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Index (Long)	void
LREM	Remove elements from a list	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Count (Long)	Long
LPOP	Remove and get the first element in a list	CamelRedis.Key (String)	Object
RPOP	Remove and get the last element in a list	CamelRedis.Key (String)	String
RPOPLPUSH	Remove the last element in a list, append it to another list and return it	CamelRedis.Key (String), CamelRedis.Destination (String)	Object
BRPOPLPUSH	Pop a value from a list, push it to another list and return it; or block until one is available	CamelRedis.Key (String), CamelRedis.Destination (String), CamelRedis.Timeout (Long)	Object
BLPOP	Remove and get the first element in a list, or block until one is available	CamelRedis.Key (String), CamelRedis.Timeout (Long)	Object
BRPOP	Remove and get the last element in a list, or block until one is available	CamelRedis.Key (String), CamelRedis.Timeout (Long)	String

Set Commands	Description	Parameters	Result
SADD	Add one or more members to a set	CamelRedis.Key (String), CamelRedis.Value (Object)	Boolean
SMEMBERS	Get all the members in a set	CamelRedis.Key (String)	Set<Object>
SREM	Remove one or more members from a set	CamelRedis.Key (String), CamelRedis.Value (Object)	Boolean
SPOP	Remove and return a random member from a set	CamelRedis.Key (String)	String
SMOVE	Move a member from one set to another	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Destination (String)	Boolean
SCARD	Get the number of members in a set	CamelRedis.Key (String)	Long
SISMEMBER	Determine if a given value is a member of a set	CamelRedis.Key (String), CamelRedis.Value (Object)	Boolean
SINTER	Intersect multiple sets	CamelRedis.Key (String), CamelRedis.Keys (String)	Set<Object>
SINTERSTORE	Intersect multiple sets and store the resulting set in a key	CamelRedis.Key (String), CamelRedis.Keys (String), CamelRedis.Destination (String)	void
SUNION	Add multiple sets	CamelRedis.Key (String), CamelRedis.Keys (String)	Set<Object>
SUNIONSTORE	Add multiple sets and store the resulting set in a key	CamelRedis.Key (String), CamelRedis.Keys (String), CamelRedis.Destination (String)	void
SDIFF	Subtract multiple sets	CamelRedis.Key (String), CamelRedis.Keys (String)	Set<Object>
SDIFFSTORE	Subtract multiple sets and store the resulting set in a key	CamelRedis.Key (String), CamelRedis.Keys (String), CamelRedis.Destination (String)	void
SRANDMEMBER	Get one or multiple random members from a set	CamelRedis.Key (String)	String

Ordered set Commands	Description	Parameters	Result
ZADD	Add one or more members to a sorted set, or update its score if it already exists	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Score (Double)	Boolean
ZRANGE	Return a range of members in a sorted set, by index	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long), CamelRedis.WithScore (Boolean)	Object
ZREM	Remove one or more members from a sorted set	CamelRedis.Key (String), CamelRedis.Value (Object)	Boolean
ZINCRBY	Increment the score of a member in a sorted set	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Increment (Double)	Double
ZRANK	Determine the index of a member in a sorted set	CamelRedis.Key (String), CamelRedis.Value (Object)	Long
ZREVRANK	Determine the index of a member in a sorted set, with scores ordered from high to low	CamelRedis.Key (String), CamelRedis.Value (Object)	Long
ZREVRANGE	Return a range of members in a sorted set, by index, with scores ordered from high to low	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long), CamelRedis.WithScore (Boolean)	Object
ZCARD	Get the number of members in a sorted set	CamelRedis.Key (String),	Long
ZCOUNT	Count the members in a sorted set with scores within the given values	CamelRedis.Key (String), CamelRedis.Min (Double), CamelRedis.Max (Double)	Long
ZRANGEBYSCORE	Return a range of members in a sorted set, by score	CamelRedis.Key (String), CamelRedis.Min (Double), CamelRedis.Max (Double)	Set<Object>
ZREVRANGEBYSCORE	Return a range of members in a sorted set, by score, with scores ordered from high to low	CamelRedis.Key (String), CamelRedis.Min (Double), CamelRedis.Max (Double)	Set<Object>
ZREMRANGEBYRANK	Remove all members in a sorted set within the given indexes	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long)	void
ZREMRANGEBYSCORE	Remove all members in a sorted set within the given scores	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long)	void
ZUNIONSTORE	Add multiple sorted sets and store the resulting sorted set in a new key	CamelRedis.Key (String), CamelRedis.Keys (String), CamelRedis.Destination (String)	void
ZINTERSTORE	Intersect multiple sorted sets and store the resulting sorted set in a new key	CamelRedis.Key (String), CamelRedis.Keys (String), CamelRedis.Destination (String)	void

String Commands	Description	Parameters	Result
SET	Set the string value of a key	CamelRedis.Key (String), CamelRedis.Value (Object)	void
GET	Get the value of a key	CamelRedis.Key (String)	Object
STRLEN	Get the length of the value stored in a key	CamelRedis.Key (String)	Long
APPEND	Append a value to a key	CamelRedis.Key (String), CamelRedis.Value (String)	Integer
SETBIT	Sets or clears the bit at offset in the string value stored at key	CamelRedis.Key (String), CamelRedis.Offset (Long), CamelRedis.Value (Boolean)	void
GETBIT	Returns the bit value at offset in the string value stored at key	CamelRedis.Key (String), CamelRedis.Offset (Long)	Boolean
SETRANGE	Overwrite part of a string at key starting at the specified offset	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Offset (Long)	void
GETRANGE	Get a substring of the string stored at a key	CamelRedis.Key (String), CamelRedis.Start (Long), CamelRedis.End (Long)	String
SETNX	Set the value of a key, only if the key does not exist	CamelRedis.Key (String), CamelRedis.Value (Object)	Boolean
SETEX	Set the value and expiration of a key	CamelRedis.Key (String), CamelRedis.Value (Object), CamelRedis.Timeout (Long), SECONDS	void
DECRBY	Decrement the integer value of a key by the given number	CamelRedis.Key (String), CamelRedis.Value (Long)	Long
DECR	Decrement the integer value of a key by one	CamelRedis.Key (String),	Long
INCRBY	Increment the integer value of a key by the given amount	CamelRedis.Key (String), CamelRedis.Value (Long)	Long
INCR	Increment the integer value of a key by one	CamelRedis.Key (String)	Long
MGET	Get the values of all the given keys	CamelRedis.Fields (Collection<String>)	List<Object>
MSET	Set multiple keys to multiple values	CamelRedis.Values(Map<String, Object>)	void
MSETNX	Set multiple keys to multiple values, only if none of the keys exist	CamelRedis.Key (String), CamelRedis.Value (Object)	void

GETSET	Set the string value of a key and return its old value	CamelRedis.Key (String), CamelRedis.Value (Object)	Object
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Key Commands	Description	Parameters	Result
EXISTS	Determine if a key exists	CamelRedis.Key (String)	Boolean
DEL	Delete a key	CamelRedis.Keys (String)	void
TYPE	Determine the type stored at key	CamelRedis.Key (String)	DataType
KEYS	Find all keys matching the given pattern	CamelRedis.Pattern (String)	Collection<String>
RANDOMKEY	Return a random key from the keyspace	CamelRedis.Pattern (String), CamelRedis.Value (String)	String
RENAME	Rename a key	CamelRedis.Key (String)	void
RENAMENX	Rename a key, only if the new key does not exist	CamelRedis.Key (String), CamelRedis.Value (String)	Boolean
EXPIRE	Set a key's time to live in seconds	CamelRedis.Key (String), CamelRedis.Timeout (Long)	Boolean
SORT	Sort the elements in a list, set or sorted set	CamelRedis.Key (String)	List<Object>
PERSIST	Remove the expiration from a key	CamelRedis.Key (String)	Boolean
EXPIREAT	Set the expiration for a key as a UNIX timestamp	CamelRedis.Key (String), CamelRedis.Timestamp (Long)	Boolean
PEXPIRE	Set a key's time to live in milliseconds	CamelRedis.Key (String), CamelRedis.Timeout (Long)	Boolean
PEXPIREAT	Set the expiration for a key as a UNIX timestamp specified in milliseconds	CamelRedis.Key (String), CamelRedis.Timestamp (Long)	Boolean
TTL	Get the time to live for a key	CamelRedis.Key (String)	Long
MOVE	Move a key to another database	CamelRedis.Key (String), CamelRedis.Db (Integer)	Boolean

Other Command	Description	Parameters	Result
MULTI	Mark the start of a transaction block	none	void
DISCARD	Discard all commands issued after MULTI	none	void
EXEC	Execute all commands issued after MULTI	none	void
WATCH	Watch the given keys to determine execution of the MULTI/EXEC block	CamelRedis.Keys (String)	void
UNWATCH	Forget about all watched keys	none	void
ECHO	Echo the given string	CamelRedis.Value (String)	String
PING	Ping the server	none	String
QUIT	Close the connection	none	void
PUBLISH	Post a message to a channel	CamelRedis.Channel (String), CamelRedis.Message (Object)	void

Redis consumer

The consumer subscribes to a channel either by channel name using `SUBSCRIBE` or a string pattern using `PSUBSCRIBE` commands. When a message is sent to the channel using `PUBLISH` command, it will be consumed and the message will be available as Camel message body. The message is also serialized using configured serializer or the default `JdkSerializationRedisSerializer`.

Message headers set by the Consumer

Header	Type	Description
<code>CamelRedis.Channel</code>	String	The channel name, where the message was received.
<code>CamelRedis.Pattern</code>	String	The pattern matching the channel, where the message was received.

Dependencies

Maven users will need to add the following dependency to their pom.xml.

pom.xml

```
<dependency>
  <groupId>org.apache.camel</groupId>
  <artifactId>camel-spring-redis</artifactId>
  <version>${camel-version}</version>
</dependency>
```

where `${camel-version}` must be replaced by the actual version of Camel (2.11 or higher).

See Also

- [Configuring Camel](#)
- [Component](#)
- [Endpoint](#)
- [Getting Started](#)