

# Security

## Security

Camel offers several forms & levels of security capabilities that can be utilized on camel routes. These various forms of security may be used in conjunction with each other or separately.

The broad categories offered are

- [Route Security](#) - Authentication and Authorization services to proceed on a route or route segment
- [Payload Security](#) - Data Formats that offer encryption/decryption services at the payload level
- [Endpoint Security](#) - Security offered by components that can be utilized by endpointUri associated with the component
- [Configuration Security](#) - Security offered by encrypting sensitive information from configuration files

## Route Security - Authentication and Authorization Services

Camel offers Policy driven security capabilities that may be wired into routes or route segments. A Policy in Camel utilizes a strategy pattern for applying interceptors on Camel Processors. It offering the ability to apply cross-cutting concerns (for example. security, transactions etc) on sections/segments of a camel route.

The components offering authentication and authorization Services utilizing Route Policies are

- [Shiro Security](#)
- [Spring Security](#)

## Payload Security - Data Formats and Producers/Consumers offering encryption/decryption services

Camel offers encryption/decryption services to secure payloads or selectively apply encryption/decryption capabilities on portions/sections of a payload.

These capabilities are offered by the following components

- [XMLSecurity DataFormat](#) (XML Encryption support)
- [XML Security component](#) (XML Signature support)
- [Crypto DataFormat](#) (Encryption + PGP support)
- [Crypto component](#) (Signature support)

## Endpoint Security

Some components in camel offer an ability to secure their endpoints (using interceptors etc) and therefore ensure that they offer the ability to secure payloads as well as provide authentication/authorization capabilities at endpoints created using the components.

Some such components are

- [Jetty](#) - HTTP Basic Authentication support \* SSL support
- [CXF](#) - HTTP Basic Authentication & WS-Security support using the CXF Bus driven interceptor chain
- [Spring Web Services](#) - HTTP Basic Authentication & WS-Security support
- [Netty](#) - SSL support
- [MINA](#) - SSL support
- [Cometd](#) - SSL support
- [JMS](#) - JAAS and SSL based security for client <--> broker communication

## Configuration Security

### Available as of Camel 2.5

Camel offers the [Properties](#) component to externalize configuration values to properties files. Those values could contain sensitive information such as usernames and passwords. Those values can be encrypted and automatic decrypted by Camel.

- [Jasypt](#)

### Available as of Camel 2.8

Camel offers the [JSSE Utility](#) for configuring SSL/TLS related aspects of a number of Camel components.