

IBM Security Guardium Key Lifecycle
Manager
Version 4.1

Planning



Note

Before you use this information and the product it supports, read the information in [“Notices” on page 25.](#)

Copyright statement

Note: This edition applies to version 4.1 of IBM® Security Guardium® Key Lifecycle Manager (PID: 5724-T60, 5641-GKM, 5641-GKL) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Contents

Chapter 1. Planning.....	1
Site requirements.....	1
Key size requirements.....	1
Db2 planning.....	1
Certificate requirement to encrypt data.....	2
Tape sharing with other organizations.....	2
Suggested site practices.....	3
Self-signed certificates.....	3
Security for sensitive information.....	4
Secure configurations.....	4
System requirements.....	7
Notices.....	25
Terms and conditions for product documentation.....	26
Trademarks.....	27

Chapter 1. Planning

Planning is an activity in which your decisions affect one or more subsequent activities.

Activities include tasks such as planning the key size and database requirements, and determining ongoing working practices that your site requires.

Site requirements

Before you install IBM Security Guardium Key Lifecycle Manager, consider site issues such as your requirements for key size, whether to use the Db2® that IBM Security Guardium Key Lifecycle Manager provides, or an existing copy that is already installed on your system.

Key size requirements

You must consider the requirements for key sizes before you install and configure IBM Security Guardium Key Lifecycle Manager.

Supported key sizes and import and export restrictions

IBM Security Guardium Key Lifecycle Manager can serve either 2048 or 1024-bit keys to devices. Older keys that were generated as 1024-bit keys can continue to be used.

Table 1 on page 1 lists the supported key sizes that IBM Security Guardium Key Lifecycle Manager supports.

Table 1. Supported key sizes		
Import PKCS#12 file	Export PKCS#12 file	Key Generation Size in Bits
Yes	Yes	2048

Db2 planning

You must consider whether to use an existing copy of Db2 Advanced Workgroup Server Edition, or use the Db2 version and fix pack that the IBM Security Guardium Key Lifecycle Manager installation program provides for distributed systems. An existing Db2 must be locally installed on the system and not on a network or shared drive.

Use IBM Security Guardium Key Lifecycle Manager to manage the Db2.

IBM Security Guardium Key Lifecycle Manager requires Db2 Advanced Workgroup Server Edition Version 11.5.4.0 and the future fix packs on the same system on which the Guardium Key Lifecycle Manager server runs.

Note:

- You must use IBM Security Guardium Key Lifecycle Manager to manage the database. To avoid data synchronization problems, do not use tools that the database application might provide.
- For improved performance of Db2 on AIX® systems, ensure that you install and configure the I/O completion ports (IOCP) package that is described in the Db2 documentation (http://www-01.ibm.com/support/knowledgecenter/SSEPGG_11.1.0/com.ibm.db2.luw.admin.perf.doc/doc/t0054518.html).
- If an existing copy of Db2 Advanced Workgroup Server Edition was installed as the root user at the correct version for the operating system, you can use the existing Db2 Advanced Workgroup Server Edition. IBM Security Guardium Key Lifecycle Manager installer does not detect the presence of Db2. You must specify the Db2 installation path.

For more information on database requirements, see the “Installing and configuring” section on IBM Knowledge Center for IBM Security Guardium Key Lifecycle Manager.

Certificate requirement to encrypt data

IBM Security Guardium Key Lifecycle Manager requires at least one X.509 digital certificate, which contains a public/private key pair, to protect the data encryption key that Guardium Key Lifecycle Manager server creates when data encrypts on 3592 tape drives or DS8000® Turbo drives.

IBM Security Guardium Key Lifecycle Manager allows for two- digital certificate aliases to be defined per write request. One of the two aliases (labels) specified must have a private key in the IBM Security Guardium Key Lifecycle Manager keystore database when the tape or disk is created. This key enables the creator to read the tape or disk. The other alias (label) can be a public key from a partner, which the partner is able to decrypt with its private key. To read an encrypted tape or disk, the correct private key is needed.

There are two methods of setting up digital certificates:

- Create your own public/private key pair and corresponding certificate to be used to write and encrypt to tape or disk for you to read and decrypt the data later.
- Obtain a public key and corresponding certificate from a partner to be used to write and encrypt tapes or disks that can be read and decrypted by your partner.

For information about tape sharing, see [“Tape sharing with other organizations” on page 2](#)

Tape sharing with other organizations

You can share tapes with other organizations for data transfer, joint development, contracting services, or other purposes. The methods for sharing encrypted tapes differ for 3592 tape drives and LTO tape drives.

If you move keys to your own disaster recovery location, use a keystore database. If you move keys to a business partner, provide a public key to the business partner.

Verify the validity of any certificate that is received from a business partner by checking the chain of trust of such a certificate back to the certificate authority (CA) that ultimately signed it. If you trust the CA, then you can trust that certificate. Alternatively, validity of a certificate can be verified when it was securely guarded during transfer. Failure to verify a certificate's validity in one of these ways might open the door to a "Man-in-the-Middle" attack.

3592 tape sharing

IBM Security Guardium Key Lifecycle Manager can store two sets of wrapped encryption keys on a 3592 tape. This practice allows another organization to read that specific tape without providing them any shared secret information or compromising the security of your certificates and keys.

Add the public part of the public/private certificate of the other organization, and keys to the keystore database of your IBM Security Guardium Key Lifecycle Manager, by using a second alias (or key label). When the tape is written, the encryption keys are stored on the tape, which is protected by two sets of public/private keys that are your set and the set that belongs to another organization. The other organization must have an encryption-enabled 3592 tape drive. The other organization can use its IBM Security Guardium Key Lifecycle Manager and its private key to unwrap the data key that allows reading that specific tape.

Your IBM Security Guardium Key Lifecycle Manager must have the certificate of the partner organization. The other organization must have the associated private key in the keystore that is used by the IBM Security Guardium Key Lifecycle Manager that the other organization runs. This flexibility provides tapes that are readable by both organizations. If you want to take advantage of this capability you must add the certificate of the other organization, which contains the public key, to your keystore database.

LTO tape sharing

To share encrypted data on an LTO tape, a copy of the symmetric key that is used to encrypt the data on the tape must be made available to the other organization. This key enables them to read the tape. To share the symmetric key, the other organization must share their public key with you.

This public key is used to wrap the symmetric key when it is exported from the IBM Security Guardium Key Lifecycle Manager keystore. When the other organization imports the symmetric key into their IBM

Security Guardium Key Lifecycle Manager keystore, it is unwrapped by using their corresponding private key.

This practice ensures that the symmetric key is safe in transit since only the holder of the private key can unwrap the symmetric key. With the symmetric key that was used to encrypt the data in their IBM Security Guardium Key Lifecycle Manager keystore, the other organization can then read the data on the tape.

Suggested site practices

Planning for an encryption key server such as IBM Security Guardium Key Lifecycle Manager must consider site practices that can range from first-time implementation to well-established practices.

Table 2 on page 3 is a list of best practices that your site might consider.

Table 2. Suggested site practices	
Topic	Suggested Practice
Self-signed certificates	Use self-signed certificates for internal production and test purposes within a company.
CA-issued certificates	For a production environment, use CA-issued certificates.
Frequency of certificate replacement	On a quarterly basis, replace certificates that are used to create new cartridges.
Minimum number of CA-issued certificates	One certificate is the minimum, and assumes that the certificate is used both as the default and partner certificate.
Normal quantity of tape drives in test and production environments	Quantity ranges from several devices to several hundred, with the median number of devices in the 100+ range.
Remote sites	One or more remote sites exist, and IBM Security Guardium Key Lifecycle Manager serves keys to the remote sites.
Number of compromised certificates that occur annually	Zero certificates are compromised.
Mandatory failover requirement	Many sites require that a backup encryption key server must always be running at another site. The primary site makes a backup of the key materials whenever the data changes. Additionally, backed-up data is dependably restored to the offsite replica Guardium Key Lifecycle Manager server for use in the event of a failover.
Selectively encrypt or encrypt all data	You must consider whether to selectively encrypt or encrypt all data except the keystore database, and recovery issues that might arise. A large percentage of sites encrypts all data, except the IBM Security Guardium Key Lifecycle Manager data and its backup data.
Backup files	For more information, see administration topics on backup and restore.
Replication	For more information, see administration topics on replication configuration.

Self-signed certificates

You must consider how to balance the availability of self-signed certificates against the security needs of your enterprise.

Determine your organization's policy on the use of self-signed and certificates that are issued by a certificate authority (CA). You might need to create self-signed certificates for the test phase of your

project. In advance, you might also request certificates from a certificate authority for the production phase.

Security for sensitive information

You must ensure that only authorized persons can gain access to sensitive information for IBM Security Guardium Key Lifecycle Manager key materials in the IBM Security Guardium Key Lifecycle Manager database.

Sites vary in their separation of duties, and might have no separation of duties. However, for greater security, a site can take these steps:

- One person provides runtime system administrator support for the Guardium Key Lifecycle Manager server. The site has a system administrator to run the Guardium Key Lifecycle Manager server.
- A different person serves as database administrator, with restricted access to the Db2 user ID and database instance that IBM Security Guardium Key Lifecycle Manager uses.

Secure configurations

You must maximize security in environment, installation, administration, and operations to ensure that only authorized persons can gain access to sensitive information for IBM Security Guardium Key Lifecycle Manager.

Environment

You can configure these environmental elements for maximum security:

- Restrict physical access to systems to prevent unauthorized access to the server hardware, allowing only authorized administrators to have access to the system console.
- Ensure that the communication network is secure against eavesdropping and spoofing.
- Use a firewall and maintain all ports behind the firewall. Open only the ports that IBM Security Guardium Key Lifecycle Manager requires.
- Specify file system controls to protect sensitive files on the IBM Security Guardium Key Lifecycle Manager system. Controls must secure the files and limit access to only those users who require access.
- Secure the key server, configuration files, log files, audit log file, database instance, and IBM Security Guardium Key Lifecycle Manager backup files.
- Ensure that the system has adequate disk space to store the audit logs.
- If you use any kind of debugging utility on IBM Security Guardium Key Lifecycle Manager, you must ensure that the output is secure. Access IBM Security Guardium Key Lifecycle Manager only from a secure system in which you are aware of all installed applications.
- Although sensitive information in the IBM Security Guardium Key Lifecycle Manager backup JAR file is protected by password, not all of the contents of the JAR file is protected by password, making the file vulnerable to corruption or intentional damage. Keep the JAR file secure.
- Do not edit the files that are contained in a backup JAR file. The files become unreadable. Retain backup files in a secure location to which you control the password. Retain a copy of backup files in a secure location that is not on the IBM Security Guardium Key Lifecycle Manager computer, and not in the IBM Security Guardium Key Lifecycle Manager directory path.
- When you use a browser to administer IBM Security Guardium Key Lifecycle Manager, by using some of the IBM Security Guardium Key Lifecycle Manager panels, you can browse the directory layout on the server system. IBM Security Guardium Key Lifecycle Manager as a product runs as root, and when you browse the file system, these root permissions are used.

Installation

- Do not install on a domain controller.
- Do not install on a shared file system.

Administrative and user assumptions

Securely manage administrators:

- Grant administrator rights only to persons who manage IBM Security Guardium Key Lifecycle Manager and who meet your site requirements for trust and competence in maintaining the security of IBM Security Guardium Key Lifecycle Manager.
- Administrators must work in accordance with the guidance provided by the system documentation and IBM Security Guardium Key Lifecycle Manager documentation.
- The SKLMAdmin is a privileged user with unrestricted access to IBM Security Guardium Key Lifecycle Manager. A user must log in as SKLMAdmin only when the privilege is required.
- The WebSphere® Application Server administrator is a privileged user with access to create user accounts and grant access to IBM Security Guardium Key Lifecycle Manager. Provide the WASAdmin user ID and password only to authorized persons.
- Grant user IDs on the system only to users authorized to work with the information on the systems.
- Ensure that users with access to IBM Security Guardium Key Lifecycle Manager are cooperative and not hostile.
- Do not grant operating system privileges to administrators such as LTOAuditor who is not required to start or stop the Guardium Key Lifecycle Manager server.

Operation

Securely manage ongoing operation:

- Enable the suggested password policy.
- Choose and manage the user and administrator passwords according to the password policy.
- Enable auditing.
- Establish and implement the necessary procedures for the secure operation of the system.
- Ensure that maintenance procedures include regular diagnostics and auditing of the system, including regular backups and review of the audit files and error logs.
- Transmit passwords securely to system users.
- Instruct users and administrators to not disclose their passwords.
- Account lockout mechanism for the users who repeatedly enter incorrect passwords. For more information, see [tklm.lockout.attempts](#) and [tklm.lockout.enable](#).
- Protect the configuration file from disclosure as rigorously as the administrator password itself, including all representations of the content of the configuration file, such as printouts and backups.

Configuration properties and attributes

Table 3 on page 5 describes a set of configuration properties and attributes with settings for maximum security. Configure a property in a way that is secure, but not set for maximum security. These examples are provided to help you understand those decisions.

Table 3. Secure configuration property settings	
Property	Most secure recommendation
Audit.event.outcome	Specify success and failure events.
Audit.eventQueue.max	Set to a value of zero.
Audit.event.types	Specify all values other than the value none.
Audit.handler.file.multithreads	No security impact.
Audit.handler.file.name	Specify a valid, secure location for the file.
Audit.handler.file.size	No security impact.

<i>Table 3. Secure configuration property settings (continued)</i>	
Property	Most secure recommendation
Audit.handler.file.threadlifespan	No security impact.
backup.keycert.before.serving	Set to a value of <code>true</code> .
cert.validate	Set to a value of <code>true</code> .
config.keystore.name	Do not change this value.
config.keystore.ssl.certalias	Use the graphical user interface or the command-line interface to set the valid value for the protocol.
debug	Enabling debug logging might affect IBM Security Guardium Key Lifecycle Manager performance. Enable this option only under the guidance of your IBM support representative.
device.AutoPendingAutoDiscovery (an attribute in the IBM Security Guardium Key Lifecycle Manager database)	Set to a value of 0 (zero, or manual) or 2 (auto pending).
enableClientCertPush	Set to a value of <code>false</code> .
enableMachineAffinity (an attribute in the IBM Security Guardium Key Lifecycle Manager database)	Set to a value of <code>true</code> (enabled).
fips	Set to a value of <code>true</code> (enabled).
KMIPListener.ssl.port	Set to a valid port number.
lock.timeout	Use the default value.
maxPendingClientCerts	Use the default value.
pcache.refresh.interval	Use the default value.
tklm.backup.db2.dir	Specify a valid, secure directory.
tklm.backup.dir	Specify a valid, secure directory.
tklm.encryption.keysize	Use the default value.
tklm.encryption.password	This property is internally used. Do not change its value.
tklm.lockout.attempts	Use the default value.
tklm.lockout.enable	Set to a value of <code>true</code> (enabled).
tklm.encryption.pbe.algorithm	This property is internally used. Do not change its value.
TransportListener.tcp.port	Specify a valid port number.
TransportListener.tcp.timeout	Specify a valid timeout interval.
TransportListener.ssl.ciphersuites	Use the default value.
TransportListener.ssl.clientauthentication	Specify the highest value that your device supports.
TransportListener.ssl.port *	Specify a valid port number.
TransportListener.ssl.protocols	Specify a value of <code>SSL_TLSv2</code> .
TransportListener.ssl.timeout	Specify a valid timeout interval.

Table 3. Secure configuration property settings (continued)	
Property	Most secure recommendation
Transport.ssl.vulnerableciphers.patterns	Use the default value.
stopRoundRobinKeyGrps	Specify a value of <code>true</code> , although in some environments <code>false</code> might be acceptable. For more cautions, see the reference topic for the stopRoundRobinKeyGrps property.
useSKIDefaultLabels	No security impact.
zOSCompatibility	No security impact.

System requirements

Your environment must meet the minimum hardware and software requirements to install or upgrade IBM Security Guardium Key Lifecycle Manager.

See the detailed system requirements document at: <https://www.ibm.com/support/pages/ibm-security-key-lifecycle-manager-support-matrix>

tklm.lockout.attempts

This property specifies the maximum number of failed login attempts to allow before the user account is locked.

tklm.lockout.attempts=default_value

The user account is locked when the user exceeds the configured number of failed login attempts. As a result, the user account is locked out for 30 minutes.

Required

Optional.

Values

An integer value.

Default

3

Example

tklm.lockout.attempts=3

Note: Change to the property value requires server restart. For instructions about how to stop and start the server, see [“Restarting the Guardium Key Lifecycle Manager server” on page 11.](#)

Restarting the Guardium Key Lifecycle Manager server

Restart of the server causes the server to read its configuration and accept the configuration changes, if any. To restart the IBM Security Guardium Key Lifecycle Manager server, you can use the graphical user interface, REST service, or run the server restart scripts.

About this task

To restart server, use the <IBM Security Guardium Key Lifecycle Manager *User*> link on welcome page header bar, **Restart Server REST Service**, or run the **stopServer** and **startServer** scripts.

Procedure

- **Using graphical user interface**

- a) Log on to the graphical user interface.
- b) On the Welcome page header bar, click the <IBM Security Guardium Key Lifecycle Manager *User*> link.
For example, click the **SKLMAdmin** link.
- c) Click **Restart Server**.
- d) Click **OK**.

Note: The IBM Security Guardium Key Lifecycle Manager server is unavailable for a few minutes while the restart operation is in progress.

- **Using REST interface**

- a) Open a REST client.
- b) Obtain a unique user authentication identifier to access IBM Security Guardium Key Lifecycle Manager REST APIs. For more information about the authentication process, see [“Authentication process for REST services”](#) on page 19.
- c) Run the [“Restart Server REST Service”](#) on page 13.

Sample request:

```
POST https://localhost:port/SKLM/rest/v1/ckms/servermanagement/restartServer
```

- **Using scripts**

- a) Go to the `WAS_HOME\bin` directory.

Windows

```
C:\Program Files\IBM\WebSphere\AppServer\bin
```

Linux®

```
/opt/IBM/WebSphere/AppServer/bin
```

- b) Stop the server.

Windows

```
stopServer.bat server1 -username wasadmin -password mypwd
```

Linux

```
./stopServer.sh server1 -username wasadmin -password mypwd
```

Because the administrative security for WebSphere Application Server is enabled, you must specify the user ID and password of the WebSphere Application Server administrator as

parameters to the stopServer script. If these parameters are omitted, you are prompted to specify the values.

c) Start the server.

Windows

```
startServer.bat server1
```

Linux

```
./startServer.sh server1
```

What to do next

Determine whether IBM Security Guardium Key Lifecycle Manager is running. For example, open IBM Security Guardium Key Lifecycle Manager in a web browser and log in.

Restart Server REST Service

Use **Restart Server REST Service** to restart the IBM Security Guardium Key Lifecycle Manager server. Restart of the server causes the server to read its configuration and accept the configuration changes, if any.

Operation

POST

URL

`https://<host>:<port>/SKLM/rest/v1/ckms/servermanagement/restartServer`

By default, Guardium Key Lifecycle Manager server listens to non-secure port 9080 (HTTP) and secure port 9443 (HTTPS) for communication. During IBM Security Guardium Key Lifecycle Manager installation, you can modify these default ports.

Note: The non-secure port 9080 is not applicable when IBM Security Guardium Key Lifecycle Manager is deployed in a containerized environment.

Request

Request Parameters	
Parameter	Description
host	Specify the IP address or host name of the IBM Security Guardium Key Lifecycle Manager server.
port	Specify the port number on which the IBM Security Guardium Key Lifecycle Manager server listens for requests.

Request Headers	
Header name	Value
Content-Type	application/json
Accept	application/json
Authorization	SKLMAuth userAuthId=<authIdValue>
Accept-Language	Any valid locale that is supported by IBM Security Guardium Key Lifecycle Manager. For example: en or de

Response

Response Headers	
Header name	Value and description
Status Code	200 OK The request was successful. The response body contains the requested representation. 400[®] Bad Request The authentication information was not provided in the correct format. 401 Unauthorized The authentication credentials were missing or incorrect. 404 Not Found Error The processing of the request fails. 500 Internal Server Error The processing of the request fails because of an unexpected condition on the server.
Content-Type	application/json
Content-Language	Locale for the response message.

Success response body	
JSON object with the following specification:	
JSON property name	Description
code	Returns the value that is specified by the message property.
message	Returns the status message that indicates success or failure of the server restart operation.

Error Response Body	
JSON object with the following specification.	
JSON property name	Description
code	Returns the application error code.
message	Returns a message that describes the error.

Examples

Service request to restart the IBM Security Guardium Key Lifecycle Manager server

```
POST https://localhost:<port>/SKLM/rest/v1/ckms/servermanagement/restartServer
Content-Type: application/json
Accept: application/json
Authorization: SKLMAuth userAuthId=139aeh34567m
```

Success response

```
Status Code : 200 OK
{"code": "CTGKM2936I", "message": "CTGKM2936I Guardium Key Lifecycle Manager Server restarted successfully. After restarting the server, it will be unavailable for few minutes."}}
```

Error response

```
Status Code : 200 OK
{"code": "CTGKM2937E", "message": "CTGKM2937E Error restarting IBM Security Guardium Key
```

```
Lifecycle Manager Server,  
plesae check logs for more information."}
```


tklm.lockout.enable

This property specifies whether to lockout the user account after a specific number of failed login attempts.

tklm.lockout.enable={true | false}

When this property is set `true`, the user account is locked if the number of login attempts exceeds the value that is defined in the **tklm.lockout.attempts** parameter. As a result, the user account is locked out for 30 minutes. The lockout configuration provides better authentication control and helps to prevent the use of brute-force password cracking.

Required

Optional.

Values

true | false

Default

true

Example

tklm.lockout.enable=true

Note: Change to the property value requires server restart. For instructions about how to stop and start the server, see [“Restarting the Guardium Key Lifecycle Manager server” on page 11.](#)

Authentication process for REST services

Before you access IBM Security Guardium Key Lifecycle Manager REST services, authenticate to the IBM Security Guardium Key Lifecycle Manager server by using your user name and password.

You can use a REST client to access the IBM Security Guardium Key Lifecycle Manager REST services. To access a REST service, you must complete the following process:

1. Log in to the IBM Security Guardium Key Lifecycle Manager server with your login credentials. You can use [“Login REST Service” on page 21](#) to access the server. The [“Login REST Service” on page 21](#) accepts user name and password and returns a unique user authentication identifier.
2. Access the IBM Security Guardium Key Lifecycle Manager REST services that provide the required server functions. To access an IBM Security Guardium Key Lifecycle Manager REST service, pass the user authentication identifier that you obtained in Step 1 along with the request message.
3. Log out of the IBM Security Guardium Key Lifecycle Manager server by using [“Logout REST Service” on page 23](#). To log out, you must pass the user authentication identifier that you obtained in Step 1.

Login REST Service

Use **Login REST Service** to log in to the IBM Security Guardium Key Lifecycle Manager server with valid user credentials. The REST service validates the credentials and returns a unique user authentication identifier for all subsequent service requests.

Operation

POST

URL

`https://<host>:<port>/SKLM/rest/v1/ckms/login`

By default, Guardium Key Lifecycle Manager server listens to non-secure port 9080 (HTTP) and secure port 9443 (HTTPS) for communication. During IBM Security Guardium Key Lifecycle Manager installation, you can modify these default ports.

Note: The non-secure port 9080 is not applicable when IBM Security Guardium Key Lifecycle Manager is deployed in a containerized environment.

Request

<i>Request Parameters</i>	
Parameter	Description
host	Specify the IP address or host name of the IBM Security Guardium Key Lifecycle Manager server.
port	Specify the port number on which the IBM Security Guardium Key Lifecycle Manager server listens for requests.

<i>Request headers</i>	
Header name	Value
Content-Type	application/json
Accept	application/json

<i>Request body</i>	
JSON Object with the following specification:	
Parameter	Description
userid	Specify the user ID to access the IBM Security Guardium Key Lifecycle Manager server.
password	Specify the password that is associated with the user ID.

Response

Response headers	
Header name	Value and description
Status Code	200 OK The request was successful. The response body contains the requested representation. 400 Bad Request The authentication information was not provided in the correct format. 401 Unauthorized The authentication credentials were missing or incorrect. 500 Internal Server Error The processing of the request fails because of an unexpected condition on the server.
Content-Type	application/json

Success response body	
JSON object with the following specification:	
JSON property name	Description
userAuthId	Returns a unique identifier for the authenticated user.

Error Response Body	
JSON object with the following specification.	
JSON property name	Description
code	Returns the application error code.
message	Returns a message that describes the error.

Examples

Service request for user authentication

```
POST https://localhost:<port>/SKLM/rest/v1/ckms/login
Content-Type: application/json
Accept : application/json
{"userid" : "admin1", "password" : "pswd"}
```

Success response

```
Status Code : 200 OK
{"userAuthId" : "37ea1939-1374-4db7-84cd-14e399be2d20"}
```

Error response

```
Status Code : 401 Unauthorised
{"code" : "CTGKM6001E", "message" : "Authentication Failure :
Incorrect user ID/password combination"}
```

Logout REST Service

Use **Logout REST Service** to stop the user session and log out of the IBM Security Guardium Key Lifecycle Manager server. The server automatically logs out the user after 15 minutes of inactivity.

Operation

DELETE

URL

`https://<host>:<port>/SKLM/rest/v1/ckms/logout`

By default, Guardium Key Lifecycle Manager server listens to non-secure port 9080 (HTTP) and secure port 9443 (HTTPS) for communication. During IBM Security Guardium Key Lifecycle Manager installation, you can modify these default ports.

Note: The non-secure port 9080 is not applicable when IBM Security Guardium Key Lifecycle Manager is deployed in a containerized environment.

Request

Request Parameters	
Parameter	Description
host	Specify the IP address or host name of the IBM Security Guardium Key Lifecycle Manager server.
port	Specify the port number on which the IBM Security Guardium Key Lifecycle Manager server listens for requests.

Request headers	
Header name	Value
Content-Type	application/json
Accept	application/json

Request body	
JSON Object with the following specification:	
JSON property name	Description
userAuthId	Specify the user authentication identifier that you must use to log out from the IBM Security Guardium Key Lifecycle Manager server.

Response

<i>Response headers</i>	
Header name	Value and description
Status Code	200 OK The request was successful. The response body contains the requested representation. 400 Bad Request The authentication information was not provided in the correct format. 401 Unauthorized The authentication credentials were missing or incorrect. 500 Internal Server Error The processing of the request fails because of an unexpected condition on the server.
Content-Type	application/json

<i>Success response body</i>	
JSON object with the following specification:	
JSON property name	Description
userId	Returns the user identifier.
logout	Indicates whether the user is logged out of the server. Valid values are true or false.

<i>Error Response Body</i>	
JSON object with the following specification.	
JSON property name	Description
code	Returns the application error code.
message	Returns a message that describes the error.

Examples

Service request for user logout

```
DELETE https://localhost:<port>/SKLM/v1/ckms/logout
Content-Type: application/json
Accept : application/json
{"userAuthId" : "37ea1939-1374-4db7-84cd-14e399be2d20"}
```

Success response

```
Status Code : 200 OK
{"userid" : "admin","logout" : "true"}
```

Error response

```
Status Code : 400 Bad Request
{"code" : "\"CTGKM6002E\"", "message" : "Invalid Request: Invalid user authentication ID or invalid request format"}
```

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