



# ENCRYPTION

HOW TO ENCRYPT YOUR SCRIPT OUTPUT



LICENSEAUDIT

# PRIVACY & SECURITY CONSIDERATIONS

ORACLE DATABASE AUDIT SCRIPTS

## CHALLENGE

Forensic analysis of license usage on Oracle databases requires extraction of hostnames, database names, usernames and other privacy & security sensitive information.



## LAW

French [case law](#) concluded that that Oracle's scripts are scripting much more data than what is legally relevant to determine license compliance.



## INDEPENDENT & SECURE

Licenseaudit.com is the first *independent* automated tool to analyse Oracle's system tables for determining compliance.

Licenseaudit.com is the *only* tool to provide end-to-end encryption for security, company- and privacy sensitive data.

# ENCRYPTION

## FEATURE OVERVIEW

**Method: AES-256**

**Secret key: Minimum 32 characters**

**Initialization vector: Minimum 16 characters**

**Encryption script in Perl**

**Encrypted by the client at the client's site**

# RAW DATA

OUTPUT EXAMPLE

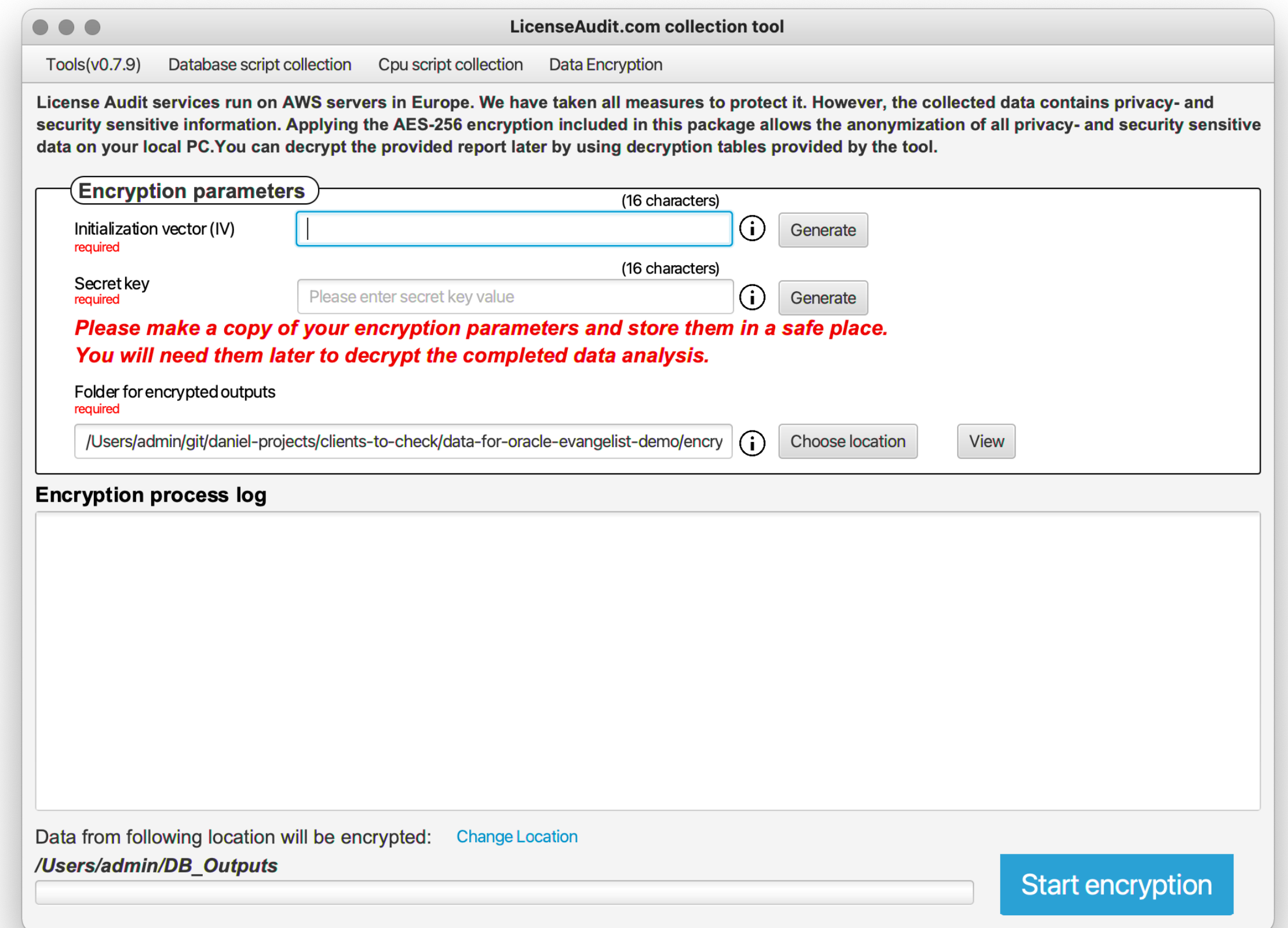
```
SECTION:STBY_C,V$DATAGUARD_CONFIG
"db-204","<LCA>"
SECTION:STBY_C,V$ARCHIVE_DEST_STATUS
SECTION:ACTIVE_DATA_GUARD,11gr1
SECTION:ACTIVE_DATA_GUARD,V$DATABASE
"17717","db-204","db-204","READ WRITE","PRIMARY","ENABLED","DISABLED","NONE","Linux x86 64-bit","01-MAY-17","01-MAY-17","<LCA>"
SECTION:ACTIVE_DATA_GUARD,V$BLOCK_CHANGE_TRACKING
SECTION:RAC
"db-204","host-204","1","OPEN","<LCA>"
```

Amongst others, database- and hostnames are visible in the normal / raw output format.

# ENCRYPTION PROCESS

LIENSEAUDIT DATA COLLECTION TOOL FEATURE

The LicenseAudit Data Collection tool will encrypt all output files (dbs and cpu) on your local machine.



The screenshot shows the 'LicenseAudit.com collection tool' window. The 'Data Encryption' tab is selected. A disclaimer states: 'License Audit services run on AWS servers in Europe. We have taken all measures to protect it. However, the collected data contains privacy- and security sensitive information. Applying the AES-256 encryption included in this package allows the anonymization of all privacy- and security sensitive data on your local PC. You can decrypt the provided report later by using decryption tables provided by the tool.'

The 'Encryption parameters' section contains the following fields and controls:

- Initialization vector (IV)**: A text input field with a '(16 characters)' label, an information icon, and a 'Generate' button. A red 'required' label is below the field.
- Secret key**: A text input field with a '(16 characters)' label, an information icon, and a 'Generate' button. A red 'required' label is below the field. The placeholder text is 'Please enter secret key value'.
- Folder for encrypted outputs**: A text input field with a '(16 characters)' label, an information icon, a 'Choose location' button, and a 'View' button. A red 'required' label is below the field. The placeholder text is '/Users/admin/git/daniel-projects/clients-to-check/data-for-oracle-evangelist-demo/encry'.

Below the parameters is a red warning message: 'Please make a copy of your encryption parameters and store them in a safe place. You will need them later to decrypt the completed data analysis.'

The 'Encryption process log' section is a large empty text area.


At the bottom, it says 'Data from following location will be encrypted: [Change Location](#)'. Below this is a text input field containing '/Users/admin/DB\_Outputs' and a blue 'Start encryption' button.

# ENCRYPTED OUTPUT

## EXAMPLE

```
SECTION:STBY_C,V$DATAGUARD_CONFIG  
"bc9db7f432518ff6550b71306dfe38f3", "<LCA>"  
SECTION:STBY_C,V$ARCHIVE_DEST_STATUS  
SECTION:ACTIVE_DATA_GUARD,11gr1  
SECTION:ACTIVE_DATA_GUARD,V$DATABASE  
"17717","bc9db7f432518ff6550b71306dfe38f3","bc9db7f432518ff6550b71306dfe38f3","READ WRITE","PRIMARY","ENABLED","DISABLED","NONE","Linux x86 64-bit","01-MAY-17","01-MAY-17","<LCA>"  
SECTION:ACTIVE_DATA_GUARD,V$BLOCK_CHANGE_TRACKING  
SECTION:RAC  
"bc9db7f432518ff6550b71306dfe38f3","324543d02b2277b106f4f36e61f165ce","1","OPEN","<LCA>"
```

db-204 =  324543d02b2277b106f4f36e61f165ce

Host-204 =  bc9db7f432518ff6550b71306dfe38f3

# TRANSLATION TABLE

FOR INTERNAL USE

After encryption you will have the translation table for internal use.

	A	B	C	D	E	F
1	Host Name	Istance Name	Database Unique Name	Host Name	Istance Name	Database Unique Name
2	host-204	db-204	db-204	324543d02b2277b106f4f36e61f165ce	bc9db7f432518ff6550b71306dfe38f3	bc9db7f432518ff6550b71306dfe38f3
3	host-146	db-146	db-uniq-146	d09c9b62f33e3eda0231fc528b1b68a0	a9f6f4a0ec8542112eae0aa88782132	0eb73d13038289359d4a7b792a97b5d5
4	host-101	db-101	db-101	5a07a3a0920f9f8fc84c9105135874e5	ed90223b32ae192556eaa8a75392d8f1	ed90223b32ae192556eaa8a75392d8f1
5	host-347	db-347	db-347	52332aa02eb76398cc0a10d09e70371d	76212a1e2e841dbfe4ac8a1fbc009507	76212a1e2e841dbfe4ac8a1fbc009507
6	host-202	db-202	db-202	de77dd51bb7106ed668afb979722b6c	c20f40af5c0e678c23ef0b4195261bb1	c20f40af5c0e678c23ef0b4195261bb1
7	host-481	db-481	db-uniq-481	751986bc735e0100663e1f783791d735	74cb7d90e55401f172d9cc21ecadfdf2	5e7d568aba6005b3f68c85bd31e5d2ee
8	host-341	db-341	db-341	df94ec8263795a9c32ea9c2671f8f53d	fbe2a223266092e3bdecbb01ed8d67e6	fbe2a223266092e3bdecbb01ed8d67e6
9	host-383	db-383	db-383	77509309482bb9dccc7ed08f6190113	a30894a44551fa2325b93bd566314c2f	a30894a44551fa2325b93bd566314c2f
10	host-233	db-233	db-233	c123fd5b215f38e70e2cefa87b928c3e	2396775505d0038fa61f344ce2f661af	2396775505d0038fa61f344ce2f661af
11	host-478	db-478	db-478	df54f724e426f325a19666150a7e98ef	7997022def99d8730172d0e7c09920d6	7997022def99d8730172d0e7c09920d6
12	host-231	db-231	db-231	e1d13612e4e60f3c1578cfad2d496d2e	8dbe65fa2dea3c884f939720d9e6db30	8dbe65fa2dea3c884f939720d9e6db30
13	host-138	db-138	db-138	d3c576dc93653d9b71ec2f3d69e4c04b	b42ad96ab3131ecb51381a51167493a9	b42ad96ab3131ecb51381a51167493a9

# WHAT DATA IS ENCRYPTED

SENSITIVE INFORMATION

## Sensitive information

- Database names
- Usernames
- Hostnames
- Connection strings
- OEM Target names
- OEM Target hosts
- RAC Instance names
- And other...

# DECRYPTION

ON DEMAND

1. View the de-crypted information online using your security information.
  - This works only for your browser session, to easily browse or download decrypted data online.
2. Or, download all encrypted output and de-crypt locally using the translation table created during encryption

### Enter Session Decryption info

This information is not stored anywhere, it's applied only for current session, right after you will logout or stop decrypt session it will be cleared.

Encryption password:

Encryption salt:

# WE ENSURE YOUR PRIVACY

STAY IN TOUCH WITH US



## Our Location

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