Export Configuration and Operation Data Backup from ISE

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Introduction

This document describes how to take On-Demand Configuration data and Operation data backup of the Identity Service Engine (ISE).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Basic knowledge of the Identity Service Engine (ISE).
- How to configure a Repository.

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Identity Service Engine 2.7

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

Another key strategy to assure the availability of ISE in the environment is having a solid backup strategy. There are two types of ISE backups: configuration backup and operational backup**.**

Cisco ISE allows you to back up data from the Primary PAN and from the Monitoring node. Back up can be done from the CLI or user interface.

Configuration data- Contains both application-specific and Cisco ADE operating system configuration data. Back up can be done via the Primary PAN using the GUI or CLI.

Operational Data- Contains monitoring and troubleshooting data. Back up can be done via the Primary PAN GUI or using the CLI for the Monitoring node.

The backups are stored in a repository and can be restored from the same repository. You can schedule backups to run automatically or you can run them manually on demand. You can view the status of a backup from either the GUI or the CLI, but you can view the status of a restore only from the CLI.

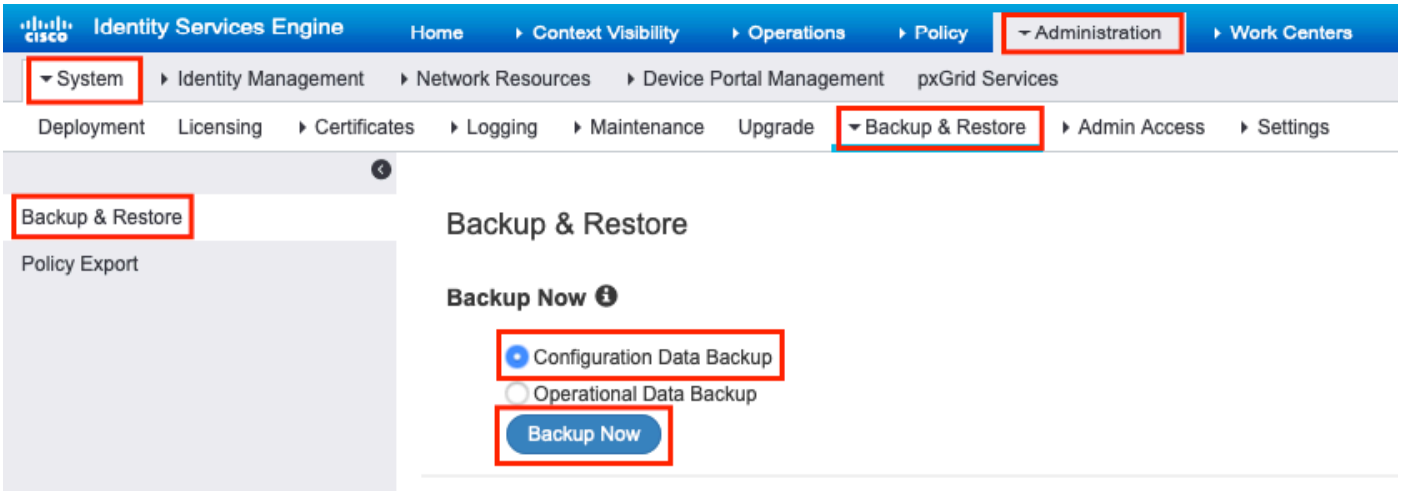
⚠ **Caution**: Cisco ISE does not support VMware snapshots for backing up ISE data. Using VMware snapshots or any third-party backup to back up ISE data results in stopping Cisco ISE services.

Configuration

Perform On-Demand ISE Configuration Data Backup From GUI

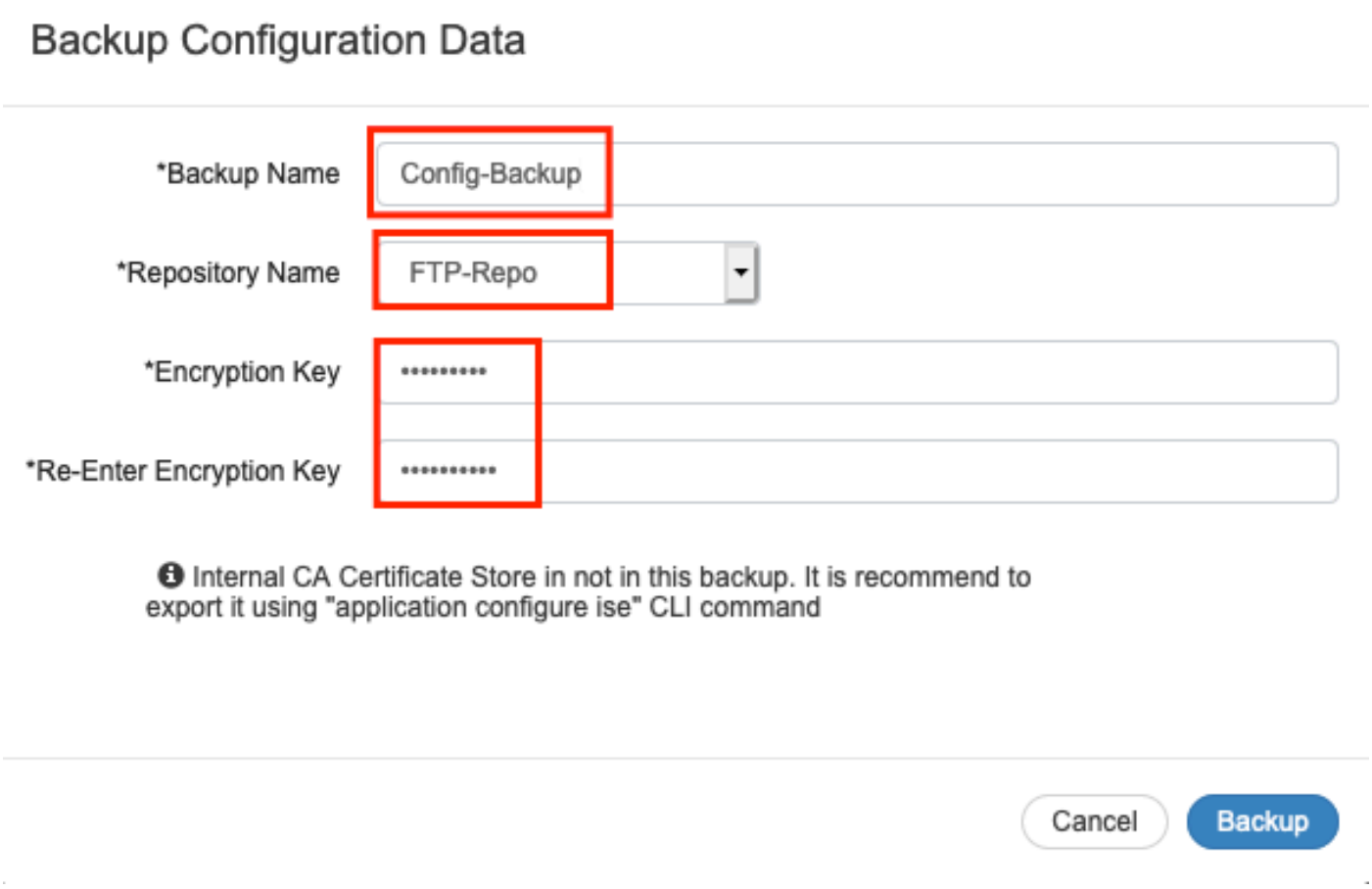
Step 1. Configure a repository refer How to configure Repository on ISE

Step 2. Login to ISE , Navigate to **Administration > System > Backup & Restore,** select **Configuration Data Backup,** click **Backup Now,** as shown in the image:



Step 3. Provide **Backup Name**, **Repository Name** and **Encryption Key**, and click **Backup.**

⚠ **Tip**: Ensure that you remember the encryption key.



Note: ISE configuration backup contains system and trusted certificates and it does not contain internal Certificate Authority (CA) certificates.

In order to backup the internal **Certificate Authority (CA) store** manually from the ISE CLI. Login to ISE **Primary Admin Node (PAN)** node via SSH and run command **application configure ise** > select option **7** to **Export Internal CA Store**.

```
<#root>

ise/admin#

application configure ise


Selection configuration option
[1]Reset M&T Session Database
[2]Rebuild M&T Unusable Indexes
[3]Purge M&T Operational Data
[4]Reset M&T Database
[5]Refresh Database Statistics
[6]Display Profiler Statistics

[7]Export Internal CA Store

[8]Import Internal CA Store
[9]Create Missing Config Indexes
[10]Create Missing M&T Indexes
[11]Enable/Disable ACS Migration
[12]Generate Daily KPM Stats
[13]Generate KPM Stats for last 8 Weeks
```

```
[14]Enable/Disable Counter Attribute Collection
[15]View Admin Users
[16]Get all Endpoints
[17]Enable/Disable Wifi Setup
[18]Reset Config Wifi Setup
[19]Establish Trust with controller
[20]Reset Context Visibility
[21]Synchronize Context Visibility With Database
[22]Generate Heap Dump
[23]Generate Thread Dump
[24]Force Backup Cancellation
[25]CleanUp ESR 5921 IOS Crash Info Files
[0]Exit
```

7

```
Export Repository Name:
```

FTP-Repo

```
Enter encryption-key for export:
Security Protocol list Start
Inside Session facade init
Old Memory Size : 7906192
Old Memory Size : 7906192
Export in progress...
Old Memory Size : 7906192

The next 5 CA key pairs were exported to repository 'FTP-Repo' at 'ise_ca_key_pairs_of_ise':
        Subject:CN=Certificate Services Root CA - ise
        Issuer:CN=Certificate Services Root CA - ise
        Serial#:0x08f06033-2a4c4fcc-b297e75a-04f11bf9

        Subject:CN=Certificate Services Node CA - ise
        Issuer:CN=Certificate Services Root CA - ise
        Serial#:0x3a0e8d8a-5a2846be-a902c280-b5d678aa

        Subject:CN=Certificate Services Endpoint Sub CA - ise
        Issuer:CN=Certificate Services Node CA - ise
        Serial#:0x33b14150-596c4552-ad0a9ab1-9541f0bb

        Subject:CN=Certificate Services Endpoint RA - ise
        Issuer:CN=Certificate Services Endpoint Sub CA - ise
        Serial#:0x37e17494-cf1d4372-bf0ba1e6-83653826

        Subject:CN=Certificate Services OCSP Responder - ise
        Issuer:CN=Certificate Services Node CA - ise
        Serial#:0x68a694ed-bc48481d-bc6cc58e-60a44a61
```

ise CA keys export completed successfully

Perform On-Demand ISE Configuration Data Backup from CLI

Step 1. Configure a repository refer [How to configure Repository on ISE]

Step 2. Login to CLI of PAN node and run the command:

backup <backup file name> repository <repository name> ise-config encryption-key plain <encryption key>

<#root>

```
ise/admin#

backup ConfigBackup-CLI repository FTP-Repo ise-config encryption-key plain <backup password>

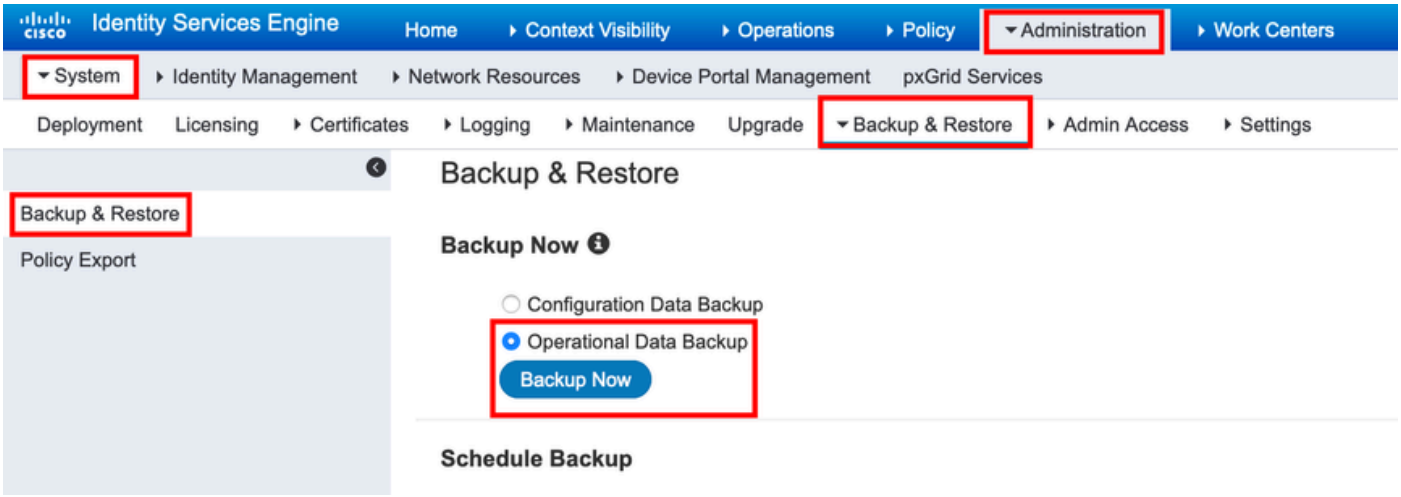
% Internal CA Store is not included in this backup. It is recommended to export it using "application c
% Creating backup with timestamped filename: ConfigBackup-CLI-CFG10-200326-0705.tar.gpg
% backup in progress: Starting Backup...10% completed
% backup in progress: Validating ISE Node Role...15% completed
% backup in progress: Backing up ISE Configuration Data...20% completed
% backup in progress: Backing up ISE Indexing Engine Data...45% completed
% backup in progress: Backing up ISE Logs...50% completed
% backup in progress: Completing ISE Backup Staging...55% completed
% backup in progress: Backing up ADEOS configuration...55% completed
% backup in progress: Moving Backup file to the repository...75% completed
% backup in progress: Completing Backup...100% completed
ise/admin#
```

Perform On-Demand ISE Operational Data Backup from GUI

Step 1. Configure a repository refer How to configure Repository on ISE

Step 2. Initiate ISE operational backup.

Login to ISE GUI, Navigate to **Administration > System > Backup & Restore,** select **Operational Data Backup,** click **Backup Now,** as shown in the image:



Step 3. Provide **Backup Name**, **Repository Name** and **Encryption Key**, and click **Backup.**

Tip: Ensure that you remember the encryption key.

Perform On-Demand ISE Operational Data Backup from CLI

Step 1.Configure a repository refer How to configure Repository on ISE

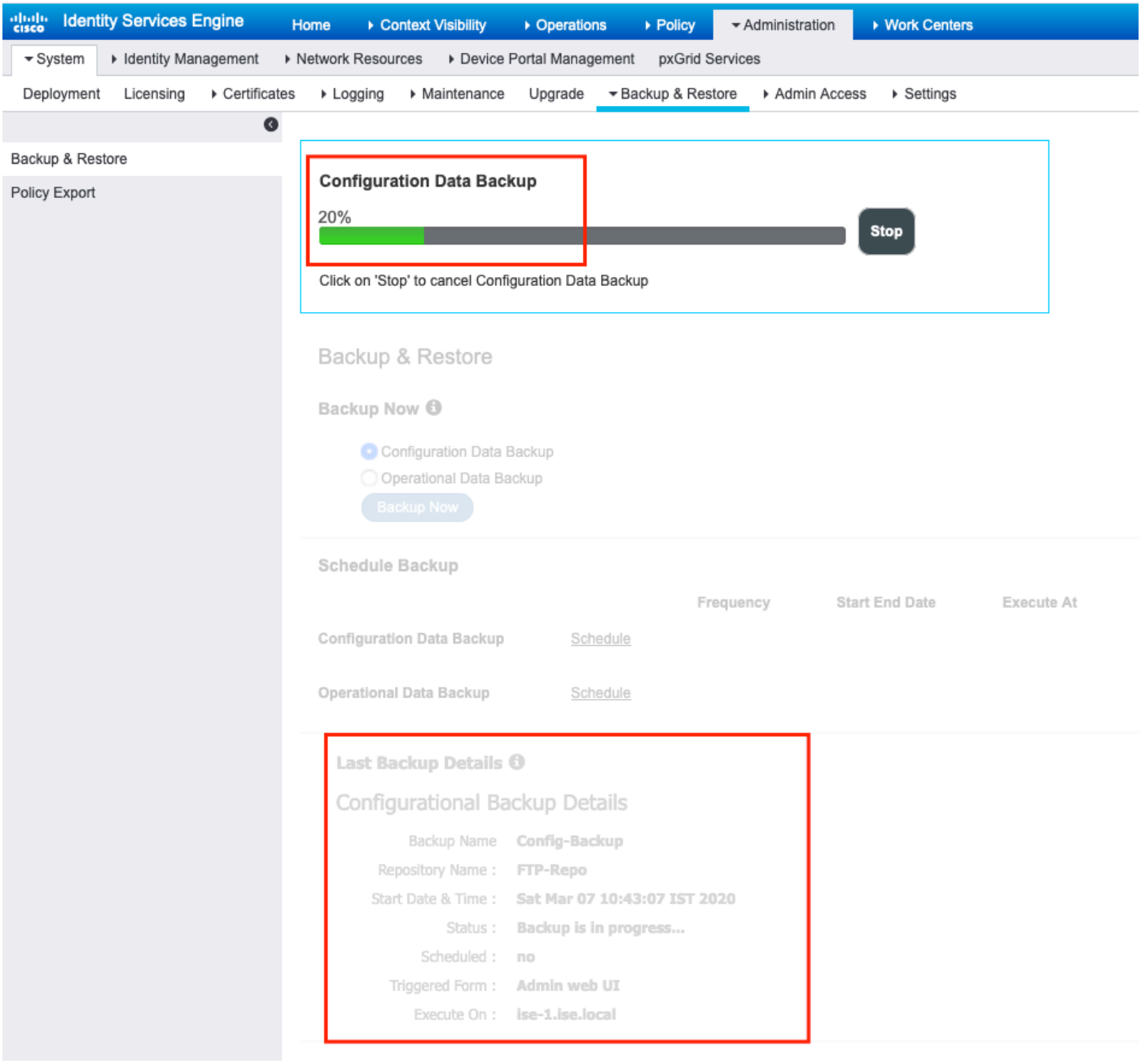
Step 2. Login to CLI of Primary MNT node and run the command:

backup <backup file name> repository <repository name> ise-operational encryption-key plain <encryption key>

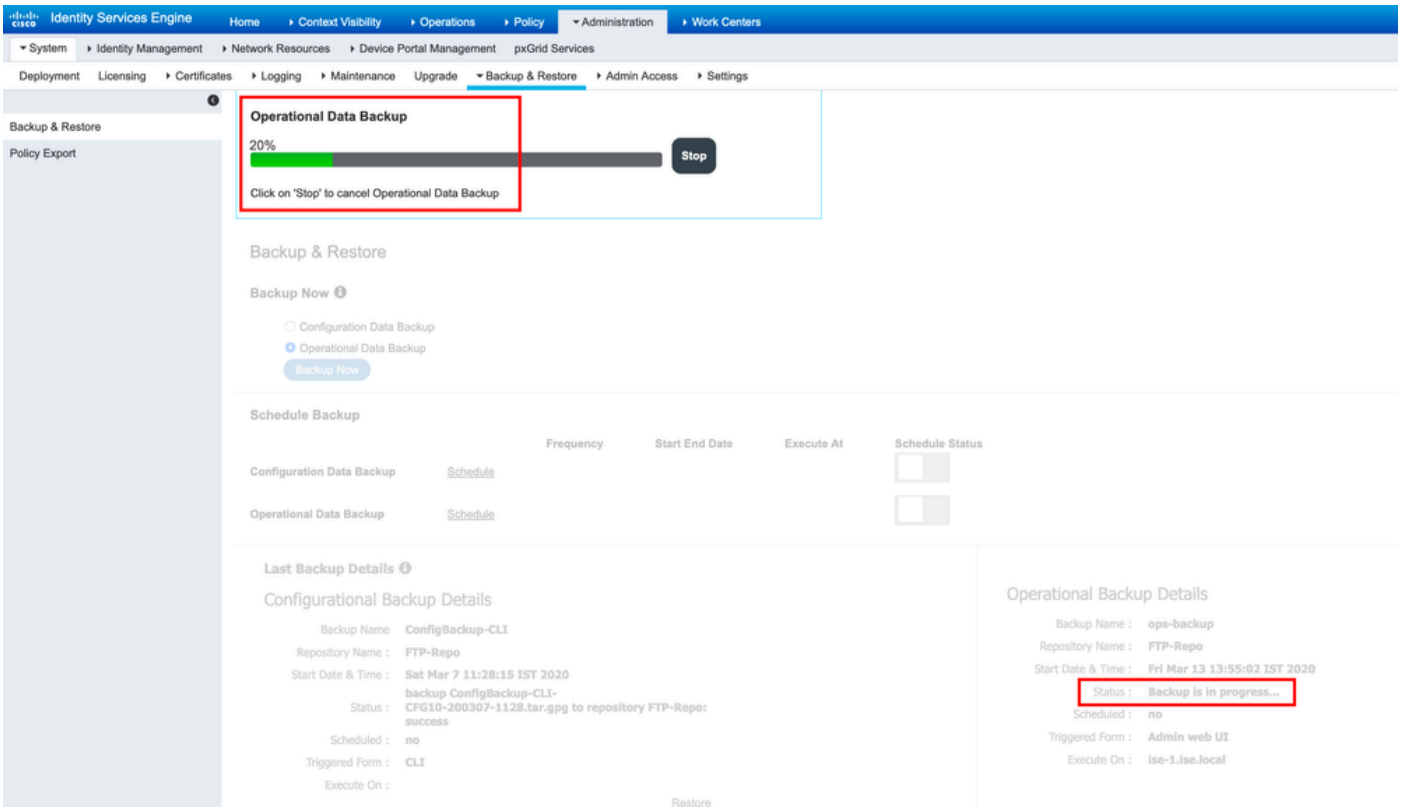
```
ise/admin# backup Ops-Backup-CLI repository FTP-Repo ise-operational encryption-key plain <backup passw
% Creating backup with timestamped filename: Ops-Backup-CLI-OPS10-200326-0719.tar.gpg
% backup in progress: Starting Backup...10% completed
% backup in progress: starting dbbackup using expdp.......20% completed
% backup in progress: starting cars logic.......50% completed
% backup in progress: Moving Backup file to the repository...75% completed
% backup in progress: Completing Backup...100% completed
ise/admin#
```

Verify

Navigate to **Administration > System > Backup & Restore to view Configuration Data Backup** progress, as shown in the image:



Navigate to **Administration > System > Backup & Restore** In order to review **Operational Data Backup progress** , as shown in the image:



You can also check the progress of the configuration backup from the CLI of the PAN node.

<#root>

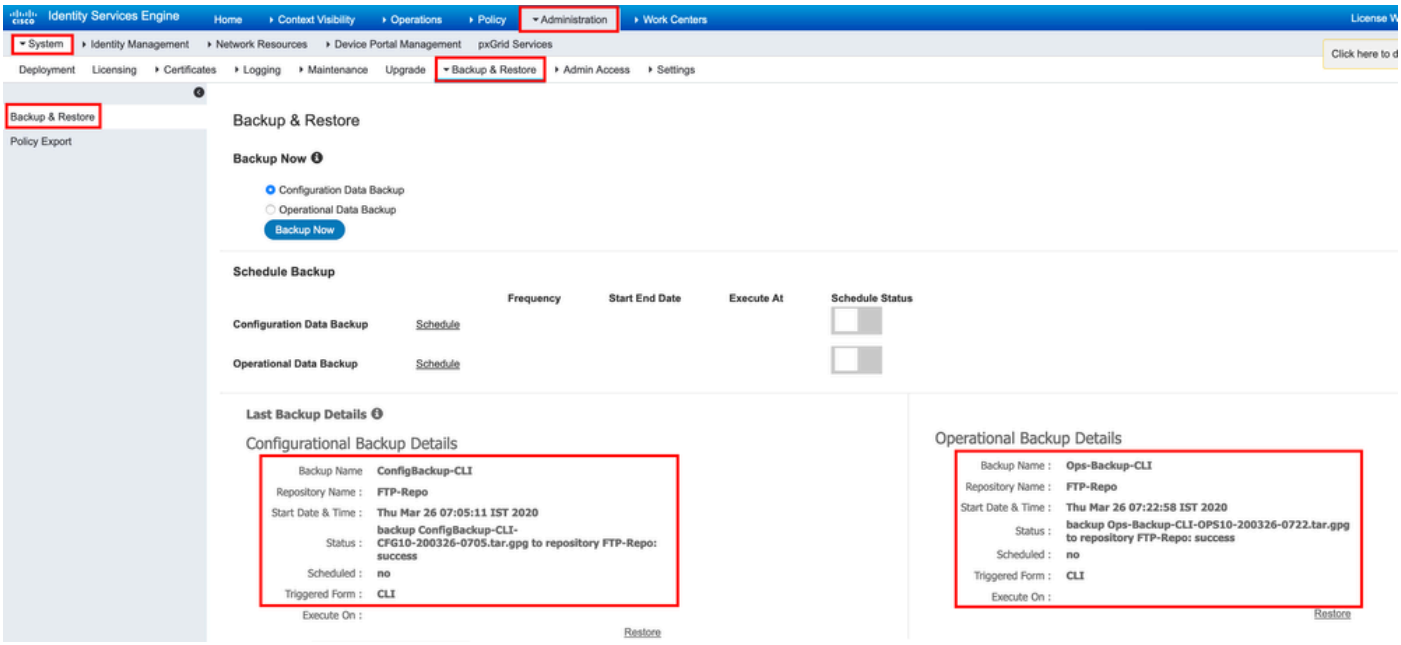
```
ise/admin#
```

```
show backup status
```

```
%% Configuration backup status
%% --------------------------
%      backup name: ConfigBackup-CLI
%       repository: FTP-Repo
%       start date: Thu Mar 26 07:05:11 IST 2020
%        scheduled: no
%   triggered from: CLI
%             host:
%           status: Backup is in progress
%       progress %: 50
% progress message: Backing up ISE Logs

%% Operation backup status
%% ----------------------
%  No data found. Try 'show backup history' or ISE operation audit report
ise/admin#
```

Once the backup is completed you can see the **Backup Status** as **success.**



Troubleshoot

Ensure **ISE Indexing Engine** service is running on the ISE Admin nodes.

<#root>

```
ise-1/admin# show application status ise

ISE PROCESS NAME                       STATE            PROCESS ID
--------------------------------------------------------------------
Database Listener                      running          15706
Database Server                        running          89 PROCESSES
Application Server                     running          25683
Profiler Database                      running          23511
```

ISE Indexing Engine

running

28268

```
AD Connector                           running          32319
M&T Session Database                   running          23320
M&T Log Processor                      running          16272
```

To debug the backup restore on ISE use these debugs:

```
ise-1/admin# debug backup-restore backup ?
  <0-7>  Set level, from 0 (severe only) to 7 (all)
  <cr>   Carriage return.
```

```
ise-1/pan# debug backup-restore backup 7
ise-1/pan#
ise-1/pan# 6 [25683]:[info] backup-restore:backup: br_history.c[549] [system]: ISE backup/restore initi
7 [25683]:[debug] backup-restore:backup: br_backup.c[600] [system]: initiating backup Config-Backup to
7 [25683]:[debug] backup-restore:backup: br_backup.c[644] [system]: no staging url defined, using local
7 [25683]:[debug] backup-restore:backup: br_backup.c[60] [system]: flushing the staging area
7 [25683]:[debug] backup-restore:backup: br_backup.c[673] [system]: creating /opt/backup/backup-Config-
7 [25683]:[debug] backup-restore:backup: br_backup.c[677] [system]: creating /opt/backup/backup-Config-
7 [25683]:[debug] backup-restore:backup: br_backup.c[740] [system]: creating /opt/backup/backup-Config-
7 [25683]:[debug] backup-restore:backup: br_backup.c[781] [system]: calling script /opt/CSCOcpm/bin/ise
6 [25683]:[info] backup-restore:backup: br_backup.c[818] [system]: adding ADEOS files to backup
6 [25683]:[info] backup-restore:backup: br_backup.c[831] [system]: Backup password provided by user
6 [25683]:[info] backup-restore:backup: br_backup.c[190] [system]: No post-backup entry in the manifest
7 [25683]:[debug] backup-restore:backup: br_backup.c[60] [system]: flushing the staging area
6 [25683]:[info] backup-restore:backup: br_backup.c[912] [system]: backup Config-Backup-CFG10-200421-06
6 [25683]:[info] backup-restore:backup: br_history.c[487] [system]: updating /tmp/ise-cfg-br-flags with
```

Use **no debug backup-restore backup 7** to disable debugs on the node.

```
ise-1/admin# no debug backup-restore backup 7
```