

# Oracle GoldenGate 26ai : Advanced Configuration

**Prix** : 3 450 €HT

**Durée** : 4 jours

**Code de Référence** : D1111288

Catalogue Haute Disponibilité – Sécurité, Application Development

Le cours Oracle GoldenGate 26ai : Configuration avancée propose une exploration approfondie des dernières fonctionnalités et capacités d'Oracle GoldenGate 26ai. Vous apprendrez à configurer efficacement une instanciation précise, à configurer et optimiser les processus d'extraction et de réplicat, et à exploiter la capture en aval.

Le programme couvre les meilleures pratiques de l'architecture de disponibilité maximale (MAA), les stratégies de réplication active-active, ainsi que les techniques de détection/résolution des conflits. D'autres modules se concentrent sur le streaming de données pour le Big Data, la migration/mise à jour/patch fluide, les déploiements basés sur conteneurs (K8s/Podman), les intégrations de l'API REST, les implémentations de sécurité robustes et les fonctions avancées de transformation des données. Enfin, vous aurez un aperçu de GoldenGate Foundation Suite (Veridata, OEM Plug-in, GG Studio) pour compléter votre maîtrise d'Oracle GoldenGate 26ai pour la réplication et l'intégration de données critiques.

## Objectifs de la formation

A l'issue de cette formation Oracle, vous serez capable de :

- Concevoir et configurer efficacement la réplication : Apprenez à configurer et gérer Oracle GoldenGate 26ai pour une instanciation précise, un réglage des paramètres et une optimisation des performances
- Déployer des solutions à haute disponibilité et multi-maîtres : Acquérez une expertise en réplication active-active, détection/résolution de conflits et architecture de disponibilité maximale
- Implémenter des intégrations sécurisées et évolutives : Déploiements maîtres basés sur conteneurs (K8s/Podman), utilisation de l'API REST, et mesures de sécurité robustes (TLS, mTLS, etc.)
- Effectuer des transformations avancées de données : Appliquer un mappage avancé de colonnes, un filtrage et une utilisation des fonctions pour simplifier le traitement des données
- Optimiser l'efficacité opérationnelle : Réduisez les temps d'arrêt, diminuez les coûts et améliorez la fiabilité du système grâce aux meilleures pratiques de configuration et de maintenance GoldenGate.

**Public**

Cette formation Oracle GoldenGate 26ai s'adresse aux consultants technique, administrateurs de base de données, responsables de la configuration des systèmes, administrateurs de data warehouse, analystes de data warehouse et concepteurs de base de données.

## Prérequis

Familiarity with Oracle Database and basic SQL using SQL\*Plus, familiarity with editing Linux text files using gedit or vi.

Avoir suivi la formation [GoldenGate Fundamentals](#) ou disposer de compétences équivalentes

Compréhension de l'anglais et du vocabulaire anglais spécifique IT.

Vous souhaitez faire vérifier vos prérequis ? Contactez-nous pour l'organisation d'un entretien téléphonique avec un de nos consultants formateurs.

## Programme de la formation

### Instantiation

- GoldenGate Multicloud
- GoldenGate as part of Oracle AI Database @ Google Cloud
- Architecture
- What is Instantiation?
- Instantiation Methods
- Instantiation Method Process
- Instantiation Using GoldenGate Initial Load
- Instantiation Initial Load Method
- Creating an Initial Load Extract
- Prerequisites
- Step 1: Add Continuous Replication Extract
- Step 1: Add Continuous Replication Extract – Cont
- Step 2: Start Continuous Replication Extract
- Step 3: Perform the Initial Load
- Step 3: Perform the Initial Load – Cont
- Step 4: Route Initial Load Data to the Target
- Step 5: Add/Start Continuous Replication DistPath
- Step 6: Add/Start Target System Replicat
- Instantiation Using Oracle Data Pump
- Instantiation Using Oracle Data Pump
- Instantiation Using Oracle Data Pump
- Instantiation Using Oracle RMAN
- Instantiation Using RMAN
- Instantiation for a Standby system
- Instantiation Using Data Guard / Active Data Guard

### DownStream Capture

- DownStream Capture: Mine the Logs on a Different Database
- DownStream Capture for Oracle GoldenGate 26ai Deployment
- Configure DownStream Capture

- DownStream Capture with a DownStream Database
- Configuration Source and DownStream Database for Downstream Capture
- Task 1: Database Parameter Settings for GoldenGate
- Task 2: Configure Source and Mining Databases
- Task 3: Configure DownStream Database
- Archive Logs in Downstream Capture
- Task 3: Configure DownStream Database
- Task 4: Oracle GoldenGate 26ai for DownStream Database
- Cascaded DownStream with Active Data Guard
- Cascaded DownStream with Active Data Guard (ADG)

## **Maximum Availability Architecture (MAA)**

- Impact of Downtime
- Key Terminology
- Existing High Availability Topologies: On-Premises
- Oracle GoldenGate 26ai MAA Best Practices
- HUB & Data Hosted
- Existing High Availability Topologies: On-Premises
- GoldenGate 26ai Hub MAA Configuration
- Existing High Availability Topologies: On-Premises
- Local GoldenGate MAA Configuration: Using Database File System (DBFS)
- Existing High Availability Topologies: Hyperscalers
- Managing Traffic to the Database
- Reducing Planned Outages for Application Changes
- GoldenGate and EBR to Further Protect Your Applications
- Edition-Based Redefinition
- GoldenGate and EBR to Further Protect Your Applications
- Oracle GoldenGate 26ai Architecture

## **Active-Active**

- What is Active-Active?
- Considerations when Designing Active-Active
- Supplemental for Active-Active
- Sequences
- Sequence Strategies
- Things to remember
- Key Points on GoldenGate 26ai DDL Replication for Oracle
- Active-Active Topology Diagram
- Parameters for DDL Replication
- DDL Replication: Best Practices
- Looping
- Updating Without Loop Detection
- Data Looping

## **Conflict Detection and Resolution**

- What is a Conflict?
- Conflict Types
- Conflict Avoidance
- Avoiding, Rather than Resolving, Conflicts

- Application Segmentation Through Workload Partitioning
- Conflict Avoidance Through Data Segmentation
- Conflict Avoidance Through Sequence Generation
- Automatic Conflict Detection and Resolution
- Automatic Conflict Detection and Resolution (ACDR)
- Automatic Conflict Detection and Resolution Methods
- Configure Databases and Oracle GoldenGate 26ai for CDR Between Oracle AI Databases
- What is a Data Conflict Resolution?
- ACDR: Latest Timestamp Conflict Detection and Resolution
- DBMS\_GOLDENGATE\_ADM
- Configuring Latest Timestamp Conflict Detection and Resolution
- Configuring Column Grouping Conflict Detection and Resolution
- Configuring Delta Conflict Detection and Resolution
- ACDR: Delta Conflict Detection and Resolution
- Configuring Removing Conflict Detection and Resolution
- Manual Conflict Resolution (CompareCols / ResolveConflict)
- Configuring Oracle GoldenGate 26ai CDR
- Make Required Column Values Available to Extract
- Configure GoldenGate 26ai Parameter files for Conflict Resolution
- Configure GoldenGate 26ai Parameter file for Error Handling
- What is a Data Conflict Resolution?
- Conflict Resolution
- Making the Required Column Values Available to Extract On Parameters
- MAP Statement with Conflict Resolution Specifications
- Conflict Detection and Resolution

## **REST APIs**

- REST APIs Set Up for Oracle GoldenGate 26ai
- Rest API
- Environment Set Up for REST API Communication with Oracle GoldenGate 26ai
- Best Practice for Authentication
- cURL
- HTTP Methods
- Things to Remember
- Additional Information
- Endpoint
- How to View the restapi.log File
- Set DEBUG via Admin Client
- Use a Browser to Create REST API
- REST API Documentation
- Common Oracle GoldenGate commands Using REST APIs
- Create an Alias in the Credential Store
- Create the Distribution Path User on Target
- Create the Distribution Path Alias on the Source
- Create a Custom Profile
- Make the Custom Profile Default
- Disable Default Profile
- Create and Verify Supplemental Logging
- Create Heartbeat Table
- Create Checkpoint Table

- Create and Register the Integrated Extract Group
- Create the Distribution Path
- Create an Integrated Replicat Group
- Use REST APIs to Monitor OGG Lag

## **Data Streams**

- What is Oracle GoldenGate 26ai Data Streams?
- Oracle GoldenGate 26ai Data Streams Architecture & Components
- Oracle GoldenGate 26ai Data Streams Architecture
- Components of Oracle GoldenGate 26ai Data Streams
- Benefits of Oracle GoldenGate 26ai Data Streams
- Key Features
- Add an Oracle GoldenGate 26ai Data Streams
- Add Data Streams
- Run GoldenGate 26ai Data Streams Code Generator
- Data Streams cURL Commands
- Use a REST API to Add a Data Streams
- Other REST API Calls

## **Migration, Upgrade, and Patching**

- Oracle GoldenGate Migration Utility
- GoldenGate Migration
- Prerequisites for the Migration Utility
- GoldenGate Migration Process
- Step 1: Install Oracle GoldenGate Microservices Architecture
- Step 2: Create a Deployment (using oggca.sh)
- Step 3: Stop Classic Architecture
- Step 4: Migration Commands
- Postmigration
- Step 5: Start New Processes
- Step 6: Alter Distribution Path (Optional)
- GoldenGate Migration Use Cases
- Upgrade Oracle GoldenGate
- GoldenGate Upgrade
- Leveraging 26ai Features
- Upgrade Oracle GoldenGate Microservices: GUI Based
- Tips and Considerations Before Upgrading GoldenGate
- Additional Considerations After Upgrading GoldenGate
- Patch Oracle GoldenGate
- Patching
- Apply a Patch Using runInstaller: Out-of-Place Patching
- Update Service Manager Home: GUI Based
- Update Deployment Home: GUI Based
- Update Service Manager Home: GUI Based

## **Running GoldenGate with Containers and Kubernetes**

- Terms
- Deployment Types
- Deployment Model

- GoldenGate on Kubernetes
- GoldenGate Mesh “Advanced Installation”
- Key Features and Benefits
- Sample Deployment and Best Practices
- Steps to Deploy GoldenGate on Kubernetes
- Build, Test, Upload a Container
- Define Storage
- Define Container Deployment
- Define Network Access
- Configuration Management
- Optional: Define Monitoring Metric Export
- Additional Information

## Security Features

- GoldenGate Security Features
- GoldenGate 26ai Security Features
- Secure GoldenGate 26ai Deployments
- Authentication
- Difference Between Authentication and Authorization
- Oracle GoldenGate 26ai Authentication
- Oracle GoldenGate 26ai Authentication with User Credentials
- Oracle GoldenGate 26ai Authentication with Certificates
- Adding a Deployment
- Set OS Environment to Certificate for Secure Deployment
- Oracle GoldenGate 26ai Authentication with IAM
- Connecting Securely to Oracle GoldenGate 26ai
- Implement IAM/IDCS for GoldenGate
- Configure IAM with GoldenGate
- Configure Authorization Profile
- Enable Authorization Profile
- Authentication in GoldenGate 26ai using the Identity Cloud Service
- Database Authentication Information Used by GoldenGate 26ai
- Authorization
- Authorization in Oracle GoldenGate 26ai
- Data at Rest
- Encryption in Oracle GoldenGate 26ai
- Encrypting Trail Files
- Trail Encryption with Wallet
- Prerequisites for Configuring OCI KMS on Oracle GoldenGate 26ai
- Implement OCI KMS Encryption in GG Microservices Architecture
- Create a Master Key in OCI KMS
- Create API Key
- Create an Encryption Profile
- Assign Encryption Profile: Extract/Replicat
- Data in Transit
- Transport Layer Security
- Assign Encryption Profile: Distribution Path
- Target-Initiated Paths
- adminclient: Target-Initiated Paths

## Advance Transformation

- Data Mapping and Manipulation: Overview
- Data Transformation
- Advance Transformation Examples
- DML Statement Filtering
- GETINSERTS/IGNOREINSERTS
- GETUPDATES/IGNOREUPDATES
- GETDELETES/IGNOREDELETES
- Combination
- GETUPDATEBEFORE Image
- Column Values Functions
- @COLTEST Function
- Date Functions
- Adding or Subtracting Time from a Date Column
- Strings and Numbers Functions
- DDL Filter
- DML Conversion Parameters for Transformation

### Oracle GoldenGate Foundation Suite

- GoldenGate Foundation Suite
- Veridata
- Oracle GoldenGate Veridata
- Avoiding, Rather than Resolving, Conflicts
- Veridata Architecture
- GoldenGate Veridata: Comparison Workings
- Oracle GoldenGate Veridata Supported Databases
- Oracle GoldenGate Veridata Features Summary
- Modern User Experience
- Out-Of-Sync Report
- OEM Plug-In
- What is OEM Plug-In for Oracle GoldenGate?
- Actively Monitor and Resolve Issues
- EM Plugin for Oracle GoldenGate: Architecture
- EM Plugin Features Summary
- EM Plugin for Oracle GoldenGate: Dashboard
- GoldenGate Studio Free
- How to Replicat Data
- Connections
- Manage Pipeline
- Monitor Pipeline

## Méthodes pédagogiques

Alternance d'apports théoriques et d'exercices avec un vaste choix d'exercices pratiques et de scénarios d'atelier permettent de mettre en œuvre les connaissances acquises.

La dernière version du support en anglais est accessible en ligne. Vous aurez à votre disposition un accès contenant tous les matériels de cours de votre formation, ainsi qu'un accès à 5 h de visionnage d'une autre formation de votre choix dans la même thématique. L'ensemble sera

disponible pendant 90 jours.

## Méthodes d'évaluation des acquis

Afin d'évaluer l'acquisition de vos connaissances et compétences, il vous sera envoyé un formulaire d'auto-évaluation, qui sera à compléter en amont et à l'issue de la formation.

Un certificat de réalisation de fin de formation est remis au stagiaire lui permettant de faire valoir le suivi de la formation.