ORACLE
Consulting

# Identity Governance Service

*Core Datamodel*

*Release 1.0.0*

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# Preface

## Audience

This guide is intended for resource administrators and target system integration teams.

## Confidentiality

The material contained in this documentation represents proprietary, confidential information pertaining to Oracle products and methods.

The audience agrees that the information in this documentation shall not be disclosed outside of Oracle, and shall not be duplicated, used, or disclosed for any purpose other than to evaluate this procedure.

## Typographical Conventions

The following text conventions are used in this document.

| Convention | Meaning |
|---|---|
| boldface | Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary. |
| *italic* | Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values. |
| monospace | Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter. |

## Conventions Directory Variables

The following table explains variables that might be used in this document.

| Variable | Meaning |
|---|---|
| *JAVA_HOME* | The location where the supported Java Development Kit (JDK) was installed. |
| *ORACLE_BASE* | The base directory where Oracle products are installed. |
| *ORACLE_HOME* | The location for a product's binaries. For the application tier host computers, it should be stored on a shared disk. |
| *IGS_BASE* | The location for the *Identity Governance Service*> For the application tier host computers, it should be stored on a shared disk. |

## Symbol Conventions

The following table explains symbols that might be used in this document.

| Convention | Meaning |
|---|---|
| [ ] | Contains optional arguments and command options. |

| Convention | Meaning |
| --- | --- |
| { \| } | Contains a set of choices for a required command option. |
| ${ } | Indicates a variable reference. |
| - | Joins simultaneous multiple keystrokes. |
| + | Joins consecutive multiple keystrokes. |
| > | Indicates menu item selection in a graphical user interface. |

# Guide to IAM

Identity and Access Management (IAM) is a framework of business processes, policies and technologies that facilitates the management of electronic or digital identities. With an IAM framework in place, information technology (IT) managers can control user access to critical information within their organizations. Systems used for IAM include single sign-on systems, *two-factor authentication*, *multifactor authentication* and *privileged account management*. These technologies also provide the ability to securely store identity and profile data as well as data governance functions to ensure that only data that is necessary and relevant is shared.

IAM systems can be deployed on premises, provided by a third-party vendor through a cloud-based subscription model or deployed in a hybrid model.

On a fundamental level, IAM encompasses the following components:

- how individuals are identified in a system (understand the difference between identity management and authentication)
- how roles are identified in a system and how they are assigned to individuals
- adding, removing and updating individuals and their roles in a system
- assigning levels of access to individuals or groups of individuals
- protecting the sensitive data within the system and securing the system itself

## Why is IAM important?

Businesses leaders and IT departments are under increased regulatory and organizational pressure to protect access to corporate resources. As a result, they can no longer rely on manual and error-prone processes to assign and track user privileges. IAM automates these tasks and enables granular access control and auditing of all corporate assets on premises and in the cloud.

IAM, which has an ever-increasing list of features -- including biometrics, behavior analytics and AI -- is well suited to the rigors of the new security landscape. For example, IAM's tight control of resource access in highly distributed and dynamic environments aligns with the industry's transition from firewalls to zero-trust models and with the security requirements of IoT.

While IT professionals might think IAM is for larger organizations with bigger budgets, in reality, the technology is accessible for companies of all sizes.

# Install the Database Schema

This chapter describes how to install the *Identity Governance Services* Data Model database objects.

This guide will not detail how to set up an instance of the target database. Consult the documentation of your target database on how to do that.

> **Important**
> *Identity Governance Services* supports at the time being Oracle® as a target database only.

To install the database schema required for *Identity Governance Services*, a set of scripts provided with prepared DDL statements. Those scripts create all required tables and default indices.

To be able to install any objects you need access to the Oracle Database either locally or remotely. An installation of *SQL*Plus* is required to be able to execute the provided scripts.

> **Warning**
> The database role **DBA** is required to perform the installation.

The installation of the base objects, which are generally required for each additional service within the *Identity Governance Services*, consists of:

- Create System Objects
- Create Schema Objects

## Create System Objects

Creating the system objects leads to the creation of a tablespace and the owner of the schema with the necessary rights in the database.

To install the system objects execute the steps:

1. Open a command line for the operating system from which access to the database instance is possible.
2. Locate the directory of the provided scripts and navigate to it:

   ```
   cd <IGS_BASE>/governanceBackend/src/main/resources/igs
   ```

3. Create the storage (tablespace) and the database schema owner *igd_igs* of *Identity Governance Services* by executing the following command:

   ```
   sqlplus / as sysdba @sys
   ```

After running the script to create the system objects, the log files should be checked for any errors that may have occurred during execution. These log files are in the same directory as the script used to load the database schema (see step 3).

> **Note**
> When running the script for the first time, it is normal to encounter errors like *ORA-01918*.

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## Create Schema Objects

To install the schema objects execute the steps:

1. Open a command line for the operating system from which access to the database instance is possible.
2. Locate the directory of the provided scripts and navigate to it:

```
cd <IGS_BASE>/governanceBackend/src/main/resources/igs
```

3. Load the database schema of *Identity Governance Services* by executing the following command:

```
sqlplus / as sysdba @create
```

After running the script to create the schema objects, the log files should be checked for any errors that may have occurred during execution. These log files are in the same directory as the script used to load the database schema (see step 3).

> **Note**
> When running the script for the first time, it is normal to encounter errors like *ORA-04080* or *ORA-00942*.

# Datamodel

## User

### Properties

| Property | Value |
|---|---|
| Purpose | |
| Created | 14:33:01 11 March 2022 |
| Modified | 14:33:01 11 March 2022 |

### Attributes

| Name | Data Type | Length | Scale | Nullability | Default |
|---|---|---|---|---|---|
| id | number | 10 | 0 | NOT NULL | |
| rowversion | varchar2 | 30 | | NOT NULL | |
| created_by | varchar2 | 30 | | NOT NULL | |
| created_on | date | | | NOT NULL | |
| updated_by | varchar2 | 30 | | | |
| updated_on | date | | | NOT NULL | |
| active | number | 1 | 0 | NOT NULL | 1 |
| username | varchar2 | 36 | | NOT NULL | |
| lastname | varchar2 | 128 | | NOT NULL | |
| firstname | varchar2 | 128 | | | |
| language | char | 2 | | NOT NULL | |
| email | varchar2 | 512 | | NOT NULL | |
| phone | varchar2 | 64 | | | |
| mobile | varchar2 | 64 | | | |

### Constraints

#### *Unique Constraints*

| Name | On Column |
|---|---|
| igt_usr_uk1 | username |
| igt_usr_uk2 | email |

#### *Check Constraints*

| Name | On Column | Constraint |
|---|---|---|
| igt_usr_ck1 | active | active IN (0, 1) |
| igt_usr_ck2 | language | language IN ('ar', 'ca', 'cs', 'da', 'de', 'el', 'en', 'es', 'fi', 'fr', 'hi', 'hu', 'is', 'it', 'ja', 'ko', 'lb', 'nl', 'no', 'pl', 'pt', 'ro', 'ru', 'sk', 'sr', 'sv', 'tr', 'zh') |

### Indexes

| Name | On Columns | Type | Unique |
|---|---|---|---|
| igt_usr_pk | id | | yes |
| igt_usr_uk1 | username | | yes |
| igt_usr_uk2 | email | | yes |

### Foreign Keys

## Role

### Properties

| Property | Value |
|---|---|
| Purpose | |
| Created | 14:33:01 11 March 2022 |
| Modified | 14:33:01 11 March 2022 |

### Attributes

| Name | Data Type | Length | Scale | Nullability | Default |
|---|---|---|---|---|---|
| id | varchar2 | 30 | | NOT NULL | |
| rowversion | varchar2 | 30 | | NOT NULL | |
| created_by | varchar2 | 30 | | NOT NULL | |
| created_on | date | | | NOT NULL | |
| updated_by | varchar2 | 30 | | | |
| updated_on | date | | | NOT NULL | |
| active | number | 1 | 0 | NOT NULL | 1 |
| display_name | varchar2 | 128 | | NOT NULL | |
| description | varchar2 | 512 | | | |

### Constraints

#### *Unique Constraints*

This table have no additional unique constraints.

#### *Check Constraints*

| Name | On Column | Constraint |
|---|---|---|
| igt_rol_ck1 | active | active IN (0, 1) |

### Indexes

### Indexes

| Name | On Columns | Type | Unique |
|---|---|---|---|
| igt_rol_pk | id | | yes |

### Foreign Keys

## User Role

### Properties

| Property | Value |
|---|---|
| Purpose | |
| Created | 14:33:01 11 March 2022 |
| Modified | 14:33:01 11 March 2022 |

### Attributes

| Name | Data Type | Length | Scale | Nullability | Default |
|---|---|---|---|---|---|
| usr_id | number | 10 | 0 | NOT NULL | |
| rol_id | varchar2 | 30 | | NOT NULL | |
| rowversion | varchar2 | 30 | | NOT NULL | |
| created_by | varchar2 | 30 | | NOT NULL | |
| created_on | date | | | NOT NULL | |
| updated_by | varchar2 | 30 | | | |
| updated_on | date | | | NOT NULL | |

### Constraints

#### *Unique Constraints*

This table have no additional unique constraints.

#### *Check Constraints*

This table have no additional check constraints.

### Indexes

| Name | On Columns | Type | Unique |
|---|---|---|---|
| igt_url_pk | usr_id, rol_id | | yes |
| uit_url_usr_fk | usr_id | | no |
| uit_url_rol_fk | rol_id | | no |

### Foreign Keys