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# Get Started with Database Multi-tenancy in OpenEdge Management

OpenEdge®

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# Preface

## Purpose

This manual describes how to get started with database multi-tenancy.

## Audience

This manual is intended for OpenEdge Management users as well as OpenEdge Management database and system administrators.

## Organization

Get Started with Multi-tenancy in the Database Administration Console on page 9

Describes how to get started in the console by setting up a multi-tenant database and working with the database and its tenants, users, and contents.

## Documentation conventions

See Documentation Conventions for an explanation of the terminology, format, and typographical conventions used throughout the OpenEdge content library.

# 1

# Get Started with Multi-tenancy in the Database Administration Console

OpenEdge Management includes the Database Administration Console, the configuration tool that allows you to manage and work with databases enabled for multi-tenancy. Integrated into the OpenEdge Management management console, the Database Administration Console allows you to perform a variety of different tasks related to multi-tenancy, such as configure connections for local and remote databases; work with database tenants, sequences, users, domains, and groups; update database schema, and create and work with tenant templates.

The following topics get you started with setting up a multi-tenant database and lead you to the point where you can work with the database and its tenants, users, and contents. The guide is designed to be used in conjunction with *Configure Database Multi-tenancy with OpenEdge Management*.

For details, see the following topics:


- Overview of steps to get started with a multi-tenant database
- Step 1: Start the Database Administration Console in OpenEdge Management
- Step 2: Access the Database Administration Console
- Step 3: Add a database connection
- Step 4: Enable the database for multi-tenancy
- Step 5: Create a super-tenant
- Step 6: Create a domain for the super-tenant
- Step 7: Add a user for the super-tenant
- Step 8: Set up the super-tenant's database login user credentials

- Step 9: Create a regular tenant, its domain, and its users
- Step 10: Enable tables for multi-tenancy
- For more information about multi-tenancy in OpenEdge

# Overview of steps to get started with a multi-tenant database

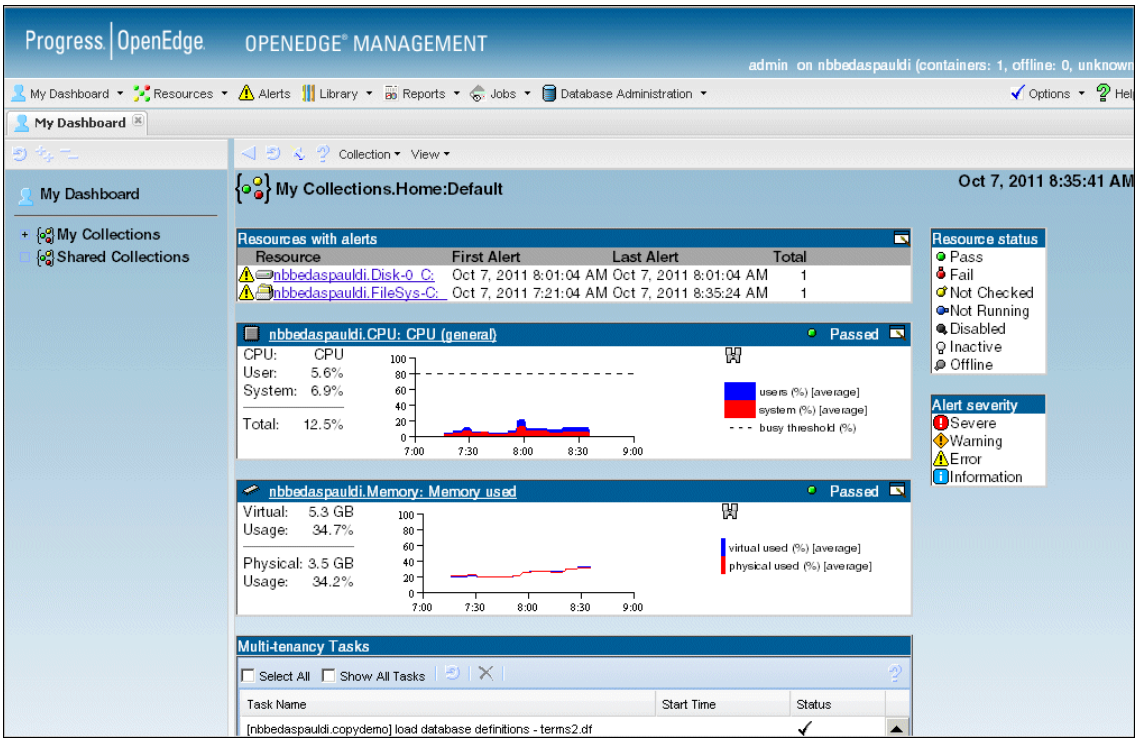
The focus of this topic is on getting you up and running with a database enabled for multi-tenancy. The topic begins at the point at which you've completed your OpenEdge installation and are logging into the Database Administration Console, which is a component of the larger OpenEdge Management management console. As you follow the steps provided, you will be guided through setting up a database connection; setting up a super-tenant, its domain, and its users; establishing secure login credentials for the super-tenant; and converting existing tables so that they are enabled for multi-tenancy or creating new tables and then enabling them.

These topics do not tell you **how** to perform the various tasks related to multi-tenancy. Instead, you are provided with with a roadmap and recommendations for starting to work with multi-tenancy. Included are the tasks you must perform to configure a database for multi-tenancy and then be able to work with and manage tenants and data in the database.

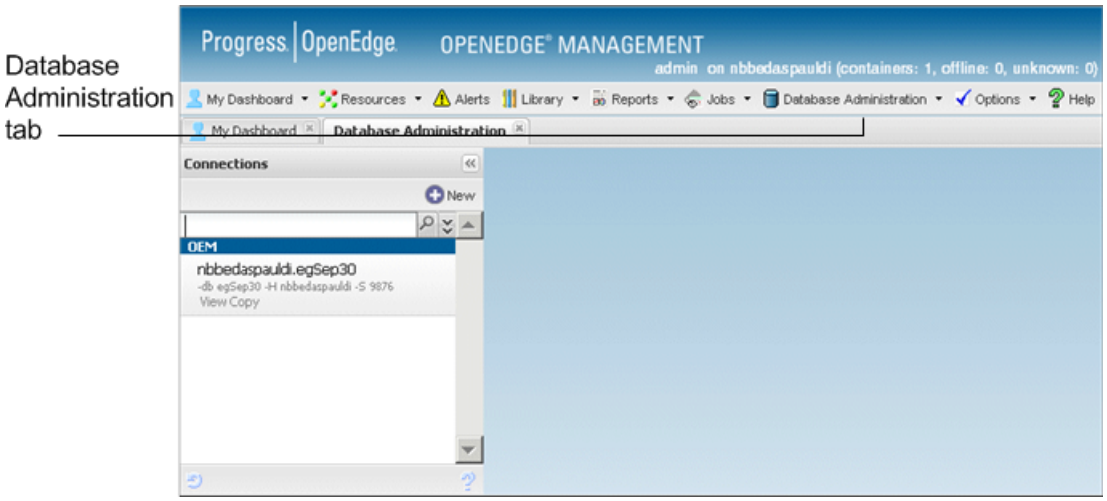
# Step 1: Start the Database Administration Console in OpenEdge Management

After you complete the OpenEdge installation, you can start the Database Administration Console in OpenEdge Management. Note that these topics refer to two consoles:

- The OpenEdge Management management console, which comprises functionality for following areas, as indicated by the tabs in the menu bar: **My Dashboard**, **Resources**, **Alerts**, **Library**, **Reports**, **Jobs**, **Database Administration**, **Options**, and **Help**:




- The Database Administration Console, accessible from within the management console by the **Database Administration** tab:




OpenEdge Management runs in a web browser, making it accessible in Windows and on supported UNIX platforms. Progress recommends that you use a recent version of a common web browser to take full advantage of the functionality.

To start the Database Administration Console in OpenEdge Management in a browser and then log in:

1. Choose one:

   - Open a web browser, and enter the URL `http://host:port` in the address or location field. The host is the name of the machine where OpenEdge Management is installed. The default port is 9090.
   - From the Windows Desktop on your local host, select **Start** > **Programs (or All Programs)** > **Progress** > **OpenEdge** > **Database Administration Console**> to start OpenEdge Management.

The logon window appears.

2. Provide the user name and password. The first time you log on to OpenEdge Management, you must use the default user name, which is **admin**, and the default password, which is **admin**.
3. Do the following:
   a) Complete the **OpenEdge Management Configuration** page to make your initial configuration choices.

      This includes resetting your login password, choosing whether to have OpenEdge Management started automatically, choosing a location for the OpenEdge Management Trend Database, specifying the web server port, choosing the e-mail server and default email recipient, and establishing SNMP Adapter settings.

      Click **Submit**.

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| For details, see: | "Choose initial configuration options" in *Introduction to OpenEdge Management* |

   b) Complete the **Getting Started** page.

      This includes adding one or more external databases and defining monitoring and trending options for file systems and disks.

      Click **Submit**.

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| For details, see: | "Set up the Getting Started page for OpenEdge Management" in *Introduction to OpenEdge Management* |

4. Click **OK** to restart the web server, and then log in with your user name and new password.

# Step 2: Access the Database Administration Console

After you log in, you can begin working with multi-tenancy in the Database Administration Console.

From the management console menu bar, click the **Database Administration** tab. A **Connections** view opens in the left pane.

# Step 3: Add a database connection

To work with a database in the Database Administration Console, you must have a connection established for it.

You can configure any of the following database connections:

- A managed connection, which refers to a database that is either of the following:
  - **Managed database**—A database that is being managed by OpenEdge Management. The database can reside on the local host or on a remote AdminServer. For a managed database, the connection is made through shared memory.

    - **Scripted database**—A database that you start with a script outside of the OpenEdge Management environment. The database can reside on the local host or on a remote AdminServer.

- An unmanaged database connection, which refers to a database that:
    - Is not being managed by OpenEdge Management.
    - You are using only to perform database administration tasks related to multi-tenancy.

  This type of database connection is new in this release of OpenEdge.

Decide if the connection you are setting up will be to a database on a local machine or a remote machine. If you want to set up a connection to a database on a remote machine, you must **first** set up remote configuration.

You can then set up the local or remote database connection.

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| For details about setting up a remote configuration **before** setting up the database connection, see: | **1.** "Review the remote configuration requirements" in *Configure Database Multi-tenancy with OpenEdge Management*<br>**2.** "Unglue OpenEdge Management from OpenEdge" in *Configure Database Multi-tenancy with OpenEdge Management*<br>**3.** "Set up the connection" in *Configure Database Multi-tenancy with OpenEdge Management* |

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| For details about setting up a database connection, see: | **1.** "User credentials considerations" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 4: Enable the database for multi-tenancy

You can enable a database for multi-tenancy in either of the following ways:

- By using the following command from the folder where the database resides:

  ```
  proutil <database-name> -C enableMultitenancy
  ```

- From the Database Administration Console.

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| For details, see: | "Enable a database for multi-tenancy" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 5: Create a super-tenant

After you enable a database for multi-tenancy, create a super-tenant.

There are three varieties of tenants:

- **Super-tenant**—A tenant that does not have its own data but can access all shared tables and all multi-tenant data in the database.
- **Regular tenant**—A tenant that can access its own data, data for any other tenants in the same tenant group, or data in shared tables. (A shared table is one whose data is available to all tenants in the database.)
- **Default tenant**—A tenant that does not establish tenancy as part of authentication to the database. Because the user has not established tenancy, the default tenant can access only shared table data within the database or the default partition of a multi-tenant table. There is only one default tenant per multi-tenant database.

Progress recommends that you set up at least one super-tenant to manage the database, and it is likely that you will want to set up at least one regular tenant as well.

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| For details, see: | "Create a new tenant for a multi-tenant database" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 6: Create a domain for the super-tenant

For each tenant, you must create a domain. There are several predefined domains available for the database, or you can create your own. You can have multiple domains per tenant.

Start by creating a domain for the super-tenant.

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| For details, see: | "Add a tenant domain" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 7: Add a user for the super-tenant

After you have added a domain, you must create a user who can log in to the super-tenant in the database. You can have multiple users per domain.

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| For details, see: | "Add a user to a tenant" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 8: Set up the super-tenant's database login user credentials

By default, connections for databases defined in OpenEdge Management use the blank user ID. In order to access tenant data, you must set up the database connection to use the credentials for either a user for a regular tenant or for a super-tenant. Because super-tenants can access all users' data, establishing a database connection as a super-tenant will allow you to perform operations such as dumping and loading of data and editing sequences for any tenant. If you establish a connection with the credentials of a user for a regular tenant, you can perform operations for only that tenant.

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| For details, see: | "Set up a database connection login" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 9: Create a regular tenant, its domain, and its users

After you create and establish credentials for logging in to a super-tenant, create a regular tenant, its domain, and one or more of its users.

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| For details, see: | **1.** "Create a new tenant or tenant program" in *Configure Database Multi-tenancy with OpenEdge Management*<br>**2.** "Add a tenant domain" in *Configure Database Multi-tenancy with OpenEdge Management*<br>**3.** "Add a user to a tenant" in *Configure Database Multi-tenancy with OpenEdge Management* |

# Step 10: Enable tables for multi-tenancy

From the management console, you can choose one or more tables not enabled for multi-tenancy, and enable them. You can then make decisions about partition allocation for any of the table's fields and indexes that have not yet been allocated.

Note that when you enable a table for multi-tenancy, you are affecting all tenants for a selected database.

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| For details, see: | "Enable a table for multi-tenancy" in *Configure Database Multi-tenancy with OpenEdge Management* |

# For more information about multi-tenancy in OpenEdge

In addition to the getting started information provided in this guide, there are other sources of information available to you about multi-tenancy.

*Configure Database Multi-tenancy with OpenEdge Management*—Describes in detail how to configure database connections, manage multi-tenancy-enabled databases, work with tenants, upload tenant schema changes, manage users and domains, work with tenant templates and groups, and manage sequences and sequence values.

*Introduction to OpenEdge Management*—Describes multi-tenancy, provides details about its features, and includes a glossary of terms.

In addition to these documents, see Table partitioning and multi-tenancy overview on the OpenEdge Information Hub.