

# Oracle® Banking Treasury Management

## Length Semantics Setup Guide



Release 14.7.0.0.0  
F71205-01  
November 2022

ORACLE®

F71205-01

Copyright © 2020, 2023, Oracle and/or its affiliates.

This software and related documentation are provided under a license agreement containing restrictions on use and disclosure and are protected by intellectual property laws. Except as expressly permitted in your license agreement or allowed by law, you may not use, copy, reproduce, translate, broadcast, modify, license, transmit, distribute, exhibit, perform, publish, or display any part, in any form, or by any means. Reverse engineering, disassembly, or decompilation of this software, unless required by law for interoperability, is prohibited.

The information contained herein is subject to change without notice and is not warranted to be error-free. If you find any errors, please report them to us in writing.

If this is software, software documentation, data (as defined in the Federal Acquisition Regulation), or related documentation that is delivered to the U.S. Government or anyone licensing it on behalf of the U.S. Government, then the following notice is applicable:

U.S. GOVERNMENT END USERS: Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs) and Oracle computer documentation or other Oracle data delivered to or accessed by U.S. Government end users are "commercial computer software," "commercial computer software documentation," or "limited rights data" pursuant to the applicable Federal Acquisition Regulation and agency-specific supplemental regulations. As such, the use, reproduction, duplication, release, display, disclosure, modification, preparation of derivative works, and/or adaptation of i) Oracle programs (including any operating system, integrated software, any programs embedded, installed, or activated on delivered hardware, and modifications of such programs), ii) Oracle computer documentation and/or iii) other Oracle data, is subject to the rights and limitations specified in the license contained in the applicable contract. The terms governing the U.S. Government's use of Oracle cloud services are defined by the applicable contract for such services. No other rights are granted to the U.S. Government.

This software or hardware is developed for general use in a variety of information management applications. It is not developed or intended for use in any inherently dangerous applications, including applications that may create a risk of personal injury. If you use this software or hardware in dangerous applications, then you shall be responsible to take all appropriate fail-safe, backup, redundancy, and other measures to ensure its safe use. Oracle Corporation and its affiliates disclaim any liability for any damages caused by use of this software or hardware in dangerous applications.

Oracle®, Java, and MySQL are registered trademarks of Oracle and/or its affiliates. Other names may be trademarks of their respective owners.

Intel and Intel Inside are trademarks or registered trademarks of Intel Corporation. All SPARC trademarks are used under license and are trademarks or registered trademarks of SPARC International, Inc. AMD, Epyc, and the AMD logo are trademarks or registered trademarks of Advanced Micro Devices. UNIX is a registered trademark of The Open Group.

This software or hardware and documentation may provide access to or information about content, products, and services from third parties. Oracle Corporation and its affiliates are not responsible for and expressly disclaim all warranties of any kind with respect to third-party content, products, and services unless otherwise set forth in an applicable agreement between you and Oracle. Oracle Corporation and its affiliates will not be responsible for any loss, costs, or damages incurred due to your access to or use of third-party content, products, or services, except as set forth in an applicable agreement between you and Oracle.

# Contents

## Preface

---

|                            |    |
|----------------------------|----|
| Audience                   | iv |
| Acronyms and Abbreviations | iv |
| Related Resources          | iv |

## 1 Length Semantic Setup

---

|                |     |
|----------------|-----|
| 1.1 Background | 1-1 |
| 1.2 Approach   | 1-1 |

# Preface

This manual explains the steps to setup session-level character length semantics during Oracle Banking Treasury Management installation.

The images used in the documentation are of illustration purpose and need to be used only for reference.

This preface has the following topics:

- [Audience](#)
- [Acronyms and Abbreviations](#)
- [Related Resources](#)

## Audience

This guide is intended for anyone responsible for installing Oracle Banking Application.

## Acronyms and Abbreviations

The acronyms and abbreviations are listed in this below table:

**Table 1 Acronyms and Abbreviations**

| Abbreviations or Acronyms | Definition                         |
|---------------------------|------------------------------------|
| DV                        | Derivatives                        |
| ETD                       | Exchange Traded Derivatives        |
| FX                        | Foreign Exchange                   |
| MM                        | Money Market                       |
| OBTR                      | Oracle Banking Treasury Management |
| ODT                       | Open Development Tool              |
| OT                        | Over the Counter Options           |
| SE                        | Securities                         |
| SR                        | Securities Repo                    |

## Related Resources

For more information, see these Oracle Banking Treasury Management resources:

- *Oracle Banking Treasury Management Release Notes*

- *Oracle Banking Treasury Management Installer Index*
- *Oracle Banking Treasury Management Installer Prerequisite*

# 1

## Length Semantic Setup

Oracle Banking Treasury Management supports multi-byte characters by means of setting session-level character length semantics during OBTR installation using the NLS\_LENGTH\_SEMANTICS parameter of Oracle Database.

Most of the application code is written without explicit length semantics (BYTE or CHAR) and, hence, adapts to the session-level semantics during compilation at the time of OBTR installation.

This topic has the following sub-topics:

- [Background](#)
- [Approach](#)

### 1.1 Background

NLS\_LENGTH\_SEMANTICS parameter allows you to specify the length of a column datatype/PLSQL variable in terms of characters (CHAR) instead of the default BYTE. Typically, you would need this if you were to deal with (in PL/SQL code) and store data that contains multibyte characters such as Japanese or Mandarin characters.

Oracle strongly recommends that you do not set NLS\_LENGTH\_SEMANTICS parameter on instance level (i.e. in the server parameter file) but only use it to alter session-level semantics as necessary. From MOS note 144808.1:

“Oracle advises to use explicit CHAR semantics in the SQL or PL/SQL syntax OR To make sure your application does an "ALTER SESSION SET NLS\_LENGTH\_SEMANTICS=CHAR;" when connecting if CHAR semantics is required but the semantic is not defined explicit in SQL.”

Based on this note and other available documentation for the parameter, we recommend an approach in the next section, which should be followed in sites where multi-byte character support is required.



#### Note:

SR with oracle mentioned below is feasible. (SR 3-16364463401)

### 1.2 Approach

In situations where PL/SQL code would interact with multi-byte character data and the same kind of data would be stored in OBTR tables, follow below approach: Please note the approach is suggested for 12c and above Database version only.

1. . Complete the database installation and set up as per the Oracle OBTR Database Best Practices for your OBTR release.

2. Immediately after creating the OBTR application user (schema), create a logon trigger as the SYS user to alter each new session so that the session-level length semantics are maintained as CHAR for the user at all times. For example, if the schema name were OBTR and the trigger was named "FCUSER\_LOGON", the trigger would look like: 

```
CREATE OR REPLACE TRIGGER SYS.FCUSER_LOGON AFTER
LOGON ON OBTR.SCHEMA BEGIN EXECUTE IMMEDIATE 'alter session set
nls_length_semantics=CHAR'; END;
```
3. Proceed with the rest of the OBTR installation as per the installation documents. In situations where an operation results in OBTR objects being invalidated, make sure the objects are re-compiled either:
  - a. By the OBTR schema user using one of the following options:
  - b. SYS.UTL\_RECOMP.RECOMP\_PARALLEL procedure
  - c. SYS.UTL\_RECOMP.RECOMP\_SERIAL procedure
4. By a user with appropriate privileges on SYS.UTL\_RECOMP package (such as the SYS user) using one of the following options only:
  - a. SYS.UTL\_RECOMP.RECOMP\_PARALLEL procedure
  - b. SYS.UTL\_RECOMP.RECOMP\_SERIAL procedure

Oracle OBTR strongly advises against manually compiling OBTR schema objects (using ALTER...COMPILE) as a non-OBTR application user when length semantics of CHAR are being enforced. Such an attempt may change the NLS\_LENGTH\_SEMANTICS parameter setting of the PL/SQL objects to BYTE and this may result in runtime exceptions within the application, such as: "ORA-06502- PL/SQL: numeric or value error: character string buffer too small".

**Note:**

If the OBTR schema is ever re-compiled using SYS.DBMS\_UTILITY.COMPILE\_SCHEMA in an environment that is using CHAR semantics, then it must be ensured that for the user executing the procedure, the session-level NLS\_LENGTH\_SEMANTICS parameter is set to CHAR. This is because while SYS.UTL\_RECOMP.x procedures re-use existing PL/SQL object settings, SYS.DBMS\_UTILITY.COMPILE\_SCHEMA compiles the objects with the NLS settings of the invoking user's session and may alter the PL/SQL object settings of the objects (including length semantics).