



ENOVIA SmarTeam

**SmartDBRepairing
User Guide**

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Chapter 1: Introduction

The SmartDBRepairing utility provides an easy access to SmarTeam administration and maintenance features.

It includes the following functions:

- General Functions
- Multi-site Related Functions

General Functions

- Validating and Repairing Database Indices – important for maintaining database performance and integrity
- Name Shortening
- Fix Last Object ID

Multi-site Related Functions

- Fix 28 characters issue
- Leaf Classes Clean Up
- Clean Up SmarTeam schema

Related Documentation

Related SmarTeam documentation is available on the ENOVIA SmarTeam Documentation CD and on the SmarTeam Internet site.

Chapter 2: Setting Up SmartDBRepairing for Oracle Databases

Connecting SmartDBRepairing to Oracle

For SmartDBRepairing to function with Oracle databases, you must set up the communication between the Oracle client on which SmartDBRepairing is operating and the Oracle database server where the target SmartTeam database resides.

Setting Oracle Connection Parameters

Set the `sqlnet.ora` parameters at all clients and servers at

<Oracle-Home>\Network\Admin (for example:

D:\Oracle\Ora92\Network\Admin) according to the following table:

sqlnet.ora Parameter	Set to:
SQLNET.AUTHENTICATION_SERVICES	Disable by: <ul style="list-style-type: none"> Adding remark (#) sign at beginning of line Or <ul style="list-style-type: none"> Setting parameter to NONE
NAMES.DEFAULT_DOMAIN	Disable by adding remark (#) sign at beginning of line. Note: If this parameter is not present in the file it is not required.

Oracle Database Names

The following three names are used in connection with Oracle databases:

- ❑ **tnsNames Alias** – The tnsNames Alias of a server is an alias, which allows a client to connect to the database on the server. It is defined by a record in a `tnsnames.ora` file located in <Oracle_Home>\NETWORK\ADMIN directory at every client and server – where the server acts as a client. To identify the tnsNames alias of a server, use the Net8 Assistant utility from the Oracle Start menu.
- ❑ **Database Service Name (SID)** – The Database Service Name is a name that connects an Oracle Database to an Oracle listener. To identify the Database Service Name use the Net8 Assistant utility on the server and from the Oracle Start menu look in the Service Name field of the appropriate database alias.
- ❑ **Global Database Name** – The Global Database Name is the name of the Oracle instance.. To identify the Global Database Name:
 - Open SQL Plus.
 - Connect to the database under DBA user authority (SYS or SYSTEM).
 - Issue this command:

```
select * from global_name
```
 - The Global Name is displayed.

Coordinating Oracle Database Names

To ensure that Oracle works in the Multi-site environment:

- The tnsNames Alias of a server as it appears at each client and server must be identical to the Global Database Name on that server.
- The database Global Database Name must be the same as Database Service Name.

Changing the tnsNames Service Name

- If the tnsNames Alias is different from the Global Database Name, use the Net8 Assistant utility on the client or server from the Oracle Start menu and rename the tnsNames Alias to be the same as the Global Database Name.

Changing the Global Database Name

If the Global Database Name is not the same as Database Service Name:

1. Rename the Global Name to conform to the Database Service Name in SQL
Plus as follows:

```
alter database rename global_name to  
name.your_company
```

where

name.your_company is a name that uniquely identifies the site, such as
HQ.smartteam.com.

2. Check the Global Database Name again. If it has not changed, use the
command:

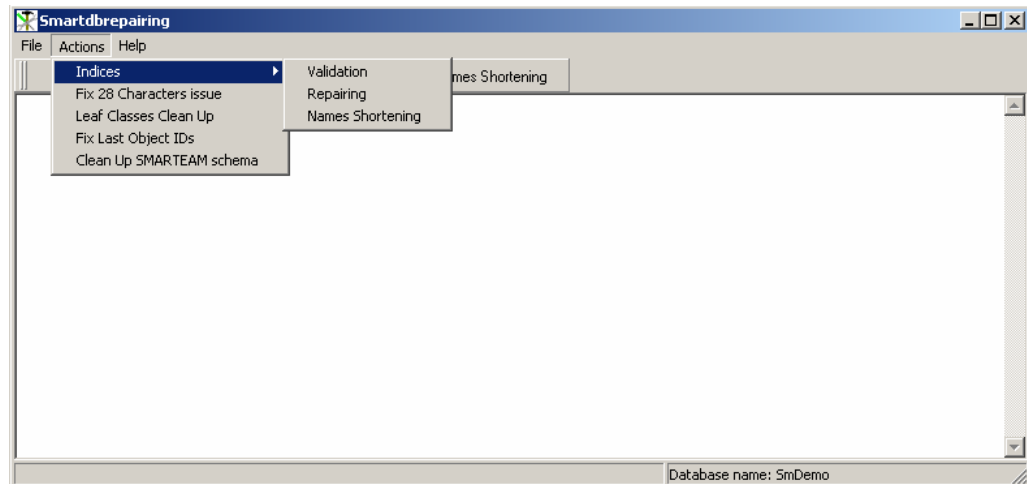
```
update global_name set  
global_name='name.your_company' ;  
commit;
```

Chapter 3: General Database Functions

This chapter describes how to use SmartDBRepairing to perform general database functions, including:

- Fixing Database Indices
- Name Shortening
- Fix Last Object ID

The menus appear as follows:



Fixing Database Indices

This feature provides a functionality to check and correct SmarTeam database indices. You may need to re-build indices in the following situations:

1. As is well known in database administration, significant workload may cause index de-optimization, with a subsequent degradation in performance. Rebuilding the indices restores the optimal structure, improving performance.
2. In Oracle, it is possible to move indices to the tablespace, located on a separate storage device. This may improve I/O parameters.
3. Indices may be absent because of database corruption or because of a mistake on the part of the SmarTeam Administrator.

The function operates as follows:

1. From the Actions menu, select **Indices** > **Validation** to check indices and null values in the database.
2. If a problem is detected, select **Indices** > **Repairing** to fix all indices.

Index Names Shortening

This function shortens index names in a SmarTeam database to a maximum of 18 characters (when two indices have the same first 18 characters, unique names are created).

It can be used when copying a SmarTeam database to DB2 using the SmartDBExplorer application. Index names in DB2 cannot exceed 18 characters in length.

During the copy operation, the SmartDBExplorer creates index names in the DB2 destination exactly as they appear in the source SmarTeam database – without checking the length of the index names. This can cause an error when the index name length limit is exceeded. Therefore it is recommended to run this utility to shorten index names prior to copying the SmarTeam database to DB2.

Fix Last Object ID

SmarTeam maintains its internal integrity by using the `OBJECT_ID` – the number that is unique for all objects of all classes. Every time a user adds an object, the internal `OBJECT_ID` counter increments.

Occasionally, due to network failures or user-defined script issues, this process may be interrupted. When that happens, the SmarTeam internal counter fails to advance, and the next time a user tries to create a new object, an `OBJECT_ID` duplication error appears.

One of the methods available to fix this type of database corruption is running the Data Model Designer. The Data Model Designer rebuilds the last `OBJECT_ID` counter as a part of its data model change process. However, this procedure may take significant time to execute.

Therefore, there is a separate feature provided in the SmartDBRepairing utility that fixes the last object id counter without changing the data model.

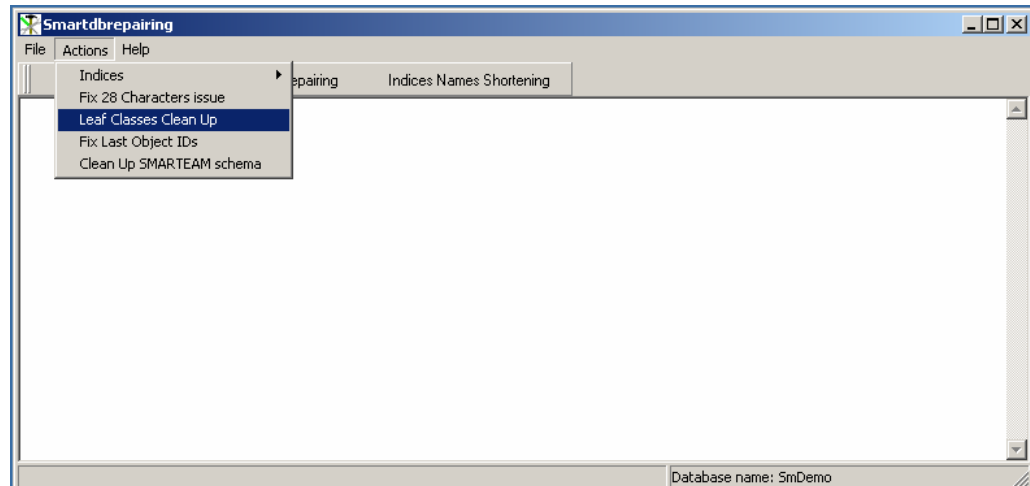
Prior to running this feature, you should ensure that there are no end-users connected to the SmarTeam database.

Chapter 4: Multi-site Database Functions

This chapter describes how to use SmartDBRepairing to perform Multi-site database functions, including:

- Truncate Field Name Length
- Clean up Leaf Classes
- Clean Up SmarTeam Schema

The menus appear as follows:



Fix 28 Characters Issue

You can use the SmartDBRepairing utility to automatically correct any field names that exceed 28 characters in length. This is done by selecting the Fix 28 Characters Issue from the Actions Menu.

SmarTeam – Multi-site requires that the Oracle table names that participate in database replication do not exceed 28 characters in length. Some legacy SmarTeam databases may contain column names whose length exceeds 28 characters. The SmartDBRepairing utility truncates these column names to 28 characters.

Note: Since the SmartDBRepairing utility truncates field names to 28 characters, any existing SmarTeam scripts that use attributes that represent Oracle table fields need to be changed to reflect the new truncated field names. The new field names are listed in the report produced by SmartDBRepairing application.

Leaf Classes Clean up

Some legacy SmarTeam databases may have records in the leaf classes that do not have a corresponding record in their respective super-classes. These records must be cleaned up prior to the SmarTeam - Multi-site setup. This is done by selecting Leaf Classes Clean Up from the Actions Menu.

Clean Up SmarTeam Schema

This feature could be used when you want to clean database objects created by SmarTeam – Multi-site applications from a SmarTeam schema. This is done by selecting Clean Up SmarTeam Schema from the Actions Menu.

This may be required when you create an Oracle dump file of the SmarTeam schema on a SmarTeam – Multi-site Primary Site to make experiments on it in a stand-alone environment. That dump usually contains a lot of information that is connected to the source system and that could be an obstacle to experiments in the stand-alone environment.