

# 4D for OCI®

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## *Language Reference*



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## ***4D for OCI Language Reference*** ***For Windows® and Mac OS®***

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# Introduction



4D for OCI is a set of 4th Dimension external routines that allows a 4th Dimension database to communicate with an Oracle database. Using 4D for OCI, your 4th Dimension database can display, manipulate, and modify data stored in an Oracle database.

#### About this manual

This manual details implementing, using, and modifying systems that integrate an Oracle server with a 4th Dimension database.

The manual is written for users already familiar with the 4th Dimension language as well as with Oracle's SQL language. We recommend that new users familiarize themselves with both products before continuing with this manual.

The '4D for OCI topics' section of this manual makes reference to the OCI manual provided by Oracle Corp.; this manual is required.

**Note:** The commands in this manual contain links to the commands found in the the OCI manual provided by Oracle Corp. If you wish to use these links, make sure that the 4D for OCI documentation is in the same folder as the OCI manual provided by Oracle Corp. Also, in order for the links to work properly, it is important not to modify the file names of the two manuals.

#### Cross-Platform

Oracle OCIs are available for Macintosh as well as for PC Windows, then 4D for OCI plug-in is available for both platforms.

#### 4th Dimension and 4D for OCI

4D for OCI can be used with either 4th Dimension or 4D Server. When used with 4D for OCI, 4th Dimension enables you to create a database that can become a client of the Oracle database. Each user with a copy of the database can connect to and use the Oracle database simultaneously.

4D Server allows you to create a multi-developer database application.

When used with 4D for OCI, 4D Server allows multiple developers to connect to an Oracle database.

In this manual, 4th Dimension and 4D Server are both referred to as 4th Dimension except when there is a difference between the two products.

#### Conventions

This manual uses certain conventions to help you understand the material.

The following explanatory notes are used:

**Note:** Text emphasized like this provides annotations and shortcuts that will have you use 4th Dimension more effectively.

**Warning:** Warnings like this alert you to situations where data might be lost.

In this manual, 4D for OCI commands are printed in all uppercase letters, for example: OCIRawPtr.

In addition, all table names are shown in brackets in the text to help distinguish them from the names of fields, forms, and other items. For instance, the "Companies" table is written as the [Companies] table.

### Overview

4D for OCI is a set of 4th Dimension external routines that allow a 4th Dimension database to communicate with an Oracle database. Using 4D for OCI, your 4th Dimension database can display, manipulate, and modify data stored in an Oracle database.

With 4D for OCI, 4th Dimension becomes a front-end to an Oracle database. This configuration allows you to do the following:

- Present a fully customized 4th Dimension interface, complete with custom menus and forms,
- Use the data storage and disk access capabilities of Oracle to create a powerful data management system.
- Create multiple 4th Dimension databases that access the same Oracle database.

### Using OCI and supporting SQL\*Net

4D for OCI uses Oracle Call Interfaces (OCI) to take full advantage of Oracle features. 4D for OCI requires the OCI driver file provided by Oracle Corporation. This driver file works with Oracle as well as SQL\*Net.

**Note:** The minimum version of OCI is 8.1.6.

4D for OCI can be used with either 4th Dimension or 4D Server. When used with 4D for OCI, 4th Dimension enables you to create a database that can become a client of the Oracle database. Each user with a copy of the database can simultaneously connect to and use the Oracle database.

4D Server enables you to create a multi-developer database application. When used with 4D for OCI, 4th Dimension and 4D Server allow multiple developers to connect to an Oracle database. Although the clients are still connected to a server running 4th Dimension, the clients communicate directly with the Oracle server to display and modify data.

### Presentation

4D, SA provides a 4D component allowing easy migration from 4D for Oracle to 4D for OCI: OCI\_Mapper. It is strongly advised to read the 4D Insider manual for more information on components and their installation.

OCI\_Mapper redirects 4D for Oracle commands to 4D for OCI commands.

The component source code is open; you may very well be inspired for your own developments.

### Installation

It is important to respect the following order as not to lose the tokenization of 4D for Oracle commands.

1. Open the database with 4D Insider.
2. Install the OCI\_Mapper component.
3. Quit 4D Insider.
4. Remove 4D for Oracle from the Win4DX and Mac4DX folders.
5. Install the 4D for OCI plug-in in the Win4DX folder.
6. Open the database with 4D.

**Important:** It is important that you call the *InitVarOCI* method from the "On startup" database method in order to initialize the component before using it.

### Limitations

OCI\_Mapper does not support context and high-level environments. The supported commands are thus low-level:

- OD BIND TOWARDS 4D
- OD BIND TOWARDS SQL
- OD Create cursor
- OD Cursor state
- OD DROP CURSOR
- OD EXECUTE CURSOR
- OD GET COLUMN ATTRIBUTES
- OD Get column title
- OD Load rows cursor
- OD Login
- OD login dialog
- OD LOGOUT
- OD Number of columns
- OD Set SQL in cursor.

OCI\_Mapper cannot be used in conjunction with 4D for Oracle.





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## Using OCI parameters



The structure of dates is different between 4D and Oracle. Oracle includes the time in date fields while 4D sets a specific variable for time. As a result, when passing OCI date parameters, the Oracle dates were divided into date and time.

#### Example

The [OCIDateToText](#) command initially accepts a date (*date*) as the second parameter and then its format (*fmt*) as the third parameter.

As for 4D for OCI, the date (*date*) parameter becomes two different parameters for date and time and the format parameter becomes the fourth parameter.

Once a text parameter is passed, the OCIs wait after a parameter specifying the length of the text. 4D for OCI handles the passage of this parameter, which means that the developer no longer has to pass it.

#### Example

The [OCILogon](#) command initially accepts the username (*username*) as the third parameter and its length (*uname\_len*) as the fourth parameter. In this case, 4D for OCI frees the developer from passing the length parameter. Thus, the fourth parameter becomes the password (*password*).



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## Connection



OCIReset (hndlp; errhp) → status

Parameter	Type	
hndlp	Longint	→
errhp	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIReset](#) in the documentation provided by Oracle Corp.

OCISessionEnd (svchp; errhp; mode) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
mode	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCISessionEnd](#) in the documentation provided by Oracle Corp.



OCISessionBegin (svchp; errhp; usrhp; credt; mode) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
usrhp	Longint	↔
credt	Longint	→
mode	Longint	→
status	Longint	←

### Description

Please refer to the command [OCISessionBegin](#) in the documentation provided by Oracle Corp.

OCI`ServerDetach` (sr`vh`p; err`h`p) → status

Parameter	Type	
sr <code>vh</code> p	Longint	→
err <code>h</code> p	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCI`ServerDetach`](#) in the documentation provided by Oracle Corp.

OCI Server Attach (srvhp; errhp; mode) → status

Parameter	Type	
srvhp	Longint	↔
errhp	Longint	↔
mode	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCI Server Attach](#) in the documentation provided by Oracle Corp.

OCIPasswordChange (svchp; errhp; user\_name; opasswd; npasswd; mode) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	→
user_name	String	→
opasswd	String	→
npasswd	String	→
mode	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIPasswordChange](#) in the documentation provided by Oracle Corp.

OCIParamSet (hndlp; errhp; dscp; pos) → status

Parameter	Type	
hndlp	Longint	↔
errhp	Longint	↔
dscp	Longint	→
pos	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIParamSet](#) in the documentation provided by Oracle Corp.

OCIPParamGet (hndlp; errhp; parmdpp; pos) → status

Parameter	Type	
hndlp	Longint	→
errhp	Longint	↔
parmdpp	Longint	←
pos	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIPParamGet](#) in the documentation provided by Oracle Corp.

OCILogon (envhp; errhp; svchp; username; password; dbname) → status

Parameter	Type	
envhp	Longint	→
errhp	Longint	↔
svchp	Longint	↔
username	String	→
password	String	→
dbname	String	→
status	Longint	←

#### Description

Please refer to the command [OCILogon](#) in the documentation provided by Oracle Corp.

OCILogoff (svchp; errhp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCILogoff](#) in the documentation provided by Oracle Corp.



OCIBreak (hndlp; errhp) → status

Parameter	Type	
hndlp	Longint	↔
errhp	Longint	↔
status	Longint	←

**Description**

Please refer to the command [OCIBreak](#) in the documentation provided by Oracle Corp.



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## Relational Commands



OCITablePrev (env; err; index; tbl; prev\_index; exists) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
index	Longint	→
tbl	Longint	→
prev_index	Longint	←
exists	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCITablePrev](#) in the documentation provided by Oracle Corp.

OCITableNext (env; err; index; tbl; next\_index; exists) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
index	Longint	→
tbl	Longint	→
next_index	Longint	←
exists	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCITableNext](#) in the documentation provided by Oracle Corp.

OCITableLast (env; err; tbl; indx) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
tbl	Longint	→
indx	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCITableLast](#) in the documentation provided by Oracle Corp.

OCITableFirst (env; err; tbl; index) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
tbl	Longint	→
index	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCITableFirst](#) in the documentation provided by Oracle Corp.



OCITableExists (env; err; tbl; index; exists) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
tbl	Longint	→
index	Longint	→
exists	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCITableExists](#) in the documentation provided by Oracle Corp.

OCITableDelete (env; err; index; tbl) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
index	Longint	→
tbl	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITableDelete](#) in the documentation provided by Oracle Corp.

OCIRefToHex (env; err; ref; hex) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
ref	Longint	→
hex	String	←
status	Longint	←

#### Description

Please refer to the command [OCIRefToHex](#) in the documentation provided by Oracle Corp.

OCIRefIsNull (env; ref) → status

Parameter	Type	
env	Longint	↔
ref	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIRefIsNull](#) in the documentation provided by Oracle Corp.

OCIRefIsEqual (env; x; y) → status

Parameter	Type	
env	Longint	↔
x	Longint	→
y	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIRefIsEqual](#) in the documentation provided by Oracle Corp.

OCIRefHexSize (env; ref) → status

Parameter	Type	
env	Longint	↔
ref	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIRefHexSize](#) in the documentation provided by Oracle Corp.

OCIRefFromHex (env; err; svc; hex; ref) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
hex	String	→
ref	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIRefFromHex](#) in the documentation provided by Oracle Corp.

OCIRefClear (env; ref) → status

Parameter	Type	
env	Longint	↔
ref	Longint	↔
status	Longint	←

**Description**

Please refer to the command [OCIRefClear](#) in the documentation provided by Oracle Corp.



OCIRefAssign (env; err; source; target) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
source	Longint	→
target	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIRefAssign](#) in the documentation provided by Oracle Corp.

OCIRawSize (env; raw) → status

Parameter	Type	
env	Longint	↔
raw	Longint	↔
status	Longint	←

**Description**

Please refer to the command [OCIRawSize](#) in the documentation provided by Oracle Corp.

OCIRawResize (env; err; new\_size; raw) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
new_size	Longint	→
raw	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIRawResize](#) in the documentation provided by Oracle Corp.

OCIRawPtr (env; raw) → ptr

Parameter	Type	
env	Longint	↔
raw	Longint	→
ptr	BLOB	←

**Description**

Please refer to the command [OCIRawPtr](#) in the documentation provided by Oracle Corp.

OCIRawAssignRaw (env; err; rhs; lhs) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
rhs	Longint	→
lhs	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIRawAssignRaw](#) in the documentation provided by Oracle Corp.

OCIRawAssignBytes (env; err; rhs; lhs) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
rhs	Blob	→
lhs	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCIRawAssignBytes](#) in the documentation provided by Oracle Corp.

OCIRawAllocSize (env; err; raw; allocsize) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
raw	Longint	→
allocsize		←
status	Longint	←

#### Description

Please refer to the command [OCIRawAllocSize](#) in the documentation provided by Oracle Corp.

OCIIterPrev (env; err; itr; elem; elemind; boc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
itr	Longint	↔
elem	Longint	←
elemind	Longint	←
boc	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCIIterPrev](#) in the documentation provided by Oracle Corp.



OCIIterNext (env; err; itr; elem; elemind; eoc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
itr	Longint	↔
elem	Longint	←
elemind	Longint	←
eoc	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCIIterNext](#) in the documentation provided by Oracle Corp.

OCIIterInit (env; err; coll; itr) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
coll	Longint	→
itr	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIIterInit](#) in the documentation provided by Oracle Corp.

OCIIterGetCurrent (env; err; itr; elem) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
itr	Longint	→
elem	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCIIterGetCurrent](#) in the documentation provided by Oracle Corp.

OCIIterDelete (env; err; itr) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
itr	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIIterDelete](#) in the documentation provided by Oracle Corp.

OCIIterCreate (env; err; col; itr) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
col	Longint	→
itr		←
status	Longint	←

#### Description

Please refer to the command [OCIIterCreate](#) in the documentation provided by Oracle Corp.

OCIDateZoneToZone (err; date1; time1; zon1; zon2; date2; time2) → status

Parameter	Type	
err	Longint	↔
date1	Date	→
time1	Time	→
zon1	String	→
zon2	String	→
date2	Date	←
time2	Time	←
status	Longint	←

**Description**

Please refer to the command [OCIDateZoneToZone](#) in the documentation provided by Oracle Corp.

OCIDateToText (err; date; time; fmt; lang\_name; buf) → status

Parameter	Type	
err	Longint	↔
date	Date	→
time	Time	→
fmt	String	→
lang_name	String	→
buf	Date	←
status	Longint	←

**Description**

Please refer to the command [OCIDateToText](#) in the documentation provided by Oracle Corp.

OCIDateSysDate (err; sys\_date; sys\_time) → status

Parameter	Type	
err	Longint	↔
sys_date	Date	←
sys_time	Time	←
status	Longint	←

### Description

Please refer to the command [OCIDateSysDate](#) in the documentation provided by Oracle Corp.



OCIDateNextDay (err; date; day; next\_day) → status

Parameter	Type	
err	Longint	↔
date	Date	→
day	String	→
next_day	Date	←
status	Longint	←

### Description

Please refer to the command [OCIDateNextDay](#) in the documentation provided by Oracle Corp.

OCIDateLastDay (err; date; last\_day) → status

Parameter	Type	
err	Longint	↔
date	Date	→
last_day	String	←
status	Longint	←

### Description

Please refer to the command [OCIDateLastDay](#) in the documentation provided by Oracle Corp.

OCIDateFromText (err; date\_str; fmt; lang\_name; date; time) → status

Parameter	Type	
err	Longint	↔
date_str	String	→
fmt	String	→
lang_name	String	→
date	Date	←
time	Time	←
status	Longint	←

**Description**

Please refer to the command [OCIDateFromText](#) in the documentation provided by Oracle Corp.

OCIDateAddMonths (err; date; num\_months; result) → status

Parameter	Type	
err	Longint	↔
date	Date	→
num_months	Longint	→
result	Date	↔
status	Longint	←

### Description

Please refer to the command [OCIDateAddMonths](#) in the documentation provided by Oracle Corp.

OCIDateAddDays (err; date; num\_days; result) → status

Parameter	Type	
err	Longint	↔
date	Date	→
num_days	Longint	→
result	Date	↔
status	Longint	←

### Description

Please refer to the command [OCIDateAddDays](#) in the documentation provided by Oracle Corp.

OCICollTrim (env; err; trim\_num; coll) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
trim_num	Longint	→
coll	Longint	↔
status	Longint	←

**Description**

Please refer to the command [OCICollTrim](#) in the documentation provided by Oracle Corp.

OCICollSize (env; err; coll; size) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
coll	Longint	→
size	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCICollSize](#) in the documentation provided by Oracle Corp.

OCICollMax (env; coll) → status

Parameter	Type	
env	Longint	↔
coll	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCICollMax](#) in the documentation provided by Oracle Corp.



OCICollGetElem (env; err; coll; index; exists; elem; elemind) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
coll	Longint	→
index	Longint	→
exists	Longint	←
elem	Longint	←
elemind	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCICollGetElem](#) in the documentation provided by Oracle Corp.

OCICollAssignElem (env; err; index; elem; elemind; coll) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
index	Longint	→
elem	Longint	→
elemind	Longint	→
coll	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCICollAssignElem](#) in the documentation provided by Oracle Corp.

OCICollAssign (env; err; rhs; lhs) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
rhs	Longint	→
lhs	Longint	←
status	Longint	←

### Description

Please refer to the command [OCICollAssign](#) in the documentation provided by Oracle Corp.

OCICollAppend (env; err; elem; elemind; coll) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
elem	Longint	→
elemind	Longint	→
coll	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCICollAppend](#) in the documentation provided by Oracle Corp.

OCI TableSize (env; err; tbl; size) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
tbl	Longint	→
size	Longint	←
status	Longint	←

#### Description

Please refer to the command [OCI TableSize](#) in the documentation provided by Oracle Corp.



# 5

---

# Types





## OCICacheUnpin

Types

version 6.7.1

---

OCICacheUnpin (env; err; svc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
status	Longint	←

### Description

Please refer to the command [OCICacheUnpin](#) in the documentation provided by Oracle Corp.

OCICacheUnmark (env; err; svc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCICacheUnmark](#) in the documentation provided by Oracle Corp.

## OCICacheRefresh

Types

version 6.7.1

---

OCICacheRefresh (env; err; svc; option) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
option	Longint	→
status	Longint	←

### Description

Please refer to the command [OCICacheRefresh](#) in the documentation provided by Oracle Corp.

OCICacheFree (env; err; svc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCICacheFree](#) in the documentation provided by Oracle Corp.

OCICacheFlush (env; err; svc; ref) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
ref	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCICacheFlush](#) in the documentation provided by Oracle Corp.



# 6

---

## Datatypes





OCIStmtPrepare (stmt; errhp; stmt; mode) → status

Parameter	Type	
stmt	Longint	→
errhp	Longint	→
stmt	Text	→
mode	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIStmtPrepare](#) in the documentation provided by Oracle Corp.

OCIStmtGetBindInfo (stmt; errhp; stmt; mode) → status

Parameter	Type	
stmt	Longint	→
errhp	Longint	→
stmt	Text	→
mode	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIStmtGetBindInfo](#) in the documentation provided by Oracle Corp.

OCIStmtFetch (stmt; errhp; nrow) → status

Parameter	Type	
stmt	Longint	→
errhp	Longint	→
nrow	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIStmtFetch](#) in the documentation provided by Oracle Corp.

OCIStmtExecute (svchp; stmtp; errhp; iters; rowoff; snap\_in; snap\_out; mode) → status

Parameter	Type	
svchp	Longint	↔
stmtp	Longint	↔
errhp	Longint	↔
iters	Longint	→
rowoff	Longint	→
snap_in	Longint	→
snap_out	Longint	←
mode	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIStmtExecute](#) in the documentation provided by Oracle Corp.

## OCI ServerVersion

Datatypes

version 6.7.1

---

OCI ServerVersion (hndlp; errhp; bufp) → status

Parameter	Type	
hndlp	Longint	→
errhp	Longint	→
bufp	Longint	→
status	Longint	←

### Description

Please refer to the command [OCI ServerVersion](#) in the documentation provided by Oracle Corp.

OCIHandleFree (hndl) → status

Parameter	Type	
hndl	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIHandleFree](#) in the documentation provided by Oracle Corp.

OCIHandleAlloc (parenth; hndlpp; type) → status

Parameter	Type	
parenth	Longint	→
hndlpp	Longint	←
type	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIHandleAlloc](#) in the documentation provided by Oracle Corp.

OCIErrorGet (hndlp; recordno; errcodep; bufp) → status

Parameter	Type	
hndlp	Longint	→
recordno	Longint	→
errcodep	Longint	←
bufp	String	←
status	Longint	←

### Description

Please refer to the command [OCIErrorGet](#) in the documentation provided by Oracle Corp.



OCIEnvCreate (envhpp; mode) → status

Parameter	Type	
envhpp	Longint	←
mode	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCIEnvCreate](#) in the documentation provided by Oracle Corp.

OCITerminate () → status

Parameter	Type	
status	Longint	←

### Description

Please refer to the command [OCITerminate](#) in the documentation provided by Oracle Corp.

OCIDescribeAnyVal (svchp; errhp; objptr; objptr\_typ; info\_level; objtyp; dschp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
objptr	Longint	→
objptr_typ	Longint	→
info_level	Longint	→
objtyp	Longint	→
dschp	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIDescribeAny](#) in the documentation provided by Oracle Corp.

OCIDescribeAnyText (svchp; errhp; objname; objptr\_typ; info\_level; objtyp; dschp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
objname	String	→
objptr_typ	Longint	→
info_level	Longint	→
objtyp	Longint	→
dschp	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIDescribeAnyText](#) in the documentation provided by Oracle Corp.

## OCIDescriptorFree

Datatypes

version 6.7.1

---

OCIDescriptorFree (descp) → status

Parameter	Type	
descp	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIDescriptorFree](#) in the documentation provided by Oracle Corp.

OCIDescriptorAlloc (parenth; descpp; type) → status

Parameter	Type	
parenth	Longint	→
descpp	Longint	←
type	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIDescriptorAlloc](#) in the documentation provided by Oracle Corp.

OCIDefineByPos (stmtp; defnpp; errhp; position; valuep; dty; indp; rlenp; rcodep; mode) → status

Parameter	Type	
stmtp	Longint	↔
defnpp	Longint	↔
errhp	Longint	↔
position	Longint	→
valuep	Pointer	↔
dty	Longint	→
indp	Pointer	→
rlenp	Pointer	↔
rcodep	Pointer	←
mode	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIDefineByPos](#) in the documentation provided by Oracle Corp.

---

OCIBindByPos (stmt; bindpp; errhp; position; valuep; dty; indp; rlenp; rcodep; maxarr\_len; mode) → status

Parameter	Type	
stmt	Longint	↔
bindpp	Longint	↔
errhp	Longint	↔
position	Longint	→
valuep	Pointer	↔
dty	Longint	→
indp	Pointer	↔
alenp	Pointer	↔
rcodep	Pointer	←
maxarr_len	Longint	→
mode	Longint	→
status	Longint	←

### Description

Please refer to the command [OCIBindByPos](#) in the documentation provided by Oracle Corp.



OCIBindByName (stmt; bindpp; errhp; placeholder; valuep; dty; indp; alenp; rcodep; maxarr\_len; mode) → status

Parameter	Type		Description
stmt	Longint	↔	
bindpp	Longint	↔	
errhp	Longint	↔	
placeholder	String	→	
valuep	Pointer	↔	
dty	Longint	→	
indp	Pointer	↔	
alenp	Pointer	↔	
rcodep	Pointer	←	
maxarr_len	Longint	→	
mode	Longint	→	
status	Longint	←	

#### Description

Please refer to the command [OCIBindByName](#) in the documentation provided by Oracle Corp.

OCIAttrSetVal (trgthndlp; attributep; attrtype; errhp) → status

Parameter	Type	
trgthndlp	Longint	↔
attributep	Longint	→
attrtype	Longint	→
errhp	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIAttrSet](#) in the documentation provided by Oracle Corp.

OCIAttrSetText (trgthndlp; attributep; attrtype; errhp) → status

Parameter	Type	
trgthndlp	Longint	↔
attributep	String	→
attrtype	Longint	→
errhp	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIAttrSet](#) in the documentation provided by Oracle Corp.

OCIAttrGetVal (trgthndlp; attributep; attrtype; errhp) → status

Parameter	Type	
trgthndlp	Longint	→
attributep	Longint	←
attrtype	Longint	→
errhp	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIAttrGet](#) in the documentation provided by Oracle Corp.

OCIAttrGetText (trgthndlp; attributep; attrtype; errhp) → status

Parameter	Type	
trgthndlp	Longint	→
attributep	String	←
attrtype	Longint	→
errhp	Longint	↔
status	Longint	←

#### Description

Please refer to the command [OCIAttrGet](#) in the documentation provided by Oracle Corp.



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# Transactions





OCITransStart (svchp; errhp; timeout; flags) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
timeout	Longint	→
flags	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITransStart](#) in the documentation provided by Oracle Corp.

OCITransRollback (svchp; errhp; flags) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
flags	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITransRollback](#) in the documentation provided by Oracle Corp.

OCITransPrepare (svchp; errhp; flags) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
flags	Longint	→
status	Longint	←

### Description

Please refer to the command [OCITransPrepare](#) in the documentation provided by Oracle Corp.

OCITransForget (svchp; errhp; flags) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
flags	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITransForget](#) in the documentation provided by Oracle Corp.

OCITransDetach (svchp; errhp; flags) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
flags	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITransDetach](#) in the documentation provided by Oracle Corp.

OCITransCommit (svchp; errhp; flags) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	→
flags	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCITransCommit](#) in the documentation provided by Oracle Corp.

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## Lobs





OCILobWriteAppend (envhp; errhp; locp; bufp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
bufp	Longint	→
status	Longint	←

### Description

Please refer to the command [OCILobWriteAppend](#) in the documentation provided by Oracle Corp.

OCILobIsTemporary (envhp; errhp; locp; is\_tempoary) → status

Parameter	Type	
envhp	Longint	→
errhp	Longint	↔
locp	Longint	→
is_tempoary	Longint	←
status	Longint	←

### Description

Please refer to the command [OCILobIsTemporary](#) in the documentation provided by Oracle Corp.

OCILobGetChunkSize (svchp; errhp; locp; chunk\_size) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
chunk_size	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILobGetChunkSize](#) in the documentation provided by Oracle Corp.

OCIlobFreeTemporary (svchp; errhp; locp) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
locp	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCIlobFreeTemporary](#) in the documentation provided by Oracle Corp.

OCILOBCreateTemporary (svchp; errhp; locp; csid; csfrm; lobtype; cache; duration) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
csid	Longint	→
csfrm	Longint	→
lobtype	Longint	→
cache	Longint	→
duration	Longint	→
status	Longint	←

### Description

Please refer to the command [OCILOBCreateTemporary](#) in the documentation provided by Oracle Corp.

OCILOBCHARSETID (envhp; errhp; locp; csfrm) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
locp	Longint	→
csid	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILOBCHARSETID](#) in the documentation provided by Oracle Corp.

OCIDurationEnd (envhp; errhp; duration; svc) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
duration	Longint	→
svc	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCIDurationEnd](#) in the documentation provided by Oracle Corp.

OCIDurationBegin (envhp; errhp; svc; parent; duration) → status

Parameter	Type	
env	Longint	↔
err	Longint	↔
svc	Longint	→
parent	Longint	→
duration	Longint	←
status	Longint	←

### Description

Please refer to the command [OCIDurationBegin](#) in the documentation provided by Oracle Corp.



OCILobWrite (svchp; errhp; locp; offset; bufp) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
locp	Longint	↔
offset	Longint	→
bufp	BLOB	→
status	Longint	←

#### Description

Please refer to the command [OCILobWrite](#) in the documentation provided by Oracle Corp.

OCILobTrim (svchp; errhp; locp; newlen) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
newlen	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCILobTrim](#) in the documentation provided by Oracle Corp.

OCILobRead (svchp; errhp; locp; offset; bufp) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
locp	Longint	→
offset	Longint	→
bufp	BLOB	↔
status	Longint	←

**Description**

Please refer to the command [OCILobRead](#) in the documentation provided by Oracle Corp.

OCILobLocatorIsInit (envhp; errhp; locp; is\_initialized) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
locp	Longint	→
is_initialized	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILobLocatorIsInit](#) in the documentation provided by Oracle Corp.

OCILobLoadFromFile (svchp; errhp; dst\_locp; src\_locp; amount; dst\_offset; src\_offset) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
dst_locp	Longint	↔
src_locp	Longint	↔
amount	Longint	→
dst_offset	Longint	→
src_offset	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCILobLoadFromFile](#) in the documentation provided by Oracle Corp.

OCILobIsEqual (envhp; x; y; is\_equal) → status

Parameter	Type	
envhp	Longint	→
x	Longint	→
y	Longint	→
is_equal	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILobIsEqual](#) in the documentation provided by Oracle Corp.

OCILobGetLength (svchp; errhp; locp; lenp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	→
lenp	Longint	←
status	Longint	←

### Description

Please refer to the command [OCILobGetLength](#) in the documentation provided by Oracle Corp.

OCILobFlushBuffer (svchp; errhp; locp; flag) → status

Parameter	Type	
svchp	Longint	↔
errhp	Longint	↔
locp	Longint	↔
flag	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCILobFlushBuffer](#) in the documentation provided by Oracle Corp.



OCILobFileExists (svchp; errhp; filep; flag) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
filep	Longint	→
flag	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILobFileExists](#) in the documentation provided by Oracle Corp.

OCILOBFileClose (svchp; errhp; filep) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
filep	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCILOBFileClose](#) in the documentation provided by Oracle Corp.

OCILOBFileCloseAll (svchp; errhp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCILOBFileCloseAll](#) in the documentation provided by Oracle Corp.

OCILobErase (svchp; errhp; locp; amount; offset) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
amount	Longint	↔
offset	Longint	→
status	Longint	←

#### Description

Please refer to the command [OCILobErase](#) in the documentation provided by Oracle Corp.

OCILOBEnabledBuffering (svchp; errhp; locp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCILOBEnabledBuffering](#) in the documentation provided by Oracle Corp.

OCILobDisableBuffering (svchp; errhp; locp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
locp	Longint	↔
status	Longint	←

### Description

Please refer to the command [OCILobDisableBuffering](#) in the documentation provided by Oracle Corp.

OCILobCopy (svchp; errhp; dst\_locp; src\_locp; amount; dst\_offset; src\_offset) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
dst_locp	Longint	↔
src_locp	Longint	→
amount	Longint	→
dst_offset	Longint	→
src_offset	Longint	→
status	Longint	←

**Description**

Please refer to the command [OCILobCopy](#) in the documentation provided by Oracle Corp.

OCILobCharSetForm (envhp; errhp; locp; csfrm) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
locp	Longint	→
csfrm	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCILobCharSetForm](#) in the documentation provided by Oracle Corp.



OCILobAssign (envhp; errhp; src\_locp; dst\_locp) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
src_locp	Longint	→
dst_locp	Longint	↔
status	Longint	←

**Description**

Please refer to the command [OCILobAssign](#) in the documentation provided by Oracle Corp.

OCILobAppend (envhp; errhp; dst\_locp; src\_locp) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
dst_locp	Longint	↔
src_locp	Longint	→
status	Longint	←

### Description

Please refer to the command [OCILobAppend](#) in the documentation provided by Oracle Corp.

OCILOBFileSetName (envhp; errhp; filepp; dir\_alias; filename) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
filepp	Longint	↔
dir_alias	String	→
filename	String	→
status	Longint	←

**Description**

Please refer to the command [OCILOBFileSetName](#) in the documentation provided by Oracle Corp.

OCILobFileOpen (svchp; errhp; filep; mode) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
filep	Longint	↔
mode	Longint	→
status	Longint	←

### Description

Please refer to the command [OCILobFileOpen](#) in the documentation provided by Oracle Corp.

OCILobFileIsOpen (svchp; errhp; filep; flag) → status

Parameter	Type	
svchp	Longint	→
errhp	Longint	↔
filep	Longint	→
flag	Longint	←
status	Longint	←

### Description

Please refer to the command [OCILobFileIsOpen](#) in the documentation provided by Oracle Corp.

OCILobFileName (envhp; errhp; filepp; dir\_alias; filename) → status

Parameter	Type	
envhp	Longint	↔
errhp	Longint	↔
filepp	Longint	→
dir_alias	String	←
filename	String	←
status	Longint	←

**Description**

Please refer to the command [OCILobFileName](#) in the documentation provided by Oracle Corp.

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# Math





OCINumberTrunc (err; number; decplace; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
decplace	Longint	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberTrunc](#) in the documentation provided by Oracle Corp.

OCINumberToText (err; number; fmt; nls\_params; buf) → status

Parameter	Type	
err	Longint	↔
number	Real	→
fmt	String	→
nls_params	String	→
buf	String	←
status	Longint	←

**Description**

Please refer to the command [OCINumberToText](#) in the documentation provided by Oracle Corp.

OCINumberTan (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Longint	←
status	Longint	←

**Description**

Please refer to the command [OCINumberTan](#) in the documentation provided by Oracle Corp.

OCINumberSub (err; number1; number2) → status

Parameter	Type	
err	Longint	↔
number1	Real	→
number2	Real	→
status	Longint	←

**Description**

Please refer to the command [OCINumberSub](#) in the documentation provided by Oracle Corp.

OCINumberSqrt (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberSqrt](#) in the documentation provided by Oracle Corp.

OCINumberSin (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

#### Description

Please refer to the command [OCINumberSin](#) in the documentation provided by Oracle Corp.

OCINumberRound (err; number; decplace; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
decplace	Longint	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberRound](#) in the documentation provided by Oracle Corp.

OCINumberPower (err; base; exp; result) → status

Parameter	Type	
err	Longint	↔
base	Real	→
exp	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberPower](#) in the documentation provided by Oracle Corp.



OCINumberMul (err; number1; number2; result) → status

Parameter	Type	
err	Longint	↔
number1	Real	→
number2	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberMul](#) in the documentation provided by Oracle Corp.

OCINumberLog (err; base; number; result) → status

Parameter	Type	
err	Longint	↔
base	Real	→
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberLog](#) in the documentation provided by Oracle Corp.

OCINumberLn (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberLn](#) in the documentation provided by Oracle Corp.

OCINumberIntPower (err; base; exp; result) → status

Parameter	Type	
err	Longint	↔
base	Real	→
exp	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberIntPower](#) in the documentation provided by Oracle Corp.

OCINumberHypTan (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberHypTan](#) in the documentation provided by Oracle Corp.

OCINumberHypSin (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberHypSin](#) in the documentation provided by Oracle Corp.

OCI`NumberHypCos` (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCI`NumberHypCos`](#) in the documentation provided by Oracle Corp.

OCI`NumberFromText` (err; str; fmt; nls\_params; number) → status

Parameter	Type	
err	Longint	↔
str	String	→
fmt	String	→
nls_params	String	→
number	Real	←
status	Longint	←

**Description**

Please refer to the command [OCI`NumberFromText`](#) in the documentation provided by Oracle Corp.



OCINumberExp (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberExp](#) in the documentation provided by Oracle Corp.

OCINumberDiv (err; number1; number2; result) → status

Parameter	Type	
err	Longint	↔
number1	Real	→
number2	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberDiv](#) in the documentation provided by Oracle Corp.

OCINumberCos (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberCos](#) in the documentation provided by Oracle Corp.

OCINumberArcTan2 (err; number1; number2; result) → status

Parameter	Type	
err	Longint	↔
number1	Real	→
number2	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberArcTan2](#) in the documentation provided by Oracle Corp.

OCINumberArcTan (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberArcTan](#) in the documentation provided by Oracle Corp.

OCINumberArcSin (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberArcSin](#) in the documentation provided by Oracle Corp.

OCINumberArcCos (err; number; result) → status

Parameter	Type	
err	Longint	↔
number	Real	→
result	Real	←
status	Longint	←

**Description**

Please refer to the command [OCINumberArcCos](#) in the documentation provided by Oracle Corp.

OCINumberAdd (err; number1; number2; result) → status

Parameter	Type	
err	Longint	↔
number1	Real	→
number2	Real	→
result	Real	←
status	Longint	←

### Description

Please refer to the command [OCINumberAdd](#) in the documentation provided by Oracle Corp.



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## Extras



OCICleanUp → status

Parameter	Type	Description
This command does not require any parameters		

status	Longint	←
--------	---------	---

### Description

The primary task of the [OCICleanUp](#) command is to free up memory used by objects within the plug-in, particularly potentially large objects created during Binds and Defines.

OCIOnErrCall (methodName; \$1; \$2)

Parameter	Type	
methodName	String	→
\$1	Longint	→
\$2	Longint	→

### Description

The command [OCIOnErrCall](#) installs an error handling method that will be executed every time an error occurs. This allows you to manage possible execution errors and override default error handling.

*methodName* is the name of the method to install.

To return to default behavior, pass an empty string such as [OCIOnErrCall](#) ("").

4D for OCI passes two arguments, \$1 and \$2, to your method. If you want to compile your database, you must declare the \$1 and \$2 variables using the C\_LONGINT commands.

OCIGetTnsnamesPath → String

Parameter	Type	Description
		This command does not require any parameters
String	Function result	←

### Description

The command OCIGetTnsnamesPath returns the full path of the Oracle home folder. This function is especially useful if you need to access certain files from the Oracle home folder.

### Example

Get the list of entry points contained in the "tnsnames.ora" file.

```
$TnsPath:=OCIGetTnsnamesPath  
oci_tool_GetEntryName($TnsPath+"Network\Admin\tnsnames";->oci_tTnsNameEntry)
```

*oci\_tool\_GetEntryName* is a 4D method that allows analyzing the "tnsnames.ora" file to extract entry points and save them in a text array.



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