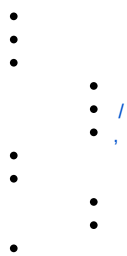


Oracle (PL/SQL)



«» PL/SQL (packages) Oracle 11g. API, Oracle Instant Client ([Basic](#) [Basic Light](#)). tnsnames.ora .

Oracle ., PHP [OCI8 Extensions](#), Python — [cx_Oracle](#), Ruby — [ruby-oci8](#).

Oracle:

- Python:
 - [High performance Python applications with Oracle Database](#),
 - [cx_Oracle module documentation by Anthony Tuininga](#);
- Ruby on Rails:
 - [Developing Ruby applications with Oracle Database](#),
 - [Ruby on Rails on Oracle: A Simple Tutorial by Richard Monson-Haefel](#),
 - [Ruby on Rails with Oracle FAQ by Casimir Saternos](#);
- PHP:
 - [High performance PHP applications with Oracle Database](#),
 - [The Underground PHP and Oracle Manual by Christopher Jones and Alison Holloway](#),
 - [The Oracle+PHP Cookbook by John Alphonse, Justin Kestelyn and The Oracle PHP Development Team](#).

«» . ([views](#)) , , — . PL/SQL- . . , *Oracle SQL Developer*, (packages). , . (views) .

 , . API : NUMBER, DATE .. : num, vch — .

, RDBMS- SQL. «» (SELECT-), DML- (INSERT, UPDATE) .

: <>_V_<>[_<>] (: SI_V_SUBJECTS). . « » — . :

JR	SI_V_PERSONS_JR	(, ,). /
SIMPLE	SI_V_OBJ_ADDRESSES_SIMPLE	. /
C	SD_V_PRICE_ORDERS_C	, ()
T	SD_V_PRICE_ORDERS_T	, (), .

(columns) : <>_<> (: VC_NAME). -, ID (: N_USER_ID —).

:

N	NUMBER	N_SUBJECT_ID	NUMBER
VC	VARCHAR2	VC_CODE	4000
D	DATE	D_BEGIN	()
C	CHAR	C_ACTIVE	, Y N
CL	CLOB	CL_PRICE_ORDER	
BL	BLOB	BL_FILE	

,
,
,
«»

	DOCUMENT	DOC	N_DOC_ID	
	CONTRACT	—	N_CONTRACT_ID	()
	WORKFLOW	WFLOW	N_WORKFLOW_ID	
()	SUBJECT	SUBJ	N_SUBJECT_ID	
()	FIRM	—	N_FIRM_ID	-, ,
()	OBJECT	OBJ	N_OBJECT_ID	
	USER	—	N_USER_ID	()
	ADDRESS	ADDR	N_ADDRESS_ID	(, IP-, ..)
	ACCOUNT	ACC	N_ACCOUNT_ID	
	CURRENCY	CURR	N_CURRENCY_ID	()
	SERVICE	SERV	N_SERVICE_ID	()
	UNIT	—	N_UNIT_ID	()
	—	REF	N_REF_ID	
	GOOD	—	N_GOOD_ID	
	REGION	—	N_REGION_ID	
.	VALUE(S)	—	N_DOC_VALUE_ID	
	—	CDR	N_CDR_ID	CDR ()
	JOB	—	N_JOB_ID	

,
.
.
:

SI_V_SUBJ_SERVICES		
SI_V_DOC_SUBJECTS		
SI_V_SUBJ_ACCOUNTS		
SD_V_DOC_DOCUMENTS		
N_DOC_DOCUMENT_ID		
SI_V_ADDR_ADDRESSES		
N_ADDR_ADDRESS_ID		
SI_V_SUBJ_VALUES		
SI_SUBJ_VALUE_ID		

,
:

()	VC_CODE	, , . .
()	VC_NAME	. .
	N_DOC_TYPE_ID	TYPE, (SI_V_REF). — (, , ...)
	VC_DOC_NO, N_LINE_NO	-(,). , .
()	VC_REM	
	D_BEGIN	. ,
	D_END	. ,
	D_OPER	, . ,

	N_LINE_ID	
	N_PAR_LINE_ID	
	N_SUM	(,)
	N_SUM_TAX	
	N_SUM_WO_TAX	
	N_QUANT	, . (N_UNIT_ID)
	N_VALUE, VC_VALUE	, (.)

. — 0 0. , , , , . , / .
 : <>_<>_PKG (: SI_SUBJECTS_PKG) <>_<>_PKG_S — (: SI_SUBJECTS_PKG_S).
 ():

ACC	ACC_BILLS_PKG	()
AP	AP_V_USER_OFFICE_GOODS	, (..)
EX	EX_V_PAYMENTS	(AAA, , LDAP, DHCP ..)
RPT	RPT_V_ACCOUNT_BALANCE	
SI	SI_SUBJECTS_PKG_S	, ,
SD	SD_CONTRACTS_PKG	
SR	SR_V_GOODS	
SS	SS_JOBS_PKG_S	

— < > . < > .
 «», , , — . :

num	NUMBER	num_N_SUBJECT_ID	NUMBER
vch	VARCHAR2	vch_VC_CODE	4000
dt	DATE	dt_D_BEGIN	()
b	CONST.BOOL	b_DisableTriggers	CONST.BOOL — «». — NUMBER 0 1
clb	CLOB	c1b_CL_PRICE_ORDER	
blb	BLOB	b1b_BL_FILE	
rc	RECORD	rc_SUBJECT	, , .
tbl	Nested table	tbl_USER_SERVS	(PL/SQL collection)

PL/SQL (.). . «», , , . , .
 /
 _PUT . , , . — / IN OUT, . NULL, , . _PUT , . , .
 1. :

```

DECLARE
    num_N_SUBJECT_ID_Created  NUMBER := NULL; --      ,
BEGIN
    SI_PERSONS_PKG.SI_PERSONS_PUT (
        num_N_SUBJECT_ID => num_N_SUBJECT_ID_Created,
        ...);
    --      num_N_SUBJECT_ID_Created      .
    --      .
END;

```

2. :

```

DECLARE
    num_N_SUBJECT_ID_Edit  NUMBER := 123455601; --      ,      .
BEGIN
    SI_PERSONS_PKG.SI_PERSONS_PUT (
        num_N_SUBJECT_ID => num_N_SUBJECT_ID_Edit,
        ...);
END;

```

,
 (), , (commit) (rollback).
 (exception). Oracle . / . Oracle , .
 Oracle, «» . , , , . , :

```

SELECT * FROM TT_V_MESSAGE_LOGS;

```

, / , :

```

DELETE FROM TT_MESSAGE_LOGS;

```

. , , , .. ().
 SS_CONSTANTS_PKG_S, CONST SS_V_CONSTANTS.
 : CONST.< >.:

```

BEGIN
    --      1577736201
    SD_DOCUMENTS_PKG.SD_DOCUMENTS_CHANGE_STATE (
        num_N_DOC_ID      => 1577736201,
        num_N_New_DOC_STATE_ID => CONST.DOC_STATE_Canceled);
END;

```

SQL- : SYS_CONTEXT('CONST', '< >').:

```

--
SELECT COUNT(*)
FROM    SD_V_DOCUMENTS
WHERE   N_DOC_TYPE_ID = TO_NUMBER(SYS_CONTEXT('CONST', 'DOC_TYPE_Invoice'))
AND     N_DOC_STATE_ID = TO_NUMBER(SYS_CONTEXT('CONST', 'DOC_STATE_Actual'));

```

, SYS_CONTEXT . , TO_NUMBER.

, «», 0 . :

```
SELECT *
FROM SS_V_CONSTANTS;
```

```
,, , VC_NAME, — VC_VALUE.
```

```
,, , SI_REF_PKG_S.:
```

```
-- C,
SELECT N_DOC_TYPE_ID,
       SI_REF_PKG_S.GET_NAME_BY_ID(N_DOC_TYPE_ID) VC_DOC_TYPE,
       COUNT(*) N_COUNT
FROM SD_V_DOCUMENTS
WHERE N_DOC_STATE_ID = TO_NUMBER(SYS_CONTEXT('CONST', 'DOC_STATE_Actual'))
GROUP BY N_DOC_TYPE_ID
ORDER BY N_COUNT DESC;
```

N_DOC_TYPE_ID	VC_DOC_TYPE	N_COUNT
5002		69950
4002		9328
1002		2817
3002		1177
6002		515
7002		171
11002		74
9002		25
13002		15
20002		6
12002		3
8002		1

12 rows selected

SQL-:

```
SELECT N_REF_ID,
       VC_CODE,
       VC_NAME
FROM SI_V_REF
WHERE N_REF_TYPE_ID = SI_REF_PKG_S.GET_ID_BY_CODE('<vch_VC_REF_NAME>')
```

<vch_VC_REF_NAME> — (, *REF_TYPE_Address_Type*).

SQL-:

```
SELECT SI_REF_PKG_S.GET_ID_BY_CODE('<vch_VC_REF_CODE>')
FROM DUAL
```

<vch_VC_REF_CODE> — (, *ADDR_TYPE_Subnet*).

«» Oracle **SS_AUTHENTICATION_PKG.LOGIN** :

```

BEGIN
  SS_AUTHENTICATION_PKG.LOGIN(
    vch_VC_IP      => '127.0.0.1',    -- IP-,
    vch_VC_LOGIN   => 'Payment_RPC',  -- «»
    vch_VC_PASSWORD => 'secret123',   --
    vch_VC_APP_CODE => 'NETSERV_HID', -- «»
    vch_VC_CLN_APPID => 'my app info'); -- (, . .)
END;

```

```

, SS_AUTHENTICATION_PKG.LOGIN (1 ), SS_AUTHENTICATION_PKG.SWITCH_CONTEXT.:

```

```

BEGIN
  SS_AUTHENTICATION_PKG.SWITCH_CONTEXT(
    vch_VC_CLN_SESSIONID => 'my external id');
EXCEPTION
  WHEN ERRORS_PKG_S.SESSION_DOES_NOT_EXIST OR
        ERRORS_PKG_S.SESSION_CLOSED          OR
        ERRORS_PKG_S.MULTIPLE_SESSIONS
  THEN
    SS_AUTHENTICATION_PKG.LOGIN(
      vch_VC_IP      => '127.0.0.1',
      vch_VC_LOGIN   => 'rpc',
      vch_VC_PASSWORD => 'password',
      vch_VC_APP_CODE => 'NETSERV_HID',
      vch_VC_CLN_SESSIONID => 'my external id',
      vch_VC_CLN_APPID  => 'my app info');
END;
/

```

5.0 ERRORS_PKG_S SS_AUTHENTICATION_PKG.

:

- **ERRORS_PKG_S.SESSION_ALREADY_EXISTS** —, SS_AUTHENTICATION_PKG.LOGIN vch_VC_CLN_SESSIONID. , vch_VC_CLN_SESSIONID, . SWITCH_CONTEXT .
- **ERRORS_PKG_S.SESSION_DOES_NOT_EXIST** —, , SWITCH_CONTEXT .
- **ERRORS_PKG_S.SESSION_CLOSED** —, , , .
- **ERRORS_PKG_S.MULTIPLE_SESSIONS** —, , .