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Dyalog™ for Windows

# **SQAPL Release Notes**

## **Version 6.0**

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# SQAPL Release Notes

## Introduction

SQAPL Version 6.0 includes support for the following Unicode ODBC datatypes:

Data Type	SQAPL Code	Description
WCHAR	U	Wide (Unicode) fixed-length character string
WVARCHAR	W	Wide (Unicode) variable-length character string
WLONGVARCHAR	Q	Wide (Unicode) unlimited-length character string

Note: WLONGVARCHAR is identical to WVARCHAR except that you do not have to specify a maximum length when you create columns of this type. However you must specify a maximum buffer length at bind time (SQAPPrepare).

All three ODBC data types are mapped directly to the SQAPL data type C (Char). However, for some ODBC drives, it may be necessary to specify the exact ODBC data type at bind time.

## Example

The following example illustrates the use of the new data types with the SQL ODBC driver, connected to a Microsoft SQL Server Database. Please note that APL statements have been split over several lines for visual clarity.

The example is a basic Greek/English dictionary in which each record contains 4 fields:

1. **Type:** the type of word (Noun, Verb, Adverb, etc.)
2. **Greek:** the Greek word
3. **English:** the English translation
4. **Notes:** explanation

Connect to the database using the ODBC data source named SQAPLV6Test

```
SQA.Init''
sink←SQA.Connect'C1' 'SQAPLV6Test' mypasswd myuserid
```

Create a new table named Lexico containing 4 columns.

**Type** is declared as a fixed-length (12) character (ASCII) column. The ODBC datatype is CHAR.

**Greek** is declared as a variable length wide character (Unicode) column with a maximum length of 32 characters. The ODBC datatype is WVARCHAR, but the SQL Server name is NVARCHAR.

**English** is declared as a variable length character (ASCII) column with a maximum length of 32 characters. The ODBC data type is VARCHAR.

**Notes** is declared as an unlimited variable length wide character (Unicode) column. The ODBC datatype is WLONGVARCHAR, but the SQL Server name is NTEXT.

```
sink←SQA.Do'C1'('Create table Lexico
                (Type   char(12),
                 Greek  nvarchar(32),
                 English varchar(32),
                 Notes  ntext)')
```

Function `AddWord` will be used to add a record to the table.

```
▽ r←con AddWord(type eng grk notes)
[1] r←SQA.Do con('Insert into Lexico
                (Type, Greek, English, Notes)
                values (:Type<C4:,
                       :Greek<C32:,
                       :English<C32:,
                       :Notes<C128(Q):)')
                type eng grk notes
▽
```

Add 4 words ταβέρνα (taverna), εστιατόριο (restaurant), τρώω (to eat), τείζω (to feed).

```
'C1'AddWord'Noun' 'ταβέρνα' 'taverna'
      'Basic Greek eatery, often open all day,
      like a French Bistro'

'C1'AddWord'Noun' 'εστιατόριο' 'restaurant'
      'classier, typically more expensive than a
      ταβέρνα, evenings only'

'C1'AddWord'Verb' 'τρώω' 'eat'
      'Future: θα φάω, Past: έφαγα'
```

```
'C1'AddWord'Verb' 'ταΐζω' 'feed'
'e.g. to feed an animal or a baby'
```

Display the entire contents of the table:

```
3=>SQA.Do'C1' 'select * from Lexico'
Noun ταβέρνα taverna Basic Greek eatery,..
Noun εστιατόριο restaurant classier, typically ..
Verb τρώω eat Future: θα φάω, Past: ..
Verb ταΐζω feed e.g. to feed an animal ..
```

Note that SQAPL Version 6 also supports the use of Unicode characters in SQL expressions.

What is the english word for “εστιατόριο” ?

```
3=>SQA.Do'C1' 'select English from Lexico
where Greek = :gr:' 'εστιατόριο'
restaurant
```

Which Greek words contain the string “τα” ?

```
3=>SQA.Do'C1' 'select Greek, English from Lexico
where Greek LIKE :gr:' '%τα%'
ταβέρνα taverna
ταΐζω feed
```

Note that if you attempt to store Unicode data in a non-Unicode column, characters whose Unicode code points are >255 will be replaced by question marks (?).

```
sink←'C1'AddWord'Noun' 'ο μέσος όρος' '(+/ω)÷ρω'
'average or mean'

3=>SQA.Do'C1' 'select * from Lexico
where Greek = :gr:' 'ο μέσος όρος'
Noun ο μέσος όρος (+/?)÷?? average or mean
```

In this example, the APL symbols  $\omega$  and  $\rho$  are replaced by “?”.

