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Posted by [BlackEric](#) on Thu, 30 Jun 2022 11:36:29 GMT

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XML PATH(""), BINARY base64

```
SELECT CAST( CAST(
'EgQwBEEETwQgAD8EPgRIBDUEOwQgADMEQwQ7BE8EQgRMBCAAMQAYADMAIABxAGEA
egA=' as XML ).value('.', 'varbinary(max)') AS nvarchar(max) )
```

```
SELECT CAST( CAST( 'MTIzNDU2Nzg5MCBwYXNqYSBwb3NoZWwgZ3VsYXQ=' as XML
).value('.', 'varbinary(max)') AS varchar(max) )
```

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Posted by [aleks2](#) on Sun, 31 Jul 2022 07:15:43 GMT

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```
-- =====
--v2
ALTER FUNCTION [dbo].[utf16-to-utf8-v2]( @utf16 nvarchar(max) )
RETURNS TABLE
AS
RETURN
(
with t as ( select n, c = unicode( substring(@utf16, n, 1) ) from dbo.N where n between 1 and
len(@utf16) )
, b as ( select n
, b = case when c < 0x80 then cast(c as varbinary(1))
when c < 0x800 then cast(((c * 4) & 0xFF00) | (c & 0x3F) | 0xC080 as
varbinary(2))
when c < 0x10000 then cast(((c * 0x10) & 0xFF0000) | ((c * 4) & 0x3F00) | (c &
0x3F) | 0xe08080 as varbinary(3))
else cast(((c * 0x40) & 0xFF000000) | ((c * 0x10) & 0x3F0000) | ((c *
4) & 0x3F00) | (c & 0x3F) | 0xf0808080 as varbinary(4))
end
from t
```

```

)
select utf8 = convert(varbinary(max), ( select convert(varchar(8), b, 2) from b order by n asc for
xml path('') ), 2)
)

```

```

-- =====
/*
declare @b as varbinary(max) =
0xD09CD0BED180D0B520D0A2D180D18DD0B2D0B5D0BB2E20D094D09ED09A
D0A3D09CD095D09DD0A2D0AB20D094D09BD0AF20D09AD09BD098D095D09D
D0A2D09020D0BFD0BE20D182D183D180D1832054523830393230303034;
select [nchar] = cast( @b as nvarchar(max)), * from dbo.[utf8-to-utf16](@b)
*/
ALTER FUNCTION [dbo].[utf8-to-utf16]( @utf8 varbinary(max) )
RETURNS TABLE
AS
RETURN
(
with b as ( select b = substring(@utf8, n, 1), n from dbo.N where n between 1 and len(@utf8) )
, bn as ( select b, n from b where b&128 = 0 or b&224 = 192 or b&240 = 224 or b&248 = 240 )
, chs as ( select b = case
when b&128 = 0 then b
when b&224 = 192 then (b&31) * 64 | ( substring(@utf8, n+1, 1) & 63 )
when b&240 = 224 then ( (b&15) * 64 | ( substring(@utf8, n+1, 1) & 63 ) ) * 64 |
( substring(@utf8, n+2, 1) & 63 )
else ( ( (b&07) * 64 | ( substring(@utf8, n+1, 1) & 63 ) ) * 64 | (
substring(@utf8, n+2, 1) & 63 ) ) * 64 | ( substring(@utf8, n+3, 1) & 63 )
end
, n
from bn
)
select utf16 = ( select nchar(b) from chs order by n asc for xml path(''), type ).value('.',
'nvarchar(max)')
)

```