



ABAP 7.55 Releaseabhängige Änderungen

Webinar, 26.2.2021, 10:00 Uhr



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Beratungsschwerpunkte

- Konzeption & Management von Entwicklungsprojekten
- Qualitymanagement & Performanceoptimierung
- Clean Code
- S/4HANA Custom Development

- SAP Champion 🏆



Domini Bigl

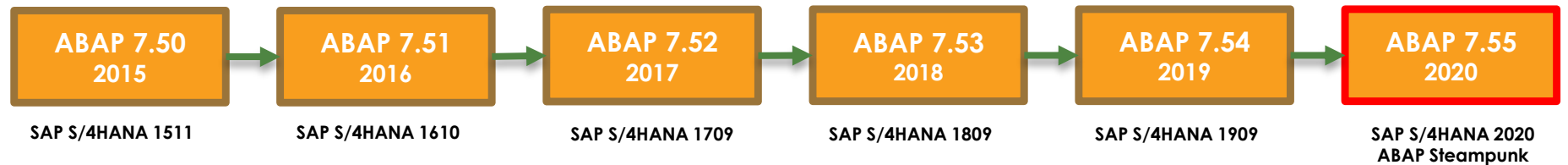
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Beratungsschwerpunkte

- Konzeption & Management von Entwicklungsprojekten
- Qualitymanagement & Performanceoptimierung
- ABAP Units
- SAP Fiori, SAP UI5





- Core Data Services
- New Open SQL
- Messaging Channels
- Push Channels
- SQL / CDS Expressions



- Globale temporäre Tabellen
- Open SQL – Union
- CDS Zugriffskontrollen



- Aufzählungstypen (Enumerations)
- Common Table Expressions
- Interne Tabellen als Datenquellen
- Remote Code Analysen



- ABAP RESTful Programming Model
- ABAP SQL Windows, Hierarchien

CDS View Entities

- „DIE“ neue Art CDS Views
 - `define view ZBIGLD_I_PARTNER => define view entity ZBIGLD_C_PARTNER`
- KEIN SQL View
 - Namen 30 => 16
 - ZKPP_MM_PTNMC1.. 99
- EIN Name
 - 3 Namen (DDL File <> CDS Entity <> SQL View)
 - GENAU 1 Name (DDL == CDS Entity)

- Client Handling
- Weniger Annotations
 - Client, SQL View

- Kein SELECT *



The screenshot shows a dialog box titled "Insert all elements (template)". It contains a list of fields to be inserted into a table, each with a small icon to its left and a description to its right. The fields are: first_name - zbigld_partner (column), last_name - zbigld_partner (column), partner - zbigld_partner (column), and title - zbigld_partner (column). The list is enclosed in a light blue border with a small icon in the top-left corner.

- Migration kommt
- Datenquelle

PCRE Regular Expressions

- **POSIX (Boost Regex 1.31)**
 - ~20 Jahre
 - Abwärtskompatibel
- **PCRE Lib**
 - Weiterhin POSIX (abwärtskompatibel)
 - Teilweise schneller
 - zusätzliche Möglichkeiten
 - Unicode, Lookbehind, \n

- FIND, REPLACE
 - Zusatz PCRE
- Funktionen - find, replace, substring, match,...
 - Parameter PCRE
- CL_ABAP_REGEX / CL_ABAP_MATCHER
 - cl_abap_regex=>create_pcre
 - cl_abap_matcher=>create_posix
- DEMO_REGEX und DEMO_REGEX_TOY

```

FIND_REGEX
REPLACE_REGEX
FIND_PCRE
REPLACE_PCRE

find( regex =
find( pcre =
replace( regex =
contains( pcre =

```

- **Unterschied Syntax / Verhalten**
 - Leerzeichen / Whitespaces
 - greedy
 - . – Multiline, \n
- **Migration**
 - onPrem
 - Cloud – deprecated?
- <https://blogs.sap.com/2020/12/10/modern-regular-expressions-in-abap-part-1-introducing-pcre>

ABAP SQL

- **Aggregatsfunktion ALLOW_PRECISION_LOSS**
 - Zusatz für SUM
 - Bessere Performance aber / bzw. ev. gewünscht andere Ergebnisse

```
select from zfox_i_movpro
fields Status,
       sum( cast( ProductionCosts as DEC( 10, 0 ) ) ) as Sum,
       allow_precision_loss( sum( cast( ProductionCosts as DEC( 10, 0 ) ) ) ) as Sum2
group by status
into table @data(result).
```

- **Rückblick - Neue Datentypen mit 7.54**
 - **DATN** – Date in internal format of database
 - **TIMN** – Time in internal format of database
 - **UTCLONG** - Time stamp (exact to 100 ns)
 - Auch neuer interne ABAP Typ **utclong**
 - 0001-01-01T00:00:00.0000000 - 9999-12-31T23:59:59.9999999
 - **GEOM_EWKB** – Geometric data in EWKB representation
 - **DECFLOAT16** – Decimal floating point number
 - **DECFLOAT34** – Decimal floating point number

• Neue Datumsumrechnungen

- TSTMPL_TO_UTCL, TSTMPL_FROM_UTCL
 - Konvertierung zwischen TSTMPL und UTCL
- DATS_TO_DATN, DATS_FROM_DATN
 - Konvertierung zwischen DATS und DATN
- TIMS_TO_TIMN, TIMS_FROM_TIMN
 - Konvertierung zwischen TIMS und TIMN

```
select from zfox_i_movpro
  fields MovieUuid,
         LastChangedAt,
         tstmpl_to_utcl( LastChangedAt ) as LastChangedAtUTCL,
         tstmpl_from_utcl( LastChnagedAtUTCLong ) as LastChnagedAtFromUTCL
into table @data(result).
```


- **Neue UTCLONG Timestampfunktionen**
 - UTCL_CURRENT - Aktuellen UTCL Timestamp ermitteln
 - UTCL_ADD_SECONDS - x Sekunden zu einem UTCL Timestamp addieren
 - UTCL_SECONDS_BETWEEN – Differenz in Sekunden zwischen zwei UTCL Timestamps

```
select from zfox_i_movpro
  fields MovieUuid,
         utcl_current( )           as time_stamp_utcl_current,
         LastChnagedAtUTCLong    as time_stamp_utcl_database,
         utcl_add_seconds( LastChnagedAtUTCLong, 60 ) as time_stamp_utcl_add_60_seconds,
         utcl_seconds_between( LastChnagedAtUTCLong, utcl_current( ) ) as time_stamp_utcl_sec_between
into table @data(result).
```

• Neue Datumsfunktionen für DATN

- DATN_DAYS_BETWEEN – Differenz zwischen zwei Daten
- DATN_ADD_DAYS – x Tage zu einem Datum addieren
- DATN_ADD_MONTHS – x Monate zu einem Datum addieren

```
SELECT FROM zfox_i_movpro
  FIELDS MovieUuid,
         title,
         PublishingDate,
         datn_add_days( PublishingDate, 1 ) AS add_days,
         datn_add_months( PublishingDate, 1 ) AS add_months,
         datn_days_between( PublishingDate, dats_to_datn( @sy-datum ) ) AS days_between
INTO TABLE @DATA(result).
```

- **Neuer ORDER_BY Zusatz für „Nullwerte“**
 - NULLS_FIRST und NULLS_LAST
 - Nicht durch alle Datenbank unterstützt
 - Prüfung mit CL_ABAP_DBFEATURES

```
select from zfox_i_movpro as a left outer join
           zfoe_movprost_db as b on b~status = a~Status
fields a~MovieUuid, a~Title, b~description as status_description

order by status_description NULLS LAST

into table @data(result).
```

Zusatz	Sortierung
<keine Angabe>	ASCENDING + NULLS FIRST
NULLS LAST	ASCENDING + NULLS LAST
DESCENDING	DESCENDING + NULLS LAST

• Statistische Aggregatsfunktionen

- MEDIAN – statistischer Mittelwert
- STDDEV / VAR - Varianz / Maß der Streuung
- CORR – Pearson product-moment correlation coefficient (Pearson's correlation)
- CORR_SPEARMAN – Spearman's Rank correlation coefficient

```
SELECT FROM zfox_i_movpro  
FIELDS MEDIAN( ProductionCosts ) INTO @DATA(medianProductionCosts).
```

- **Inline Deklaration INTO – dyn. SELECT**
 - Funktioniert nun auch bei dynamischen FROM in SELECTS – sofern **alle SELECT Felder statisch bekannt** sind
 - ? Was bringt das ?

- **Neue Typekonvertierungsfunktionen**
 - to_clob - Konvertierung von CHAR/SSTRING -> STRING
 - to_blob – Konvertierung von RAW -> RAWSTRING

```
select from zfox_i_movpro
fields MovieUuid,
       binto hex( MovieUuid ) as MovieUuid32,
       Title,
       TitleChar,
       to_clob( titlechar ) as title_clob
into table @data(result).
```

- **Konvertierung von Währungen**
 - Nun auch für ABAP SQL (CDS schon seit 7.40)

```
select from zfox_i_movpro
  fields MovieUuid,
         ProductionCosts,
         Currency,
         CURRENCY_CONVERSION( amount = ProductionCosts,
                               source_currency = Currency,
                               target_currency = 'USD',
                               exchange_rate_date = @sy-datum ) as ProductionCosts_in_USD,
         'USD' as Currency_USD
into table @data(result).
```

• Typisierte Literale

- Typisierte Literale mit dbtype`...`
 - INT1`1`, INT4`123456`, CHAR`Text`, STRING`Text`, ...
 - DEC`-123.43`, utclong`2020-04-01T12:01:01,2`, ...

```
SELECT FROM zfox_i_movpro
  FIELDS MovieUuid,
         title,
         datn_days_between( PublishingDate, datn`20210225` ) AS days_between,
         char`Text` as text,
         string`Stringtext` as string,
         dec`-123.45` as decimal
INTO TABLE @DATA(result).
```


• Neue Stringfunktionen PCRE

- REPLACE_REGEXPR – Stringersetzung
- LIKE_REGEXPR – Kommt es zumindest einmal vor?
- OCCURRENCES_REGEXPR – Anzahl Vorkommen

```
SELECT FROM zfox_i_movpro
  FIELDS MovieUuid,
         titlechar,
         occurrences_regexpr( pcre = 'A', value = TitleChar, CASE_SENSITIVE = @abap_false ) as count
  INTO TABLE @data(result).

i_out->write( result ).
```

- **Weitere ABAP SQL Erweiterungen**
 - Erweiterungen bei der WINDOW Funktion
 - Erweiterungen beim HIERARCHY Generator
 - ... und weitere kleine bzw. sehr spezielle Änderungen

- **Sonstige ABAP 7.55 Erweiterungen in ...**
 - Ausdrücke/Funktionen (REDUCE)
 - INDICATORS in TYPES
 - String Prozessierung
 - ABAP CDS Access Control
 - Exception Handling

https://help.sap.com/doc/abapdocu_latest_index_htm/latest/en-US/abennews-755.htm

- **CX_NO_CHECK**

```

7
8 METHODS do_work RAISING cx_no_check.
9
10 PROTECTED SECTION.

```

The class "CX_NO_CHECK" was not derived from either "CX_STATIC_CHECK" or "CX_DYNAMIC_CHECK".

```

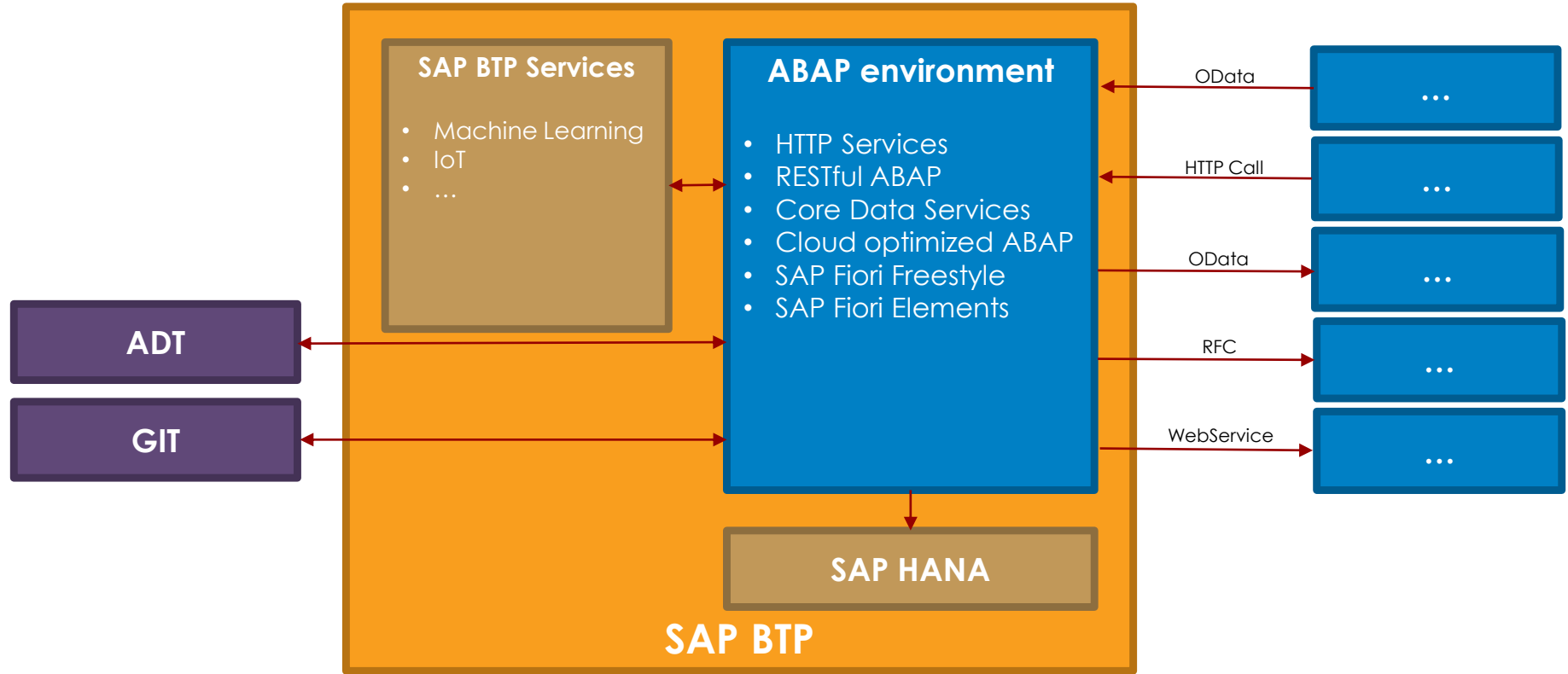
7
8
9 METHODS do_work RAISING cx_no_check.
10
11

```

ADT

- (nur) Cloud / Steampunk
 - Messageklassen
 - Application Log
- RAP Entwicklung

SAP BTP, ABAP environment





<http://www.cadaxo.com/blog/>

See you again!

Thank you for participating!



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