

# IT Forum – Innovationen 2014

Produktivität & Wachstum durch intelligente Lösungen

## Neuerungen Datenbank Ingres/OpenRoad

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# Agenda

1. Actian CodeSprint und Technical User Meeting 2014
2. OpenROAD 6.2: TreeView
3. OpenROAD 6.2: Sprites
4. OpenROAD 6.2: Windows 7 Styles
5. Ingres 10.2: Merge Statement
6. Ingres 10.2: Remote GCC
7. Ingres 10.2: UTF-8 Transliteration

# Action CodeSprint und Technical User Meeting 2014

- 03.10.2014 – 07.10.2014 in London
- ca. 150 Teilnehmer (Technical User Meeting)
- Realisierte Funktionen im Codesprint (Ingres):
  - drop permit on Sequence
  - Wireshark Plugin für Ingres Traffic:

```
▶ Frame 135: 123 bytes on wire (984 bits), 123 bytes captured (984 bits)
▶ Ethernet II, Src: HonHaiPr_3f:18:ba (44:37:e6:3f:18:ba), Dst: Vmware_a5:21:8b (00:50:56:a5:21:8b)
▶ Internet Protocol Version 4, Src: 172.30.10.1 (172.30.10.1), Dst: 172.30.2.52 (172.30.2.52)
▶ Transmission Control Protocol, Src Port: 65247 (65247), Dst Port: 21024 (21024), Seq: 1, Ack: 1, Len: 69
▼ Ingres GCA Packet
  INGRES GCA Packetlength: 69
  INGRES TransportLayer Length: 4
  INGRES TransportLayer TPDU Flag: 0xf0
  INGRES TransportLayer Local Connection Endpoint ID: 0x0020
  INGRES TransportLayer Sequence-Number and EOT Flag: 0x80
  INGRES SessionLayer SL_DT/ISDT Flag: 0x01
  INGRES SessionLayer Length: 0
  INGRES PresentationLayer Flags: 0x03
  INGRES PresentationLayer MessageType: 0x0d (GCA_QUERY)
  INGRES PresentationLayer Length: 56
  INGRES ApplicationLayer Query LanguageID: 0x00000002 (SQL)
  INGRES ApplicationLayer Query Modifier: 0x00000011
  INGRES ApplicationLayer Query Type: 0x00000033 (GCA_TYPE_QTXT)
  INGRES ApplicationLayer Query Precision: 0x00000000
  INGRES ApplicationLayer Query Length: 36
  INGRES ApplicationLayer Querytext: select * from tab_betriebsadresse
```

# Action CodeSprint und Technical User Meeting 2014

## - Und sonst?

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### Code Sprint 2014: Add `cs_lkwt` in `cscl.h` for Windows build

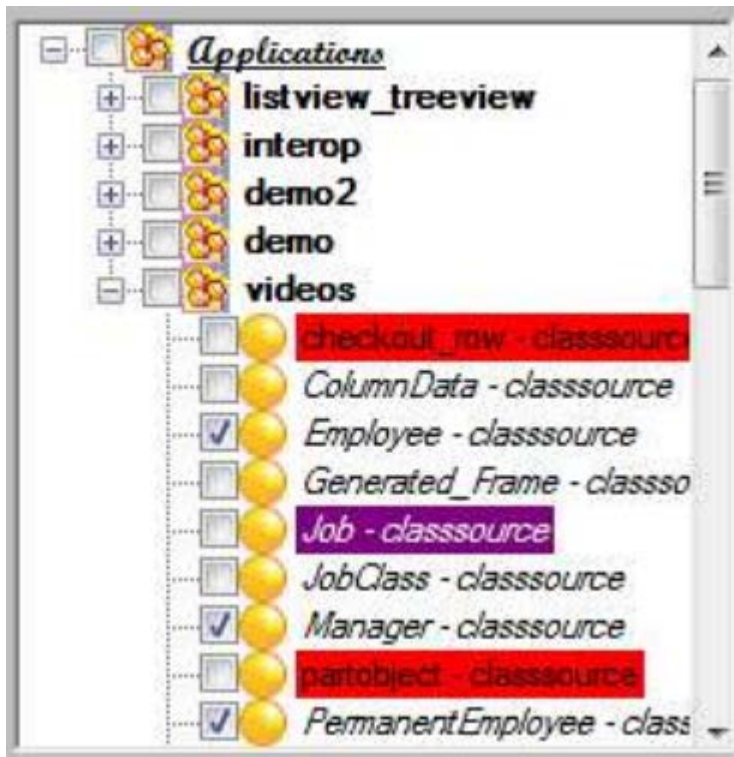
Code Sprint 2014: Add `dbmsinfo('lock_wait')` which reports the cumulative time in milliseconds that a session has spent waiting for locks.

Code SPrint 2014 Project: Add a `-all` flag to `optimizedb` which allows the DBA to create table statistics for all users.

Code Sprint 2014 : Add `dbmsinfo('server_pid')` which returns the process ID of the server.

Code Sprint 2014 : Add support for `DROP PERMIT ON SEQUENCE ALL`. A comma separated list of permits to drop is also allowed. E.g. `DROP PERMIT ON SEQUENCE seq1 3, 4;`

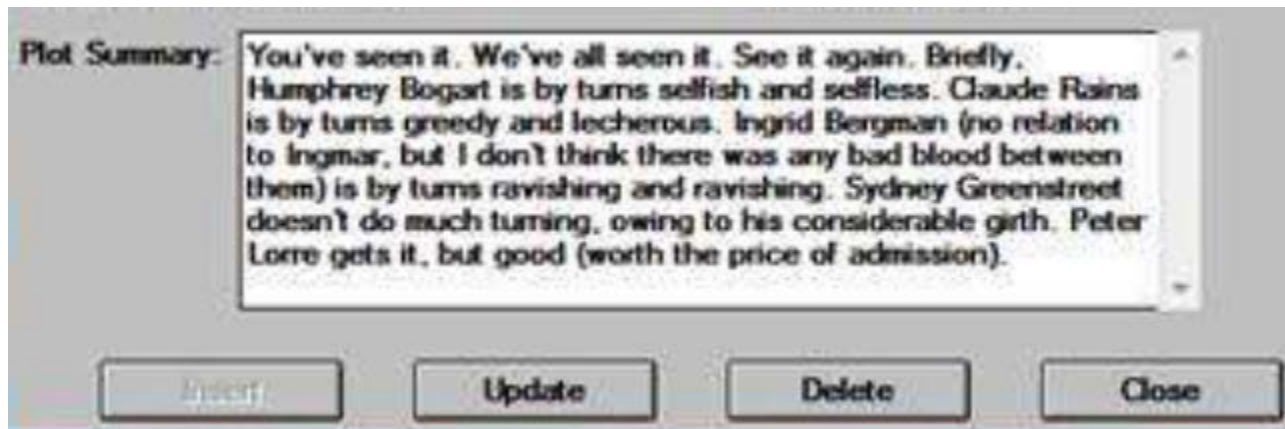
# OpenROAD 6.2: Neue Möglichkeiten mit TreeViews



# OpenROAD 6.2: Sprites



# OpenROAD 6.2: Windows 7 Styles



## Ingres 10.2: Merge Statement

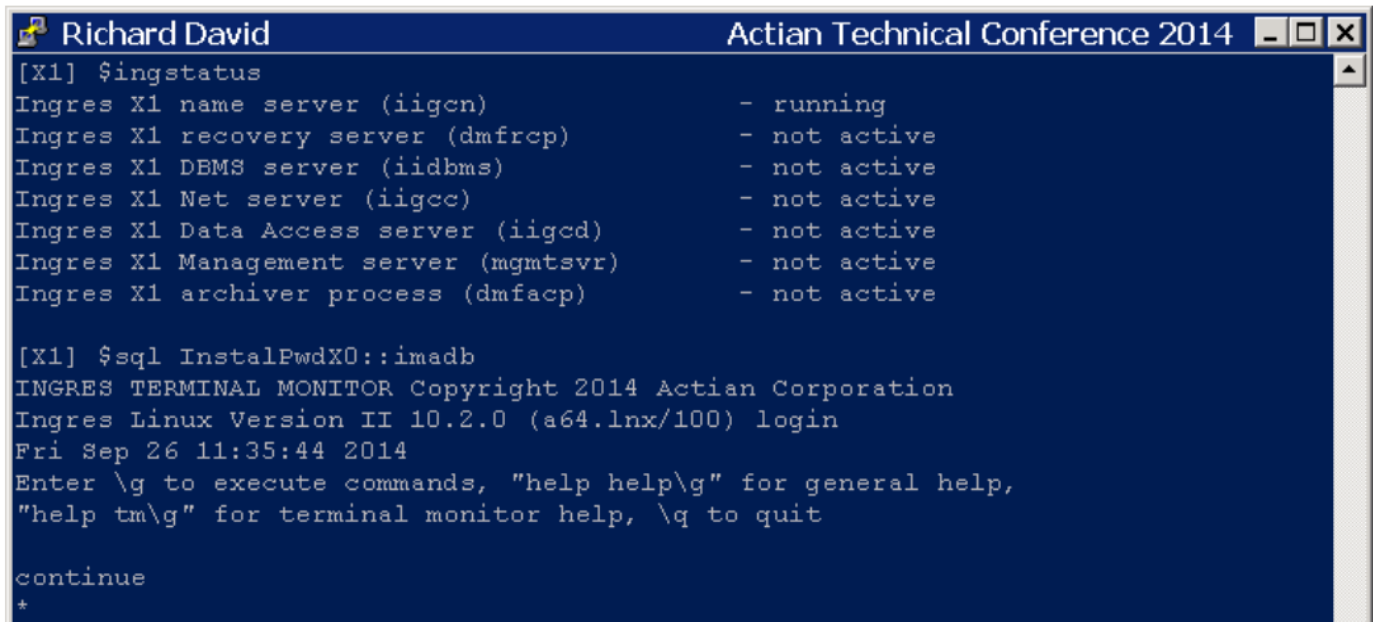
- SQL 2003 Standard introduced MERGE
  - Enhanced in SQL 2008 with multiple WHEN clauses, clause guards, delete
- One statement to insert, update, delete
  - One single target table
  - Arbitrarily complex source “table”
- Ingres implements the full SQL 2008 syntax

```
MERGE INTO master_table [corr-name]
USING transaction-table [corr-name]
ON join-condition
when-clauses
WHEN MATCHED [AND condition] THEN
UPDATE SET col=expr, ...
DELETE
WHEN NOT MATCHED [AND condition] THEN
INSERT [(col-list)] VALUES (expr, ...)
```



# Ingres 10.2: Remote GCC

- In Release 10.2 Ingres/NET does not require any Net server (iigcc) processes running locally.
- e.g. Client connecting using **static vnode**:-



```
Richard David Actian Technical Conference 2014
[X1] $ingstatus
Ingres X1 name server (iigcn) - running
Ingres X1 recovery server (dmfrcp) - not active
Ingres X1 DEBS server (iidsbms) - not active
Ingres X1 Net server (iigcc) - not active
Ingres X1 Data Access server (iigcd) - not active
Ingres X1 Management server (mgmtsvr) - not active
Ingres X1 archiver process (dmfacp) - not active

[X1] $sql InstalPwdX0::imadb
INGRES TERMINAL MONITOR Copyright 2014 Actian Corporation
Ingres Linux Version II 10.2.0 (a64.lnx/100) login
Fri Sep 26 11:35:44 2014
Enter \g to execute commands, "help help\g" for general help,
"help tm\g" for terminal monitor help, \q to quit

continue
*
```

# Ingres 10.2: UTF-8 Transliteration

## UTF-8

- UTF-8 is an acronym for Universal Character Set + Transformation Format - 8-bit.
- UTF-8 is a character encoding capable of encoding all possible characters (called code points) in Unicode. The encoding is variable-length and uses 8-bit code units.
- UTF-8 is designed to be backwardly compatible with ASCII and avoids the complications of byte order or 'endian' marks in UTF-16 and UTF-32.
- UTF-8 has become the dominant character encoding for the World Wide Web (WWW).

## UTF-8 Transliteration in Ingres

- UTF-8 transliteration enables Ingres to handle multiple character sets.
- A specific character set used by a client is converted and stored as UTF-8 in the Ingres database.
- The UTF-8 characters are converted back to a client specific character when it is sent back to the client.
- UTF-8 is a very good choice when databases are accessed by clients from all over the World.

# Vielen Dank für Ihre Aufmerksamkeit!

Haben Sie Fragen?

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