



VNUG  
2010

Tradition meets Modernity

Eclipse for Cobol85, Screen Cobol and Tal

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# Agenda

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- Traditional software development
- What is Eclipse
- The CommitWork Developer Suite



# Traditional software development

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# Traditional software development Tools:

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- Used Editors:
  - Edit (line mode)
  - XVS (block mode 24 x 80)
  - Tedit (block mode 48 x 80, split screen)
  - FTP with PC-Editor
- Usage of the compilers:
  - Run-Commands
  - Obey files
  - Tacl macros
- Compilation results
  - Peruse

# Traditional software development Tools:

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- Version control:  
roll your own
- Source scans:  
Tacl macros (grep)
- Historical comparisons  
Manually or third-party
- Generation of SQL code  
Manually or third-party

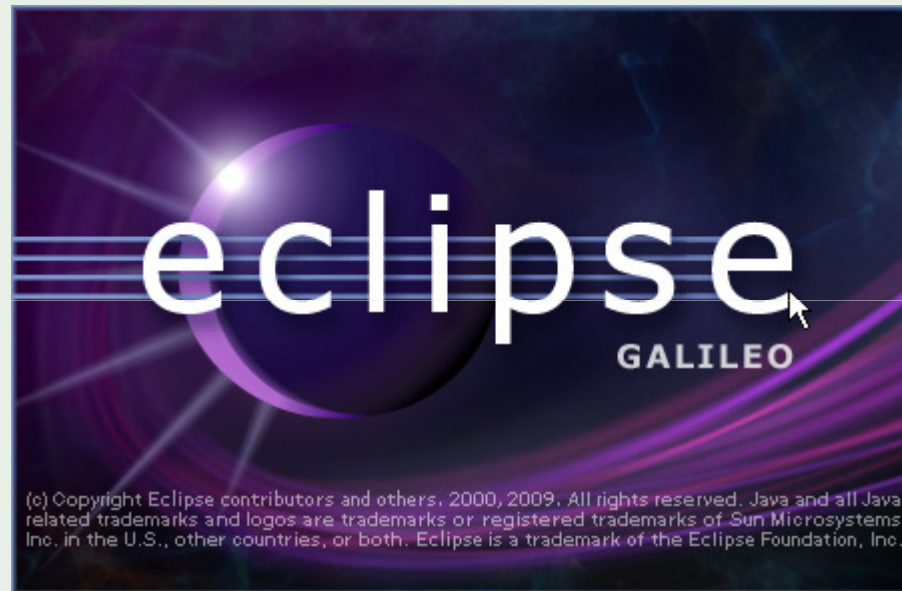
## Traditional software development the challenges:

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- Who is at home in this subject ?  
In most cases one person only
- Who could administer these tools ?  
The one from above, if he is not sick, not on vacation & not retired yet
- Can someone expect young developers to use such an environment ?  
Certainly not,  
or do you have any volunteers, willing to join a “Legacy” NonStop developer team ?

# What is Eclipse

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## What is Eclipse

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**Eclipse** is an Open Source software development toolset for different programming languages\_consisting of an integrated development environment (IDE) and a huge amount of plug-ins.

Originally written in Java, Eclipse was used to develop Java applications and in the mean time it can be used  
- because of the huge plug-in set - for other languages as well, including C, C++, COBOL and others.

Source: Wikipedia



# What is Eclipse ?

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**Eclipse** is including:

- Views:
  - Project catalog
  - History
  - Protocol
- Editors:
  - Individual editors for each language
  - Syntax highlighting
  - Historical comparisons
- Perspectives:
  - Individual arrangement of menus, views and editors

**Eclipse is  
one environment for the perfect software development**

## What is Eclipse

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- Integration of the Concurrent Versioning System (**CVS**).
- **CVS** runs well on the NonStop
- An alternative for **CVS** could be **Subversion**

# Eclipse – compare with history

The screenshot displays the Eclipse IDE interface with a 'Text Compare' window open. The window compares the local file 'sstsfert.cob' with its historical version from '18.05.2010 15:23:42'. The left pane shows the local code, and the right pane shows the historical code. The bottom pane shows the 'Revision Time' history.

**Local: sstsfert.cob**

```
522 01 WS-STKSTK-STATUS PIC 9.
523      88 WS-STKSTK-GEAENDERT VALUE 0.
524      88 WS-STKSTK-NICHT-GEAENDERT VALUE 1.
525 01 WS-STUECK-IST-RISS PIC 9.
526 01 WS-FERTIGMELDUNG PIC 9.
527      88 WS-FERTIGMELDUNG-OK VALUE 0.
528      88 WS-FERTIGMELDUNG-DOPPELT VALUE 1.
529
530 *V34A
531 01 WS-FEHLER-4 PIC X(4).
532 01 WS-FEHLER-R REDEFINES WS-FEHLER-4.
533 02 WS-FEHLER-NUM PIC 9(4).
534 *V34E
535
536 ** Serverspezifische Parameter
537 01 WS-NUM PIC Z29.
538 01 WS-PARAM-NAME-1 PIC X(30) VALUE "EMPfangsRECHNER"
539
540 01 WS-PARAM-TEXT-1.
541      05 WS-PARAM-LAENGE-1 PIC S9(4) COMP.
542      05 WS-EMPfangsRECHNER-5011 PIC X(2).
543      05 FILLER PIC X(253).
544
545
546 ?HEADING "PROCEDURE DIVISION/DECLARATIVES"
547 /
548 PROCEDURE DIVISION.
549
550 DECLARATIVES.
551
552 COPY DECLARATIVE-SERVER-PROCS OF "LCKSF02"
553     REPLACING ==#PROGRAMM-NAME#== BY == "STSFERT"==.
554
555 END DECLARATIVES.
556
```

**Local history: sstsfert.cob 18.05.2010 15:23:42**

```
509 01 WS-STKSTK-STATUS PIC 9.
510      88 WS-STKSTK-GEAENDERT VALUE 0.
511      88 WS-STKSTK-NICHT-GEAENDERT VALUE 1.
512 01 WS-STUECK-IST-RISS PIC 9.
513 01 WS-FERTIGMELDUNG PIC 9.
514      88 WS-FERTIGMELDUNG-OK VALUE 0.
515      88 WS-FERTIGMELDUNG-DOPPELT VALUE 1.
516
517 ** Serverspezifische Parameter
518 01 WS-NUM PIC Z29.
519 01 WS-PARAM-NAME-1 PIC X(30) VALUE "EMPfangsREC"
520
521 01 WS-PARAM-TEXT-1.
522      05 WS-PARAM-LAENGE-1 PIC S9(4) COMP.
523      05 WS-EMPfangsRECHNER-5011 PIC X(2).
524      05 FILLER PIC X(253).
525
526
527 ?HEADING "PROCEDURE DIVISION/DECLARATIVES"
528 /
529 PROCEDURE DIVISION.
530
531 DECLARATIVES.
532
533 COPY DECLARATIVE-SERVER-PROCS OF "LCKSF02"
534     REPLACING ==#PROGRAMM-NAME#== BY == "STSFERT"==.
535
536 END DECLARATIVES.
537
538 ?HEADING "PROCEDURE DIVISION - MAIN"
539 /
540 0100-MAIN SECTION.
541 *****
542 **
543
```

**Revision Time**

- 18.05.10 15:26
- 18.05.10 15:23
- 18.05.10 15:23
- 03.05.10 12:58

## Where to find Eclipse

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<http://www.eclipse.org/>



# Commitwork Developer Suite

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# The highlights at a glance

Java - TKS Bochum Cobol High/tead/ssadabs.cob - Eclipse

File Edit Navigate Search Project Run HPNS Window Help

Package Hierarchy

TKS Bochum Cobol High

- lclclt
- teab
- tead
  - ssad040.cob
  - ssad050.cob
  - ssad052.cob
  - ssad057.cob
  - ssad058.cob
  - ssad081.cob
  - ssadabs.cob
  - ssadsois.cob
  - ssadteil.cob
- teap
  - teaz
  - tebb
  - tedg
  - tedia
  - tefz
  - tegl
  - TEKW
  - telk
  - tepl
  - teqv
  - tetn
  - TETS
  - TEVL
  - tewa
  - sswa057.cob
  - tezt
  - ucowo
- TKS Bochum Cobol Low
- TKS Dortmund Cobol
- TKS Duisburg Cobol

```

2038      PERFORM 5000-040-INSERT-AUSFAL
2039      END-IF
2040      *      PERFORM 5000-070-INSERT-KWSCHW VARYING WS-SCHW FROM 1 BY 1 UNTIL
2041      *              WS-SCHW > SCHWEISSN-ANZ OF M-AD-A52-2-IN
2042      *              OR NOT WS-SF-CONTINUE
2043      MOVE K-NEIN TO WS-MIT-LVS
2044      PERFORM 5100-010-GET-PARAM-1
2045      IF WS-SF-CONTINUE
2046      *V16
2047      AND WS-ARB105 NOT = K-JA
2048      PERFORM 5000-080-LAGER
2049      END-IF
2050      IF WS-SF-CONTINUE
2051      PERFORM 5000-090-PS-SFZBPR
2052      END-IF
2053      *V11
2054      *      IF AGGREGAT-IST OF M-AD-A52-2-IN = "AGG530"
2055      *      EXIT SECTION
2056      *      END-IF
2057      IF WS-SF-CONTINUE1 AND
2058      ERZ-FEHLER OF S-AD-A52-2-OUT OF M-AD-A52-2-IN > ZERO
2059      PERFORM 5000-100-SPERRE
2060      END-IF
2061      IF WS-SF-CONTINUE AND KZ-HASPELDREHEN OF M-AD-A52-2-IN NOT = 2
2062      AND AGGREGAT-IST OF M-AD-A52-2-IN NOT = "AGG510"
2063      *V11
2064      AND AGGREGAT-IST OF M-AD-A52-2-IN NOT = "AGG530"
2065      *V16
2066      AND WS-ARB105 NOT = K-JA
2067      PERFORM 5000-110-SPERRE
2068      END-IF
  
```

Outline

- CONFIGURATION
- INPUT-OUTPUT
- FILE
- WORKING-STORAGE
- 0010-WHENEVER
- 0100-MAIN
- 0200-INITIALISIERUNG
- 0200-S-KS-SFFE-IN
- 0200-L5-UKSETDR
- 1000-MESSAGES-VERARBEITEN
- 3000-ABSETZEN
- 3000-997-REPLY
- 3000-010-CHECK-VRGSTK
- 3000-020-ERZEUGUNG-REDUZIEREN
- 3000-030-DEL-KWEINS
- 3000-040-UPD-KWEINS
- 3000-050-DELETE-STKLAG
- 3000-060-UPD-VRGSTK
- 3000-070-VRGSTK-UPDATE
- 3000-080-UPD-VRGSEQ
- 3000-090-UADOPT
- 3000-100-STKSTA-READ
- 3000-110-VRGSEQ-READ
- 3000-120-ARB105-READ
- 3000-130-MAX-NUMMER
- 3000-140-INSERT-VRGSTK
- 3000-150-INSERT-KWEINS
- 3000-160-SELECT-STKSTK
- 3000-170-FINDE-HAUPTFEHLER
- 3000-180-SAD057
- 3000-190-INIT-A57
- 3100-VOR-ANLAGE

Problems Declaration Console Spooler List Spooler Job SQL Table View SQL Table Cache View History Error Log

No	Report	Location	#Pages	Status	#Copies	Date
761	KRUPP CW	#RW78	24	Ready	1	29.01.2010 15:54:23
760	KRUPP CW	#NBATCH	1	Ready	1	29.01.2010 15:54:23
759	ES541174250 26	#NBATCH	26	Ready	1	29.01.2010 15:54:23
758	KRUPP CW	#RW78FE	83	Ready	1	29.01.2010 15:52:04
757	VD1DD CW	#NBATCH	1	Ready	1	29.01.2010 15:52:04

Writable Insert 2057 : 25

## Just one click

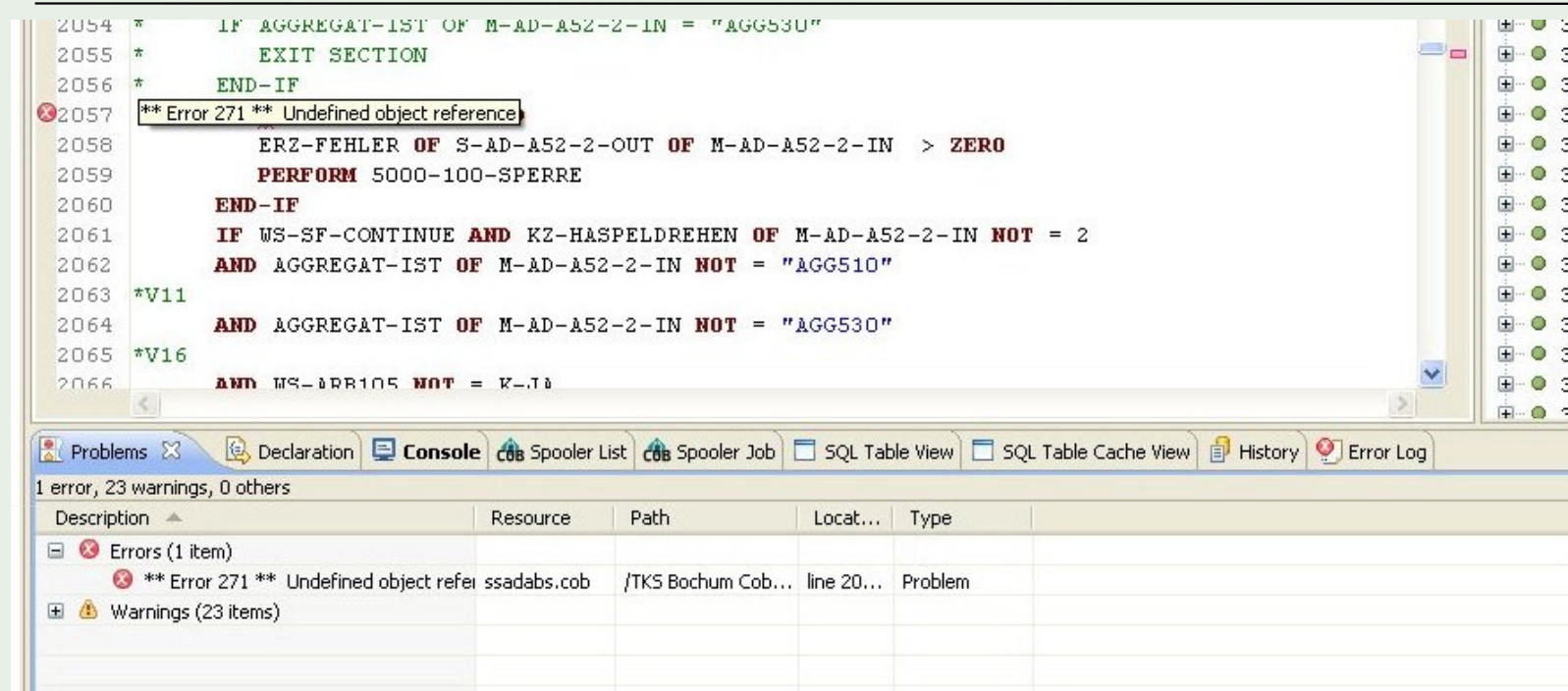
One click you can see the last page of your compiler output



3 options:

- Delete the job
- Show the complete list
- Only show the compilation errors and mark them in the editor

## Just another click



The compilation errors are marked in the editor

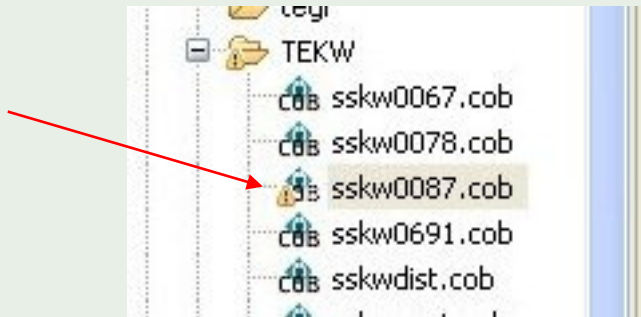
- Tooltip
- Sidebar



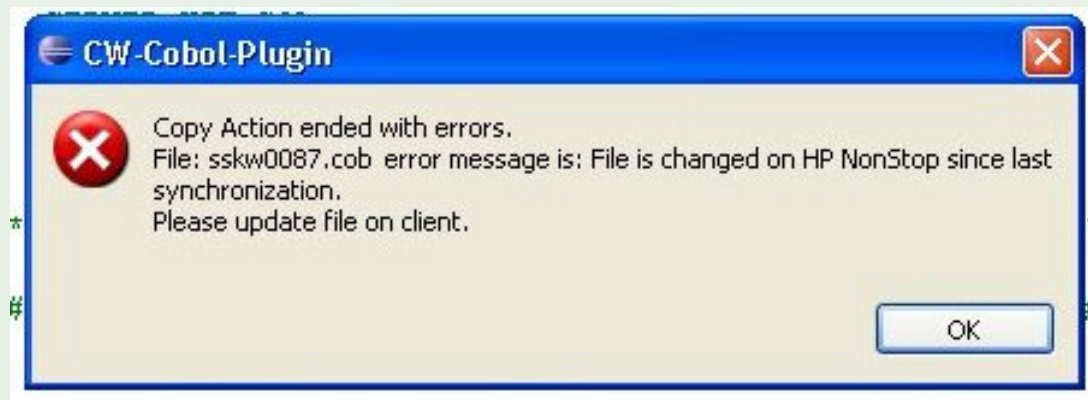
## Protect Sources on the NonStop Server

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Outdated sources are marked in the project view



Sources on the Server are protected against overwriting



# SQL-generation

```
6766
6767      CONTINUE.
6768 ENDE.
6769 **-----
6770      EXIT.
6771
6772
6773 6525-READ-AGGSTA SECTION.
6774 **-----
6775 ANFG.
6776 **-----
6777      SET WS-SQL-OK TO TRUE
6778
6779
6780      CONTINUE.
6781 ENDE.
6782 **-----
6783      EXIT.
6784
6785
6786
6787
6788
6789 6532-PS-INFO-TELE SECTION.
6790 #####
6791 ##
6792 ## 6532-PS-INFO-TELE
6793 ## -----
6794 ##
6795 ## Bezeichnung : SENDEN MESSAGE AN SKSSFFE, dieser erzeugt
6796 ##             Telegramm 6532 und leitet es weiter an F
6797 ##
6798 #####
6799 ANFG.
6800 **-----
6801 ## V01      310801  PACTH      Anfang
6802 *V19
6803 * IF K2-SPERRUNG          OF S-KW-KONTROLLEDATEN-FEHLER
6804 *                         OF NEU OF S-KW-87-IN (WS-IND) NOT = 2
6805 *       GO TO ENDE
6806 * END-IF
6807 IF FEHLER-NR OF FEHLER-TAB OF ALT OF S-KW-87-IN (WS-IND) =
6808 FEHLER-NR OF FEHLER-TAB OF NEU OF S-KW-87-IN (WS-IND) AND
```

Sql Tool for generating Sql Statements

Table: =aggsta ☐ use cache

Hostvar: hv-aggsta

Progvar: ws-aggsta

Define Macro:

☐ Select into ☒ MOVE Hostvar TO Progvar

☐ Insert ☐ MOVE Progvar TO Hostvar

☐ Update ☐ Show tableview only

☐ Delete

# SQL-generation

```
6774  *-----
6775  ANFG.
6776  **-----
6777  SET WS-SQL-OK TO TRUE
6778  EXEC SQL
6779  SELECT
6780  KZF_AGGREGAT_KLASSE
6781  ,AGGREGAT_BEZ_PC
6782  ,AGGREGAT_BEZ_BPR
6783  ,EMPFANGSRECHNER_FREGAT
6784  ,DATUM_DB_AEND
6785  ,ZEIT_DB_AEND
6786  ,TIMESTAMP_DB_AEND
6787  ,ZEITDAUER_STOERZEITUNTERDRUECK
6788  ,AGGREGAT_KURZBEZ
6789  ,AGGREGAT_BEZ_KONTENPLAN
6790  ,AGGREGAT_BEZ_PZ
6791  INTO
6792  :KZF-AGGREGAT-KLASSE          OF hv-aggst
6793  ,:AGGREGAT-BEZ-PC            OF hv-aggst
6794  ,:AGGREGAT-BEZ-BPR          OF hv-aggst
6795  ,:EMPFANGSRECHNER-FREGAT     OF hv-aggst
6796  ,:DATUM-DB-AEND             OF hv-aggst
6797  ,:ZEIT-DB-AEND              OF hv-aggst
6798  ,:TIMESTAMP-DB-AEND         OF hv-aggst
6799  ,:ZEITDAUER-STOERZEITUNTERDRUECK OF hv-aggst
6800  ,:AGGREGAT-KURZBEZ          OF hv-aggst
6801  ,:AGGREGAT-BEZ-KONTENPLAN    OF hv-aggst
6802  ,:AGGREGAT-BEZ-PZ           OF hv-aggst
6803  FROM
6804  =aggst
6805  WHERE
6806  AGGREGAT                      = :AGGREGAT          OF hv-aggst
6807  BROWSE ACCESS
6808  END-EXEC.
6809  MOVE AGGREGAT                OF hv-aggst TO AGGREGAT          OF ws-aggst
6810  MOVE KZF-AGGREGAT-KLASSE      OF hv-aggst TO KZF-AGGREGAT-KLASSE OF ws-aggst
6811  MOVE AGGREGAT-BEZ-PC          OF hv-aggst TO AGGREGAT-BEZ-PC     OF ws-aggst
6812  MOVE AGGREGAT-BEZ-BPR        OF hv-aggst TO AGGREGAT-BEZ-BPR     OF ws-aggst
6813  MOVE EMPFANGSRECHNER-FREGAT   OF hv-aggst TO EMPFANGSRECHNER-FREGAT OF ws-aggst
6814  MOVE DATUM-DB-AEND            OF hv-aggst TO DATUM-DB-AEND       OF ws-aggst
6815  MOVE ZEIT-DB-AEND             OF hv-aggst TO ZEIT-DB-AEND        OF ws-aggst
6816  MOVE TIMESTAMP-DB-AEND        OF hv-aggst TO TIMESTAMP-DB-AEND    OF ws-aggst
6817  MOVE ZEITDAUER-STOERZEITUNTERDRUECK OF hv-aggst TO ZEITDAUER-STOERZEITUNTERDRUECK OF ws-aggst
6818  MOVE AGGREGAT-KURZBEZ         OF hv-aggst TO AGGREGAT-KURZBEZ     OF ws-aggst
6819  MOVE AGGREGAT-BEZ-KONTENPLAN   OF hv-aggst TO AGGREGAT-BEZ-KONTENPLAN OF ws-aggst
6820  MOVE AGGREGAT-BEZ-PZ          OF hv-aggst TO AGGREGAT-BEZ-PZ      OF ws-aggst
6821
6822
6823  CONTINUE.
6824  ENDE.
6825  **-----
6826  EXIT.
```

generated code

## Commitwork Developer Suite

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- All benefits from Eclipse included
- Integration into your existing development environment

Utilization of your existing compile macros  
Spooler view

- Powerfull editors for Cobol (Cobol85 and Screen Cobol),  
Tal (in preparation)

Showing the compile errors within the editors

- Generation of SQL statements



# CommitWork

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Questions?



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