Innovative
Easy to adopt
Flexible

Control
Insight
Simplicity

Support for PHP, Java, RPG, Cobol, CA Plex, CA 2E, LANSA, and more

Application modernization support

IBM i application lifecycle and change management
TD/OMS & GRAVITY

Building tomorrow's business

TD/OMS

Integration with X-Analysis, IBM RTC, RPG Toolbox, Zend Studio

IT operations improvement

ADMIN TRAINING

Definition and working with TD/OMS

REMAINSOFTWARE

Contents

> About this Training

> Overview

> General Definitions

> Application Configuration

> Work Management the 5250 Way

> Distribution Setup

> Recovery

> Advanced

> History and Logging

About this Training

> Course Material
>> These Sheets
>> AMT Workbook
>> AMT Casebook
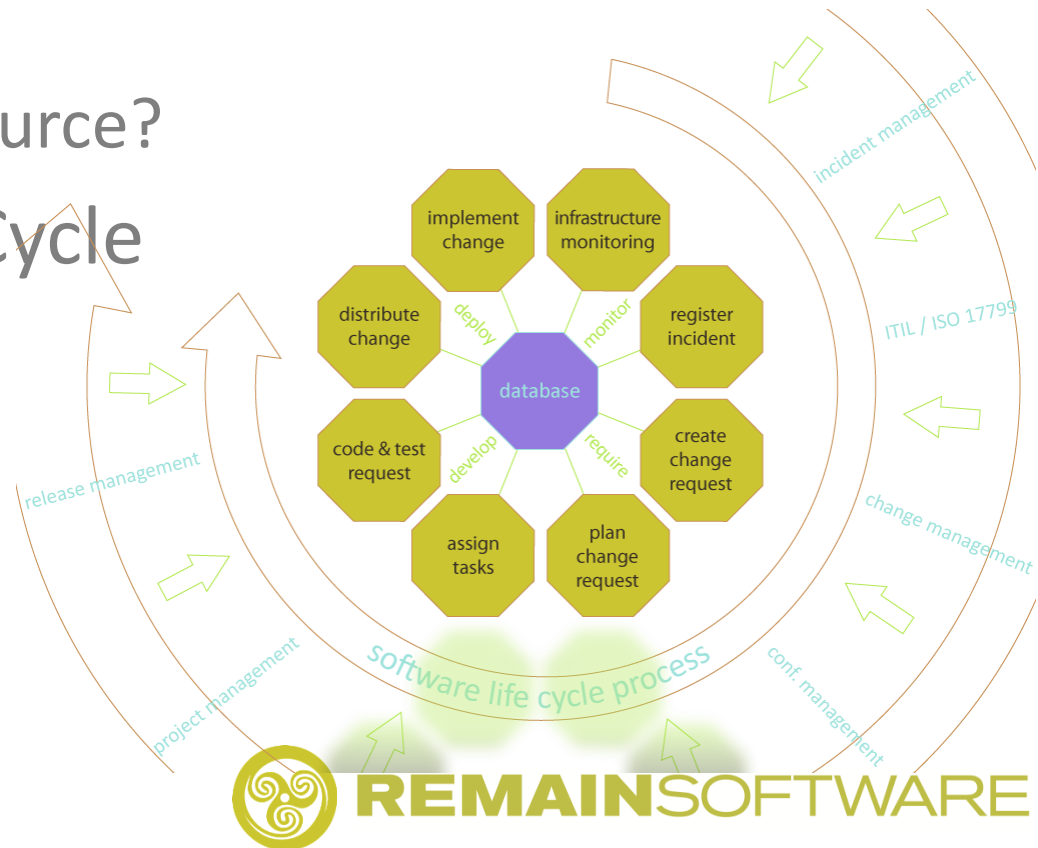>> 5250 Training Setup
> 60% Theory
> 40% Hands on

Overview

> **Object Management**
> > What is it?
> > What about the Source?
> **The Software Life Cycle**

> ## Object

>> Is something that is considered an object, either by i5/OS or by a fourth generation language

>> Is also something that is defined by a TD/OMS user. We call these virtual objects

>> Must be declared towards TD/OMS. Declaring means storing the name, type and location of the object into the ***object file***

>> Is uniquely identified by these three attributes and can be managed by TD/OMS

Overview – Main Entities

> Picture

Object

REMAINSOFTWARE

TD/OMS

> Detail

>> Is stored in an object

>> Has the property to act like a maintainable entity

>> Messages in a message file and sources in a source file are examples of details

REMAINSOFTWARE

Overview – Main Entities

> Picture

REMAINSOFTWARE

TD/OMS

> Relationship

>> Is a dependency between two objects

>> Has the concept of *used by* and *using.*

>> Program *using* logical

>> Physical *used by* logical

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> Picture
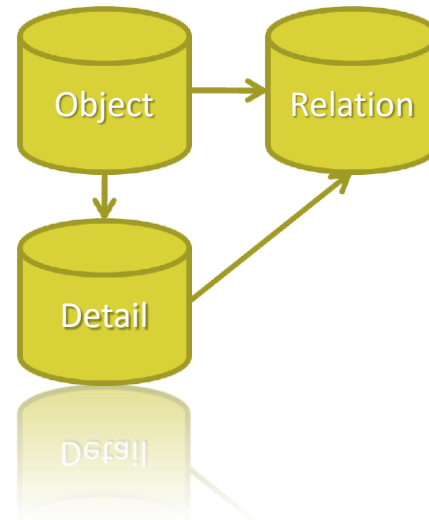
TD/OMS

> Application

>> Is a collection of objects that have to be managed as a whole

>> Is a collection of objects that serve the same goal

>> Examples are financial application, logistic application, tool application, etc.

REMAINSOFTWARE
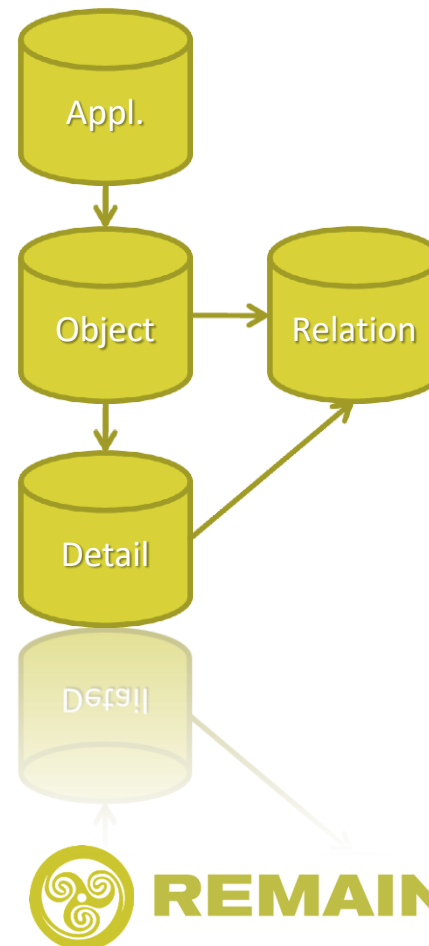
> Picture

Overview – Main Entities

> **Request**
>> Is a request for change

> Picture

REMAINSOFTWARE
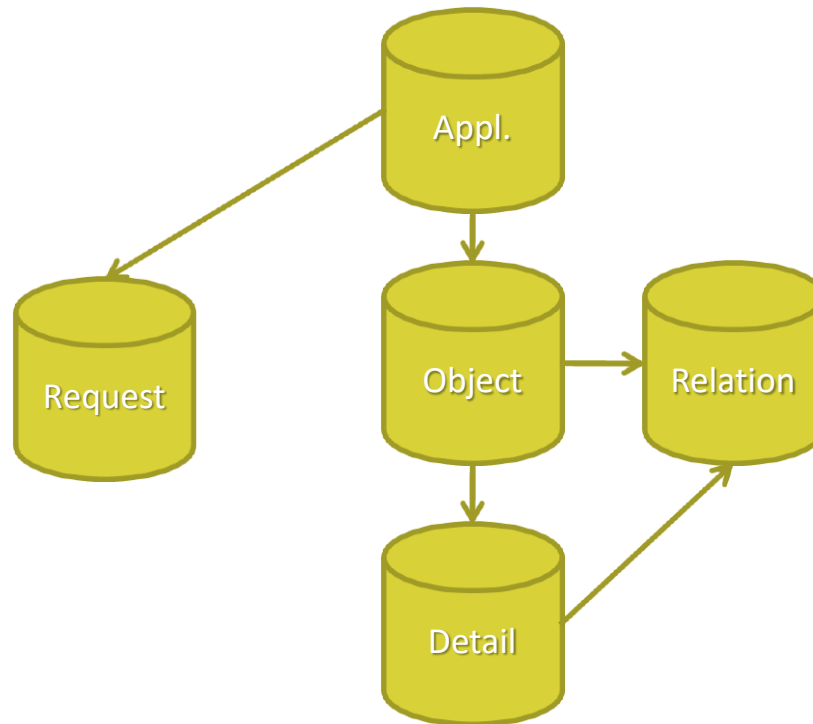
> **TD/OMS**

> **Fix**

>> Is a Unit of Work

>> Can be Part of a Release

>> Can be connected to a Request

>> Contains objects (solutions)

>> Also known as Task

REMAINSOFTWARE
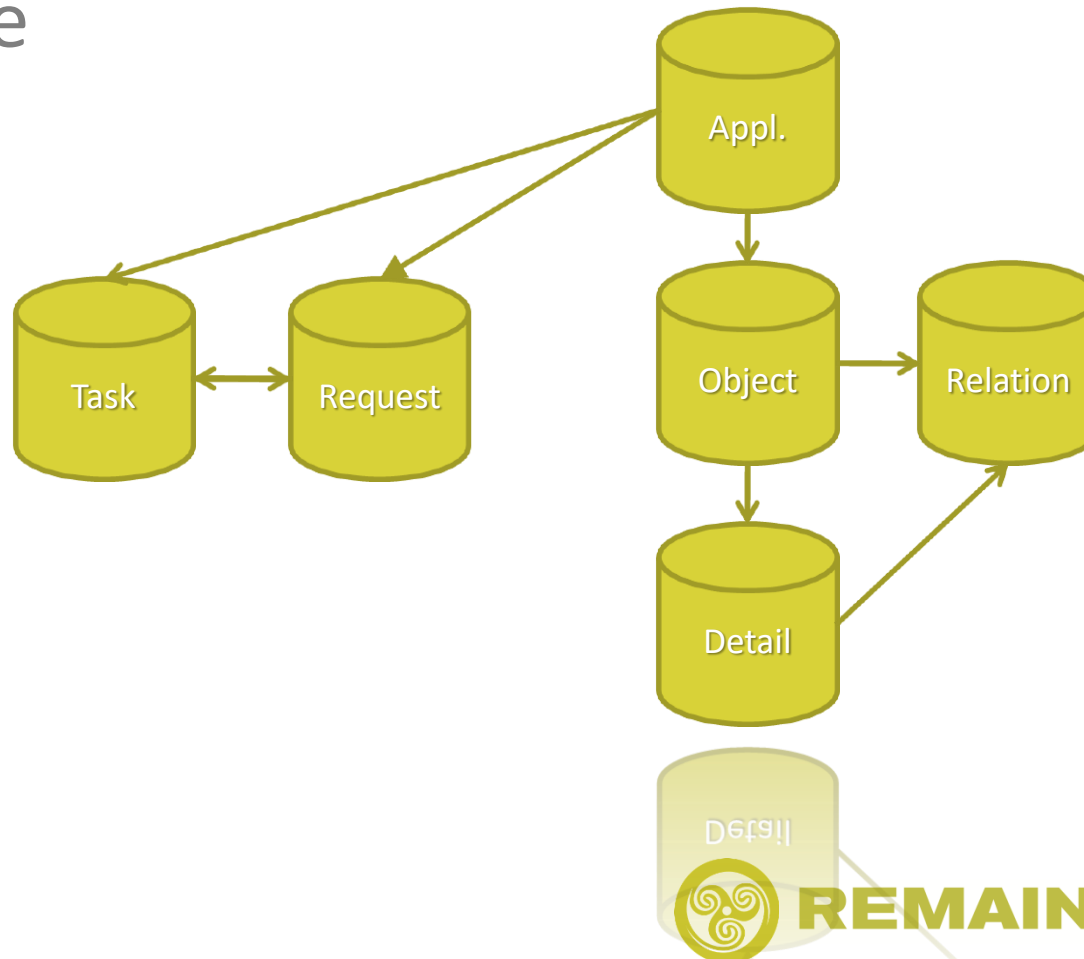
> Picture

Solution

- Is an object or a detail
- Is connected to a Task
- Can be transferred

Overview – Main Entities

> Picture

Overview – Main Entities
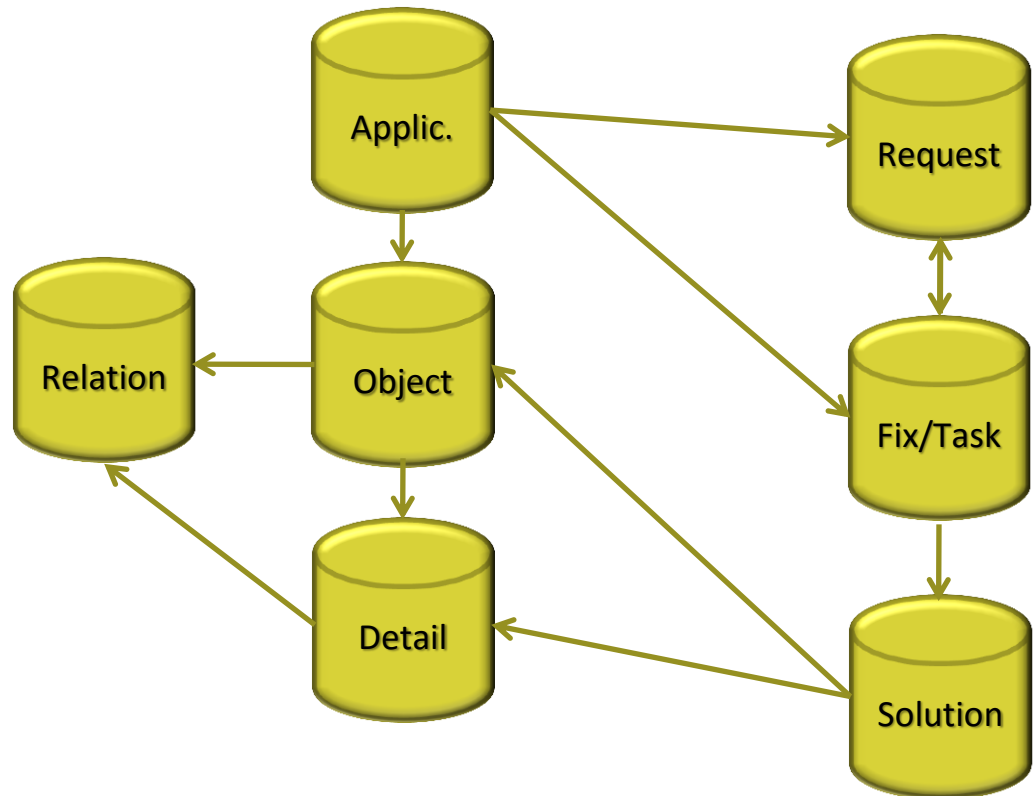
> Environment

>> Step in the maintenance cycle

>> Contains solutions

>> Development, Test,.., Production

> Picture
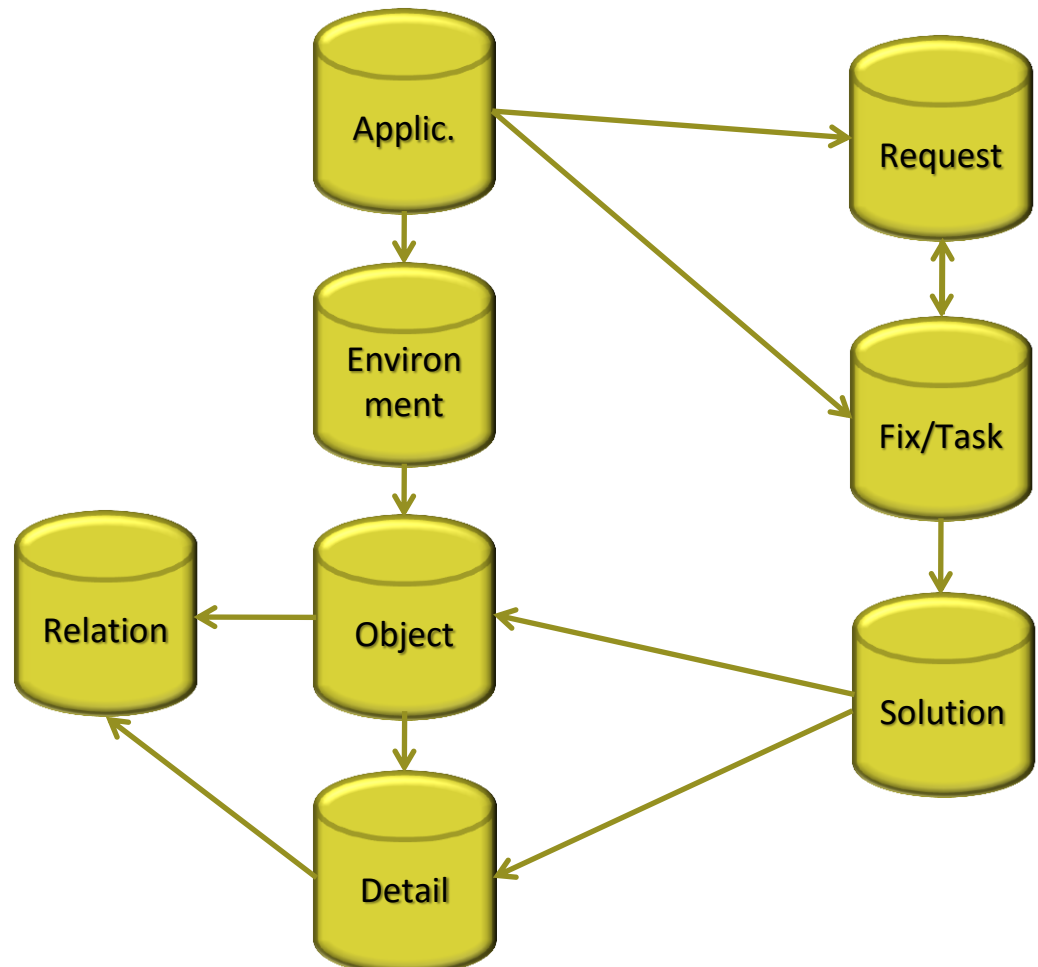
Overview – Main Entities

> ## Cycle

>> Links environments into a workflow

>> Enables Branches

>> Enables Parallel Development

>> Various Patterns can be made
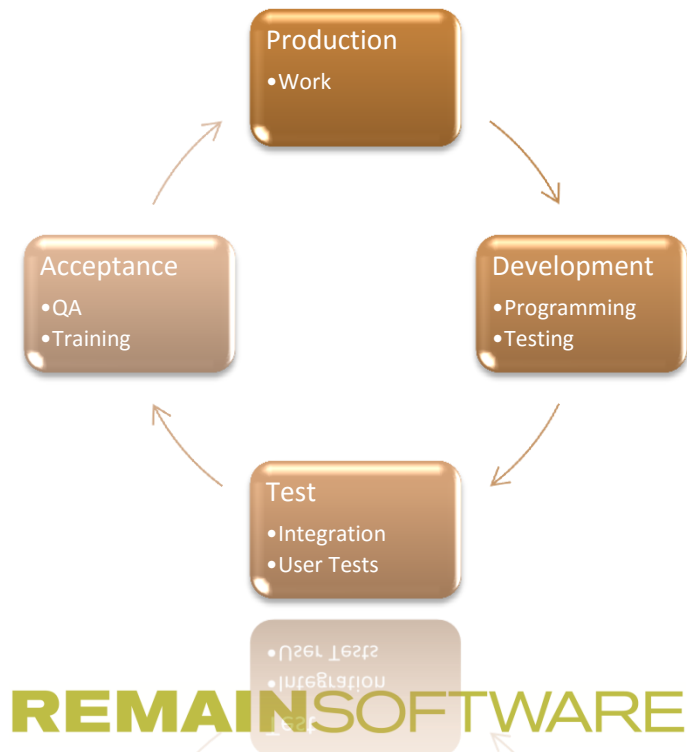
Production
•Work

Development
•Programming
•Testing

Test
•Integration
•User Tests

Acceptance
•QA
•Training

TD/OMS

> ## Cycle Patterns
>> ### Standard Cycle

Production
- Work

Development
- Programming
- Testing

Test
- Integration
- User Tests

Acceptance
- QA
- Training

REMAINSOFTWARE
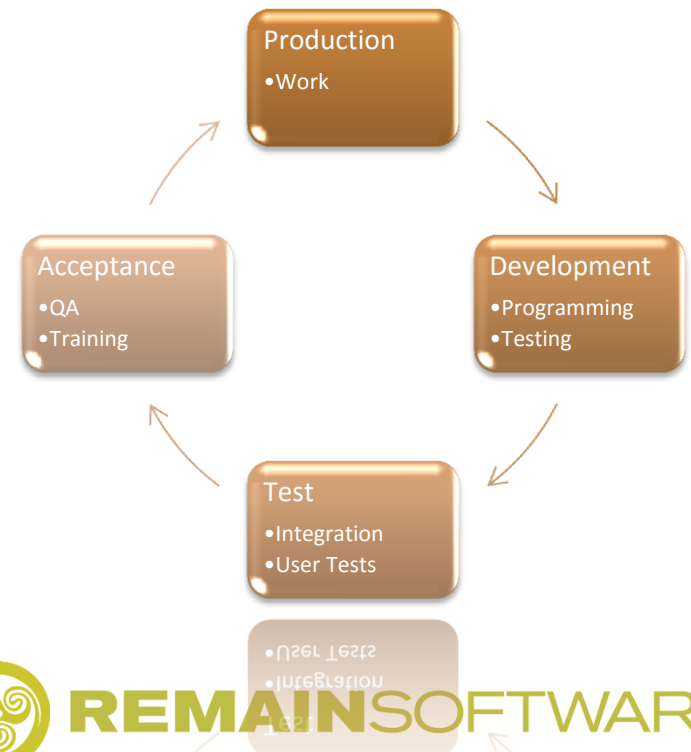
Overview – Main Entities

> ## Cycle Patterns
>> ### Standard Cycle with emergency

Emergency

Production
•Work

Development
•Programming
•Testing

Test
•Integration
•User Tests

Acceptance
•QA
•Training

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Overview – Main Entities
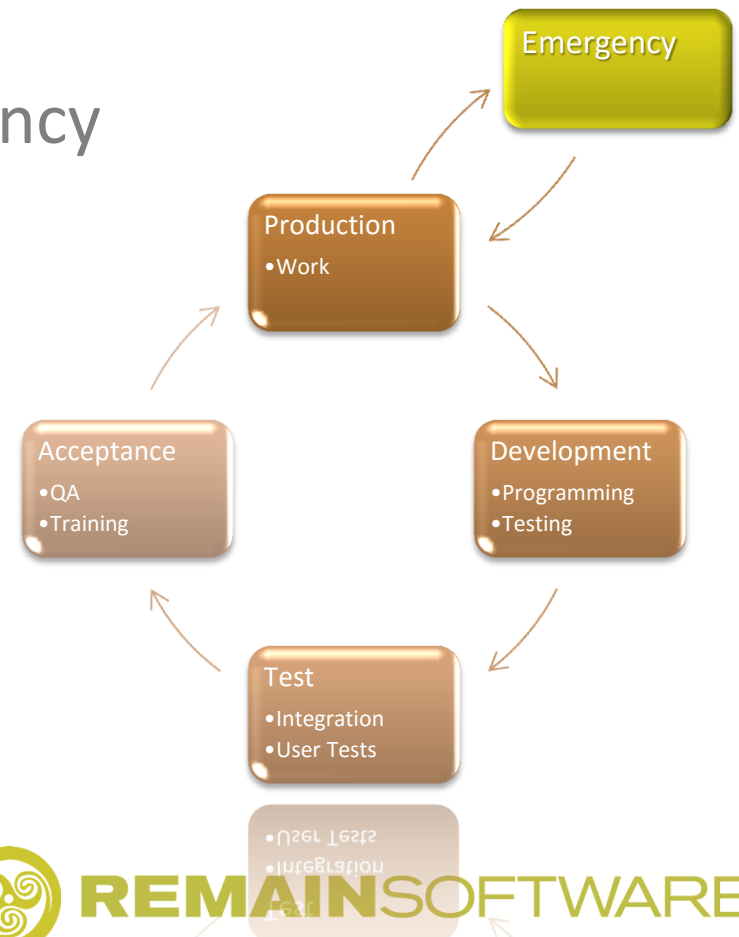
> ## Cycle Patterns
>> Multiple independent project cycles
>> Parallel Development

24
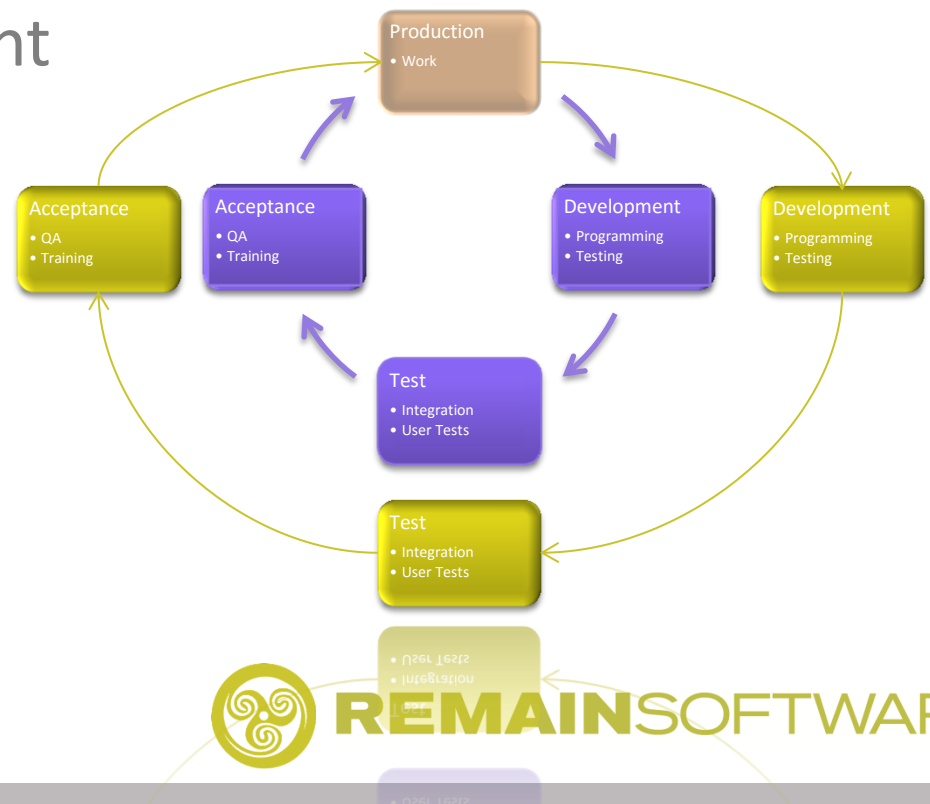
> ## Cycle Patterns
> > Multiple versions

▶TD/OMS
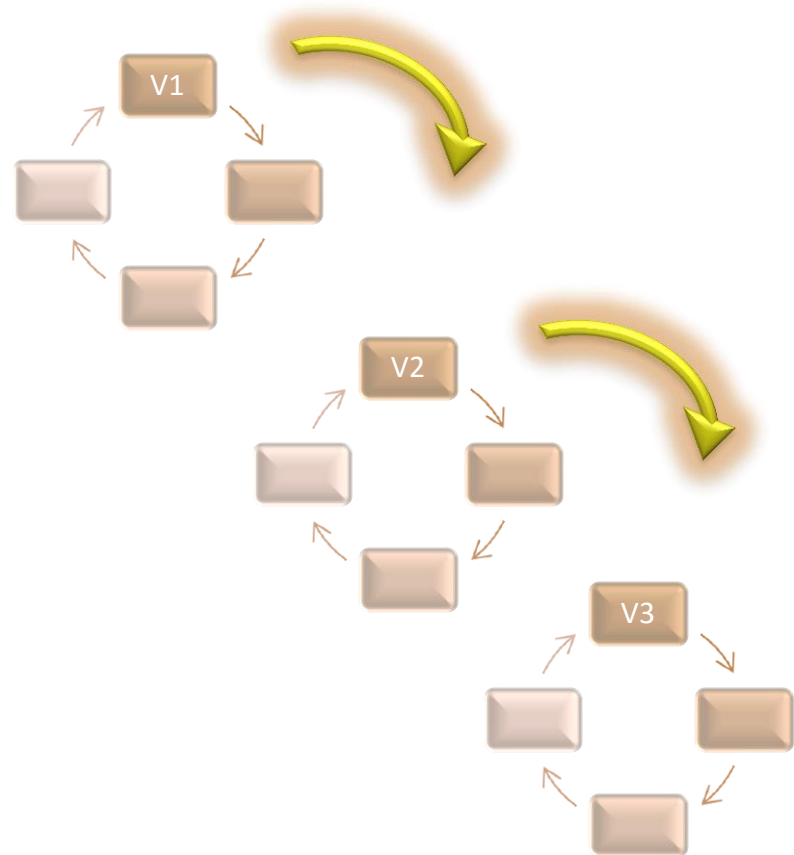
▶ Cycle Patterns
▶ Base and Variance

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> **TD/OMS**
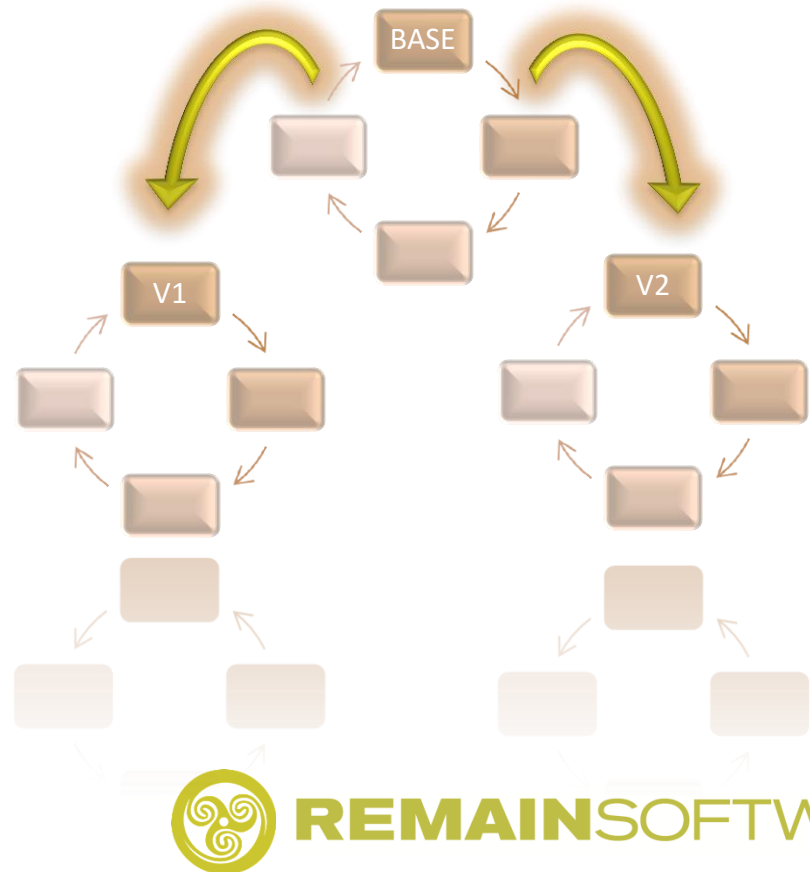
> Request Management
>> Registration of work
- Incidents
- Change Requests
>> Requirements Management
- Tasks
- Planning

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Overview – Main Processes

> Transfer

>> Physical object movement between environments

>> Copy Down (e.g. Prod-Dev)

>> Move Down (e.g. Test-Dev)

>> Move Up e.g. (Acc-Prod)

>> Move Up with *KEEP (No Copy up)

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▐TD/OMS

> **Distribution**

>> Distribute across Network

>> With or without sources

>> Monitored by Remote Job Monitor

>> Distribute Objects (A)

>> Distribute Transfer Command (B)

Dev	Test	Acc	Prod

A	B

REMAINSOFTWARE
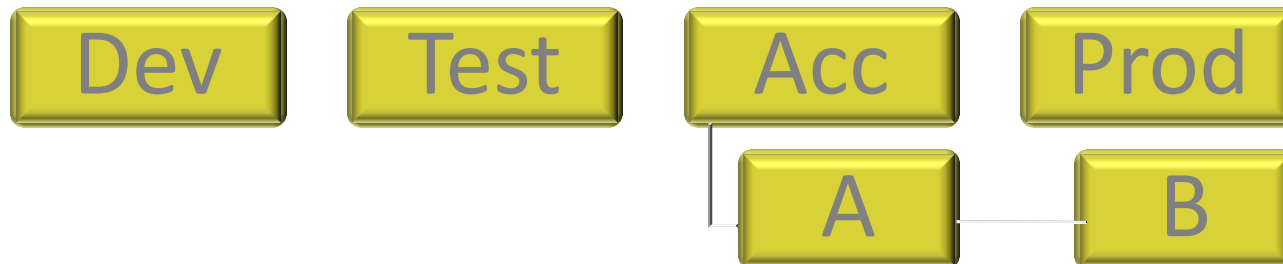
TD/OMS

> **Fall Back**

>> Returns to a previous state

>> Automatic: Atomic transfers 1-4

>> Manual: A-B

REMAINSOFTWARE
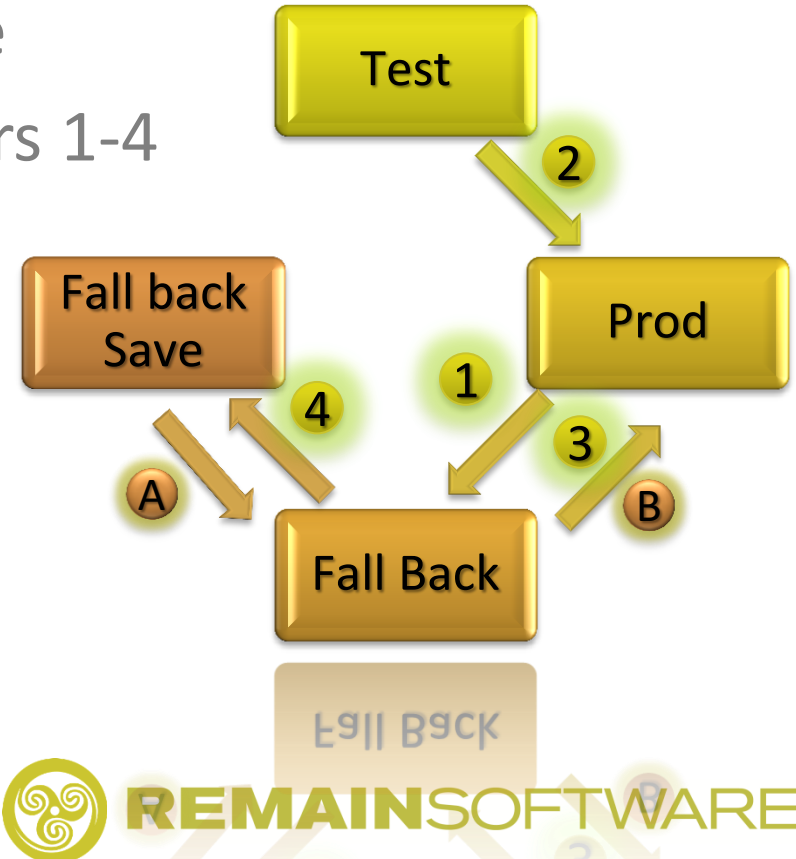
Overview – Main Processes

> Ratification
>> Approval of changes

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Overview – Exceptions & Actions

>TD/OMS

> **Exceptions**
>> Simple User Exit Mechanism

> **Actions**
>> Advanced User Exit Mechanism
>> Used for Compilation
>> Special Attribute Settings
>> Special Authorization
>> Etcetera …

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Overview – Questions
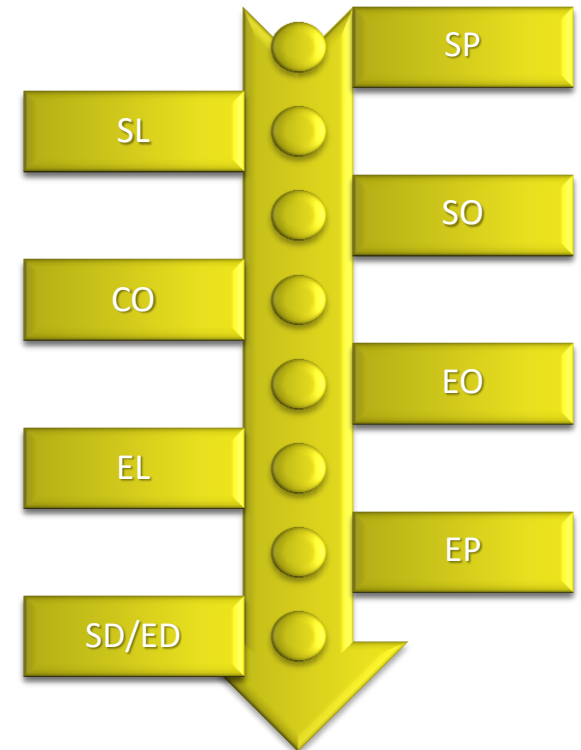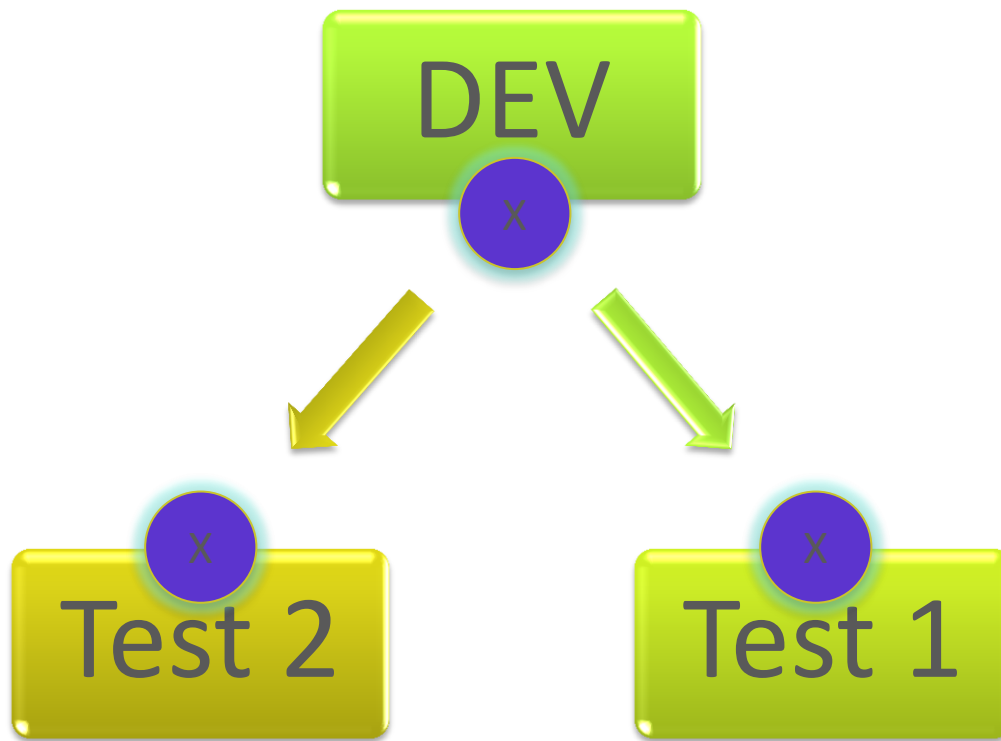
> What is the difference between a solution and an object

> What is the relationship between a fix and a request

> What environments are used in your organisation

> What might be the meaning of the term *Parallel Development*

> What could happen if a quick change of an object is necessary

> What does this mean if that object was already present in the cycle

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General Definitions

>TD/OMS

> ## TD/OMS Main Menu
>> ### Command STROMS
> ## F1 = Help
> ## F1 - F11 = Index
>> ### Concepts
>> ### Glossary
>> ### Etc..
> ## Latest on Wiki

```
JMSMAIN                          TD/OMS Main Menu

Select one of the following:

     1. System Management
     2. Application Management
     3. Work Management
     4. Distribution Management
     5. Impact Analysis
     6. Information
     7. TD/OMS Helpdesk

   Interface Options
    14. PowerHouse Interface

    90. Sign Off

    99. Reset TD/OMS                              (RESOMS)
                                                           Bottom
Selection or command
===> _


F3=Exit    F4=Prompt    F5=Refresh    F9=Retrieve    F12=Cancel
```

General Definitions

> ## System Management Menu
> > ### Main Menu, Option 1

```
JMSSYSM                     TD/OMS System Management

Select one of the following:

        1. System Definition                        (STRSD)
        2. Application Definition                    (STRAD)
        3. Application Interface Maintenance         (STRAIM)
        4. Folder Library Definition                 (STRFLD)
        5. 4GL Library Definition                    (STRLLM)
        6. Reorganize Files                          (RGZOMSF)
        7. Clear Log File                            (CLRLOGOMS)
        8. Save Log File                             (SAVLOGOMS)
        9. Delete Application                        (DLTAPPOMS)
       10. Start DB2 Url Maintenance                 (STRDUM)

  Related Menus
     22. Relationships Configuration Options


Selection or command
===> _

F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F13=User support
TD/OMS - Version 6 - REMAIN 2010.
```

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General Definitions

TD/OMS

System Definitions

Definitions not related to an Application

```
JMS001                      System Definition
OMS00101                    Update System Values
_____

Company name ...........: REMAIN Training
TD/OMS manager .........: OMSOP01

Severitycode filter ....: 0

Confirm Version Conflict: 1            0=No, 1=Yes

Extended Dump ..........: 0            0=No, 1=Yes
  Folder ...............: OMS/OMSDUMP

TD/OMS History library .: _____
Trigger worklibrary ....: OMSTRIG
Constraint worklibrary .: OMSCNST




_____

F3=Exit  F5=Refresh  F12=Cancel
```

REMAINSOFTWARE

General Definitions

> ## Applications
> > ### Groups Objects
> > ### Defines a Cycle

```
JMS002                         Application Definition
OMS00201                   Work with Application Definitions
_____

Position to ............: _____

2=Change   3=Copy   4=Delete   6=Print

   Appl. Description                  Reqst pr.   Dump libr. 4GL-Name   Src
_  OMSRQ TD/OMS request application   OMSOP05                           1
_  OMS01 Application student 1        OMSOP05     OMSOP1DMP             1
_  XMP   Example Application          OMS                               2




                                                                    Bottom
_____
F3=Exit   F5=Refresh   F6=Add   F12=Cancel
```

General Definitions

▷TD/OMS

> **Applications**
>> Request Processor
>> Check Source
>> Release
>> 4GL Language
>> Transfer Path
>> Request/Task numbering

```
JMS002                          Application Definition
OMS00202                    Maintain Application Definition
_____
CHANGE

Application code .......: OMSRQ
Application description : TD/OMS request application

Request processor ......: OMSOP05

Check source location ..: 2          0=No  1=Yes  2=Check Date
Current Release ........: _____
4-GL Language ..........: _____  F4=List
Default transfer path...: _____  Name, *RELEASE, F4=List

Last request number gen.: R0000001   Tmpl, *NONE, *PGM, *BLOCK
Last fix number gen.....: *BLOCK      Tmpl, *NONE, *PGM, *BLOCK
Request number increment: 01
Fix number increment ...: 01

                                                      More...
_____
F3=Exit  F12=Cancel
```

General Definitions

> **Applications**
> > Conversion Type
> > Conversion Scope
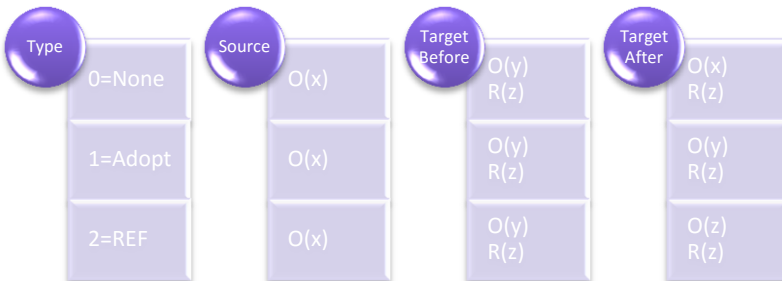
Type
0=None
1=Adopt
2=REF

Source
O(x)
O(x)
O(x)

Target Before
O(y) R(z)
O(y) R(z)
O(y) R(z)

Target After
O(x) R(z)
O(y) R(z)
O(z) R(z)

```
JMS002                        Application Definition
OMS00204                   Maintain Application Definition

CHANGE

Application code .......: OMSRQ TD/OMS request application

PF conversion scope ....: 0          0=Library 1=Library list 2=Environment
Attr. conversion type ..: 0          0=None     1=Adopt        2=OMSREFOBJ
Attr. conversion scope .: 0          0=Library 1=Library list 2=Environment
Auth. conversion type ..: 0          0=None     1=Adopt        2=OMSREFOBJ
Auth. conversion scope .: 0          0=Library 1=Library list 2=Environment
Jrnl. conversion type ..: 0          0=None     1=Adopt        2=OMSREFOBJ
Jrnl. conversion scope .: 0          0=Library 1=Library list 2=Environment

Module code ............: _____
Derivation code ........: _____

Message to programmers .: 0          0=No, 1=Yes, 2=Incl. remote transfer

                                                              More...

F3=Exit  F12=Cancel
```

General Definitions

▶ TD/OMS

> ▶ Applications
>> ▶ Fall Back
>> ▶ Source Dump
>> ▶ Job Descriptions

```
JMS002                          Application Definition
OMS00205                   Maintain Application Definition

CHANGE

Application code .......: OMSRQ TD/OMS request application

Dump library ...........: OMSOP1DMP
Fall back save library .: OMSOP1F

Normal job description .: OMSJOBD
Library ................:   *LIBL

Fast job description ...: OMSJOBD
Library ................:   *LIBL



                                                          Bottom

F3=Exit  F12=Cancel
```

General Definitions

▷TD/OMS

> ## Application Interfaces
>> ### Connects Applications
>> ### Several Patterns
>> ### Connects Locations

```
OMS005                    Application Interface Maintenance
OMS00501                    Work with Application Interfaces


Position to ...........: _____

2=Change   3=Copy   4=Delete

     -Importing Application-        -Exporting Application-    Crossing
Opt Appl.  Env.    Seq. CVT     Appl.  Env.    Libr./Route RtI AI-type  DisI
__  OMS02  *PRD     10  0       OMS01  *PRD    OMSOP1P                     0
__  OMS02  *PRD     20  0       OMS01  *PRD    NONIBMI _    Y              0




                                                                   Bottom

F3=Exit   F5=Refresh   F6=Add   F12=Cancel
```

REMAINSOFTWARE

General Definitions

▷TD/OMS

> ## Logical Libraries

> ### Maps a complex location to a simple location

> ### Used in 4GL's

```
JMS006                    4GL Library Definition
OMS00601              Work with 4GL Library Definitions


4-GL Language ..........: *SYNON      SYNON
Position to ............: _____

2=Change  3=Copy  4=Delete  5=Display

Opt Definition   Model-Library
__   SYNON_DEV    Y2OMSDEV
__   SYNON_PROD   Y2OMSPRD
__   SYNON_TEST   Y2OMSTST




                                                          Bottom

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

```
JMS006                    4GL Library Definition
OMS00601              Work with 4GL Library Definitions


4-GL Language ..........: *LANSA      LANSA
Position to ............: _____

2=Change  3=Copy  4=Delete  5=Display

Opt Definition   DTA Library  Partition    PGM library
__   LAN2K5DEM   LI1DTALIB    DEM          LI1PGMLIB
__   LAN2K5PRD   LI1DTALIB    PRD          LI1PGMLIB
__   LAN2K5TST   LI1DTALIB    TST          LI1PGMLIB
__   LV11R3DEV   DCXDTALIB    DEM          DCXPGMLIB
__   LV11R3PRD   DCXDTALIB    PRD          DCXPGMLIB
__   LV11R3TST   DCXDTALIB    TST          DCXPGMLIB


                                                          Bottom

F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

REMAINSOFTWARE

General Definitions

> TD/OMS

> Questions

> Why does TD/OMS use logical libraries

> For what purposes can application relations be used

> Exercise

> Carefully Read the Casebook's Case Description

> Do exercise 2.1

REMAINSOFTWARE

Application Configuration

▶TD/OMS

> ## Application Management Menu
> > ### Main Menu, Option 2

```
JMSAPPM                    TD/OMS Application Management

Select one of the following:

    1. User Authority Maintenance              (STRUAM)
    2. Table Maintenance                       (STRTM)
    3. Ratification Group Maintenance          (STRRGM)
    4. Environment Maintenance                 (STREM)
    5. Fill Object File                        (STRFOF)
    6. Connection Rules Maintenance            (STRCRM)

  Related Functions
    11. Object Maintenance                     (STROM)

  Related Menus
    21. Recovery Management
    22. Exception Management
    23. Work Management

Selection or command
===> _

F3=Exit    F4=Prompt    F9=Retrieve    F12=Cancel    F13=User support
TD/OMS - Version 6 - REMAIN 2010.
```

REMAINSOFTWARE

Application Configuration

> ## Authorization
> > TD/OMS Manager
> > Application Managers
> > Programmers
> > Users
> ## Can be set at:
> > Application
> > Environment

```
JMA001                         User Authority Maintenance
OMA00101                          Work with user rights


Application code .......: OMS01 Application student 1

Position to ............: _____

2=Change   4=Delete
   User/Class Aut Description
_  *USER        1  User class *USER
_  OMSOP01      2  TDOMS Training - Student 1
_  OMSOP05      3  TDOMS Training - Student 5




                                                        Bottom

F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F21=Print list
```

Application Configuration

TD/OMS

> Tables
> > Priority
> > Reason
> > Type
> > Activities

```
                              Table Maintenance
OMA00801                    Work with Priority Codes
_____

Application  . . . . . . .   OMS01    Application student 1
Table  . . . . . . . . . .   01       Priority code table

  2=Change    3=Copy    4=Delete    5=Display

Opt     Short    Long      Description              Default
 _       H       HIGH      High Priority               0
 _       L       LOW       Low Priority                0
 _       N       NORM      Normal Priority             1




                                                             Bottom
_____
F3=Exit    F5=Refresh    F6=Add    F12=Cancel
```

Application Configuration

>TD/OMS

> Environment

> > Step in the maintenance cycle

> > Consists of sub environments (a.k.a. Library Lists)

> > Consists of Routes

> > Consists of Locations (Library, Directory or a 4GL Repository)

REMAINSOFTWARE

Application Configuration

⊳TD/OMS
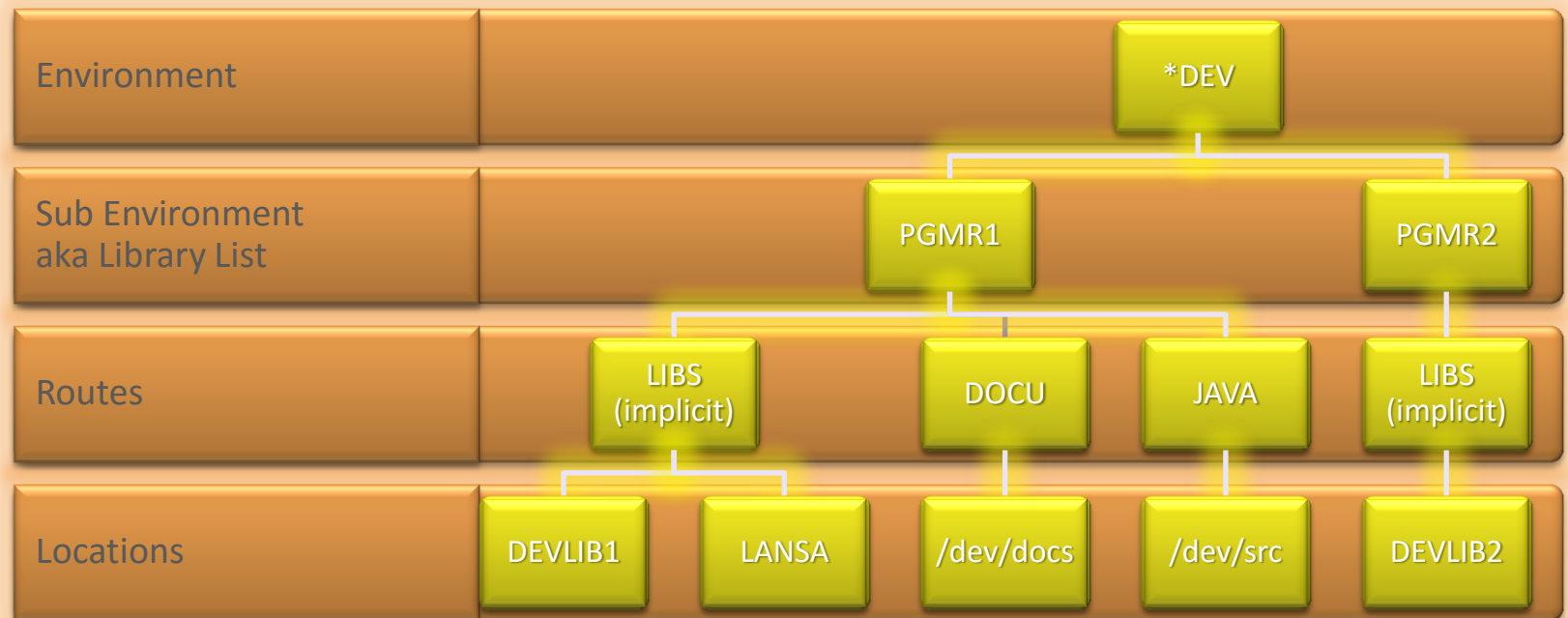
> ⊳ Environment

>> ⊳ 5 Character code serves as Status Field

>> ⊳ Sequence determines the Level

>> ⊳ Zero is Emergency

>> ⊳ Highest number is production

```
JMA002                        Environment Maintenance
OMA00201                      Work with Environments


Application code .......: OMS01 Application student 1

Position to ............: _____

2=Change  4=Delete  6=Print  8=Security  12=Work with Library Lists
13=Work with Ratification Groups

    Seq.#  Envir. Description                    Inc Lbl.  R Count
__     10  *DEV   Development                    ---1---   0
__     20  *TST   Test                           *ALL      0
__     30  *ACC   Acceptance                     *NONE     2      1
__     40  *PRD   production                     *ALL      0




                                                          Bottom
F3=Exit  F4=Prompt  F5=Refresh  F6=Add  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

> **Environment**

> > Contains zero or more sub environments

> > Enforces Ratification (None, Request or Task)

```
JMA002                          Environment Maintenance
OMA00202                          Maintain Environment
_____
CHANGE
Application code .......: OMS01 Application student 1

Environment code .......: *ACC
Environment description : Acceptance_____

Sequence number ........:    30

Include Library lists ..: *NONE        *SELECT, *PATH, *ALL, *NONE
                          OR
                          ___          Number

Ratification type ......: 2            0=None, 1=Request, 2=Fix
Required ratifications .:    1




_____
F3=Exit  F10=Work with library lists  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

>TD/OMS

> ## Environment Security
>> ## Defined Users/Groups are Exclusive Owners
>> ## Can be used for Separate Roles

```
JMA002                        Environment Maintenance
OMA00209                  Work with Security per Environment
_____

Application code .......: OMS01 Application student 1

Environment code .......: *ACC  Acceptance

Position to ............: _____

2=Change  4=Delete
  User-Grp   Description
_ *APPL -- 3
_ OMSOP01    TDOMS Training - Student 1




                                                        Bottom
_____
F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

> **Environment Library List – Sub Environment**

> **Splits an Environment:**

- Set of Locations per Programmer

- Explosion

- Distribution

```
JMA002                    Environment Maintenance
OMA00203                  Work with Library Lists


Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production

Position to ............:      0

2=Change  3=Copy  4=Delete  6=Print  8=Distribution lists ...
   Seq.# Description                              Lvl  Sav  Rst  Typ
      10 Local environment                         4    1    1    0
      20 Remote environment                        4    1    1    2




                                                            Bottom

F3=Exit  F4=Prompt Copy  F5=Refresh  F6=Add  F12=Cancel  F23=More options
```

Application Configuration

▷TD/OMS

▷ Environment Library List – Sub Environment

   ▷ Defines Fall Back

   ▷ Defines Distribution

   ▷ Can be disabled

```
OMA002                        Environment Maintenance
OMA00204                        Maintain Library List

CHANGE
Application code .......: OMS01 Application student 1
Environment code .......: *PRD  production

Sequence number ........:     20
Library list description: Remote environment
Relation level .........: 4
Save replaced objects ..: 1        0=No       1=On error     2=Always
Quit and fall-back .....: 1        0=No       1=1st failure  2=Follow rules
Library list type ......: 2        0=Local    1=Both         2=Remote
Disable library list....: 0        0=No       1=Yes




F3=Exit  F5=Refresh  F10=Work with Libraries  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

> Sub Environment – Libraries/keywords
> > Option 12 shows details
> > Use a 2 to Change or View

```
ЈМА002                        Environment Maintenance
OMA00205                         Work with Libraries


Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production
Sequence number ........:    20 Remote environment
Library list type ......: 2      0=Local   1=Both         2=Remote

2=Change  3=Copy  4=Delete  6=Print  8=Display object description
  Order   Library     O Special keywords
_    10   OMSOP1P    1 *ALL
__   20   OMSOP1PD   1 *KEEP




                                                              Bottom

F3=Exit  F5=Refresh  F6=Add  F10=Distribution  F11=View  F12=Cancel
```

Application Configuration

TD/OMS

> ## Sub Environment – Libraries/keywords
>> ### Catch All
>> ### Keep
>> ### Source
>> ### Relation Search
>> ### Object
>> - Type
>> - Attribute

```
JMA002                          Environment Maintenance
OMA00206.1                        Maintain Library

CHANGE
Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production

Library ...............: OMSOP1PD    TDOMS Training - Student 1 - Production
Sequence number ........: _20

Catch all library ......: 0        Keep objects when moving: 1 *KEEP
Source library .........: 0        Relation search library : 0

4=Delete   12=Work with Attributes
   Object type    Attributes
_   *FILE         LF          PF          _____  _____  _____
_   *DTAARA       _____   _____   _____  _____  _____
_   _____     _____   _____   _____  _____  _____
_   _____     _____   _____   _____  _____  _____
_   _____     _____   _____   _____  _____  _____
                                                                  More...

F3=Exit   F5=Refresh   F10=Full screen   F12=Cancel   F19=Left   F20=Right
```

Application Configuration

TD/OMS

> Sub Environment – Routes/Directories
>> Option 14 shows details
>> Use a 2 to Change or View

```
JMA013                          Environment Maintenance
OMA01301                          Work with Directories


Application code .......: OMS01 Application student 1
Environment code .......: *PRD  production
Library list sequence ..:    20 Remote environment
Library list type ......: 2      0=Local   1=Both          2=Remote

2=Change  4=Delete  8=Display object  10=Maintain route
     Route       0 Directory
_    NONIBMI     0 /QOpenSys/OMSOP/OMS01/PRD/NonIBMi/




                                                          Bottom
F3=Exit  F5=Refresh  F6=Add  F11=View  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

Sub Environment – Routes/Directories

- Routes bind Directories across Environments
- Recursive
- Source dump

```
JMA0134                    Environment Maintenance
OMA01301                      Maintain Route

CHANGE
Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production
Library list description:    20 Remote environment

Route .................: NONIBMI
Route description ......: Non IBM i components
Recursive route ........: 1      0=No, 1=Yes
Dump source location ...: /OMSOP/OMS01/DUMP/NONIBMI/
```

```
F3=Exit  F5=Refresh  F8=Display directory  F12=Cancel
```

Application Configuration

>TD/OMS

> ## Sub Environment – Routes/Directories
>> ### Infinite Number of Routes per Environment
>> ### Can be Kept

```
JMA013                          Environment Maintenance
OMA01302                           Maintain Directory

CHANGE
Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production
Library list description:    20 Remote environment

Keep objects when moving: 1 *KEEP
Route .................: NONIBMI
Directory .............: /QOpenSys/OMSOP/OMS01/PRD/NonIBMi/
```

```
F3=Exit   F5=Refresh   F8=Display directory   F10=Maintain route   F12=Cancel
```

REMAINSOFTWARE

Application Configuration

▶ Ratification

- ▶ Environment Signoff
- ▶ Ratification Groups
- ▶ Ratification Members
- ▶ Request or Task Level

Application Configuration

> ## Ratification Groups
>> ### Application or System wide Groups
>> ### Contains Members

```
                              Ratification Group Maintenance
OMA01201                        Work with Ratification Groups
_____

Application . . . . . . .    OMS01
Scope . . . . . . . . . .    *ALL        *ALL, *APP, *SYS
Position to . . . . . . .    _____

  2=Change    4=Delete    12=Work with Members

Opt   Group       Description                                    Sys
 _    QC          Quality Control
 __   TESTERS     Acceptance testing                             *SYS




                                                             Bottom
_____
F3=Exit    F5=Refresh    F6=Add    F11=Names    F12=Cancel
```

Application Configuration

> ## Ratification Group members
> > ### Ratification by one member is sufficient

```
                          Ratification Group Maintenance
OMA01204                         Work with Members
_____

Application . . . . . . :    OMS01
Ratification group  . . :    QC
Description . . . . . . :    Quality Control

  1=Add    4=Delete

Opt   Member      Description
 _    _____
 _    OMSOP05     TDOMS Training - Student 5




                                                                  Bottom
_____
F3=Exit    F5=Refresh    F11=Names    F12=Cancel
```

Application Configuration

TD/OMS

> Filling the Object File

> > Loads Top Down (PRD,…,DEV)

> > Resolves Object Relations

> > DSPPGMREF API

> > Source Scanning

```
JMA003                          Fill Object File
OMA00301-1                      Enter Selection Fields
_____

Application code .......: OMS01 Application student 1
Environment code .......: *ALL          Name or *ALL, F4 for list
Route ..................: *NONE         Name, *ALL, *NONE, F4 for list
Library ................: *ALL          Name, *ALL, *NONE, F4 for list
Object code ............: *ALL          Name, *generic*, ?wildcard? or *ALL
Object type ............: *ALL          Object type, *ALL
Object attribute .......: *ALL          Object attribute, *ALL

Processing mode ........: 0             0=Background, 1=Interactive
Processing method ......: 0             0=Filling, 1=Emptying, 2=Report
Rebuild relations only .: 0             0=No, 1=Yes




_____

F3=Exit  F5=Refresh  F9=Retrieve  F12=Cancel
```

REMAINSOFTWARE

Application Configuration

>TD/OMS

> ## Filling the Object File

> ### Mutation Report

```
OMQPR2OB
Pag. 0001                         Object Report, Differences between database and system

Application code .......: OMS01 TD/OMS test application
Environment code .......: *PRD  production

TESTRPG02    OMSOP1P                                  *PGM      RPGLE      *ADDED          QRPGLESRC  TESTRPG02  OMSOP1PS
```

> ### Source Conflict Report

```
OMQPR1OB
Pag. 0001                         Object Report, Unlocatable and Older/Newer Sources

Application code .......: OMS01 TD/OMS test application
Environment code .......: *PRD  production
                                                              ---- Current ----   ---- Previous ---   Nearest-Ol Nearest-Nw

AAADTA0001   OMSOP1P      *PGM     RPG        QRPGSRC       AAADTA0001          UNLOCATE              UNLOCATE
                                          **   E  N  D        O  F     R  E  P  O  R  T   **
```

REMAINSOFTWARE

Application Configuration

> Filling the Object File
>> Missing Relations Report

```
 OMX016
Pag.    3              Fill relation file, unlocatable objects
_____

OMS01 *PRD  PGM22        *PGM     OMSOP1P            OMO001W3    *FILE    OMSDEV22
            PGM23        *PGM     OMSOP1P            PGM03       *PGM     *LIBL
                                                     PGM04       *PGM     *LIBL
                                                     OMAPPL1     *FILE    DOMSPR1DTA
                                                     OMCNVL1     *FILE    DOMSPR1DTA
                                                     OMDMPL1     *FILE    DOMSPR1DTA
```

Application Configuration

> Questions
>> What is a programmer allowed to do, compared to a user
>> What is a application manager allowed to do compared to a programmer
>> What is the TD/OMS manager allowed to do, compared to a application manager
>> Name some examples of environment codes (5 positions)
>> Name an example of the use of a status (*NONE) environment
>> Name two situations for using multiple sub environments
>> In which environment(s) do *SEARCH libraries have to be placed
>> When would you use ratification at request level
>> When would you use ratification at fix level

Application Configuration

> Exercises

> > Do Exercise 3.1, 3.2, 3.3, 3.4 and 3.5 in the Casebook

Work management the 5250 way

TD/OMS

> Declare Objects

>> STRFOF Fill Object File Command

>> OMQCHGOB API Command Change Object

>> F6 in Object Maintenance

>> F18 in Solution Maintenance

>> LNKOBJOMS Link Object to OMS Command

>> STRLNKOMS Start Object Linker Command

REMAINSOFTWARE

Work management the 5250 way

TD/OMS

Object Maintenance

- Shows Lowest Level First
- Use Environment and Object for positioning
- Press F11 for more Information
- Press F23 for more Options
- Press F24 for more Commands

REMAINSOFTWARE

Work management the 5250 way

TD/OMS

Object Maintenance
View 1

```
                              Object Maintenance
OMA00401                      Work with Objects
_____

Application . . . . . . .    OMS01         View on . . . . . . . . .    0
Position to . . . . . . .    _____   _____

1=Select   2=Change   4=Delete   5=Display relations   6=Print relations ...

Opt   Object        Location     Type     Attribute     Env.    Appc.   Fix
_     jsmjax~1.jar  /QOpenSys/   *STMF                   *ACC    OMS01   *ACT
_     AS3Fil~1.pro  /QOpenSys/   *STMF                   *ACC    OMS01   *ACT
_     AAADTA        OMSOP1P      *PGM     RPG            *PRD    OMS01
_     AAADTA0001    OMSOP1P      *PGM     RPG            *PRD    OMS01
_     AAADTA0002    OMSOP1P      *PGM     RPG            *PRD    OMS01
_     AAADTA0003    OMSOP1P      *PGM     RPG            *PRD    OMS01
_     AAADTA0004    OMSOP1P      *PGM     RPG            *PRD    OMS01
_     A1            OMSOP1P      *PGM     CLP            *PRD    OMS01
_     A4            OMSOP1PD     *FILE    DSPF           *PRD    OMS01
_     A7            OMSOP1P      *CMD                    *PRD    OMS01
                                                                      More...
_____

F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 2    F24=More keys
```

Work management the 5250 way

▶ Object Maintenance

▶ View 2

```
                                Object Maintenance
OMA00401                        Work with Objects
_____

Application . . . . . . .    OMS01        View on . . . . . . . . .    0
Position to . . . . . . .    _____   _____

1=Select   2=Change   4=Delete   5=Display relations   6=Print relations ...

Opt   Object         Location     Description
__    jsmjax~1.jar   /QOpenSys/
__    AS3Fil~1.pro   /QOpenSys/
__    AAADTA         OMSOP1P      TEST
__    AAADTA0001     OMSOP1P      Old member AAADTA file OMSOP4PS/QRPGSRC.
__    AAADTA0002     OMSOP1P      Old member AAADTA file OMSOP4PS/QRPGSRC.
__    AAADTA0003     OMSOP1P      Old member AAADTA file OMSOP4PS/QRPGSRC.
__    AAADTA0004     OMSOP1P      Old member AAADTA file OMSOP4PS/QRPGSRC.
__    A1             OMSOP1P      dummy CLP source
__    A4             OMSOP1PD     Dummy DSPF
__    A7             OMSOP1P      Dummy cmd
                                                                 More...
_____
F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 3    F24=More keys
```

Work management the 5250 way

▷TD/OMS

▷ Object Maintenance
▷ View 3

```
                              Object Maintenance
OMA00401                      Work with Objects


Application . . . . . . .    OMS01         View on . . . . . . . . .    0
Position to . . . . . . .    _____    _____

1=Select   2=Change   4=Delete    5=Display relations   6=Print relations ...
                                   --------------Source Location---------------
Opt   Object       Location     File       Library      Member      Status
_     jsmjax~1.jar /QOpenSys/
_     AS3Fil~1.pro /QOpenSys/
_     AAADTA       OMSOP1P      QRPGSRC    OMSOP1PS     AAADTA      *CHG DATE
_     AAADTA0001   OMSOP1P                                          *NOT FOUND
_     AAADTA0002   OMSOP1P      QRPGSRC    OMSOP1PS     AAADTA0002  *CHG DATE
_     AAADTA0003   OMSOP1P      QRPGSRC    OMSOP1PS     AAADTA0003  *CHG DATE
_     AAADTA0004   OMSOP1P      QRPGSRC    OMSOP1PS     AAADTA0004  *CHG DATE
_     A1           OMSOP1P      QCLSRC     OMSOP1PS     A1          *CHG DATE
_     A4           OMSOP1PD     QDDSSRC    OMSOP1PS     A4          *CHG DATE
_     A7           OMSOP1P      QCMDSRC    OMSOP1PS     A7          *CHG DATE
                                                                   More...

F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 4    F24=More keys
```

Work management the 5250 way

▶TD/OMS

▶ Object Maintenance
▶ View 4

```
                              Object Maintenance
OMA00401                      Work with Objects


Application . . . . . . .    OMS01         View on . . . . . . . . .    0
Position to . . . . . . .    _____    _____

1=Select   2=Change   4=Delete   5=Display relations   6=Print relations ...

Opt   Object        Location    Version   T/V   Class     USDF   Created by
__    jsmjax~1.jar  /QOpenSys/  V1  M1    *NO   *IFSOBJ    0     OMS
__    AS3Fil~1.pro  /QOpenSys/  V1  M1    *NO   *IFSOBJ    0     OMS
__    AAADTA        OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    AAADTA0001    OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    AAADTA0002    OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    AAADTA0003    OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    AAADTA0004    OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    A1            OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
__    A4            OMSOP1PD    V0  M0    *NO   *OS400     0     QSECOFR
__    A7            OMSOP1P     V0  M0    *NO   *OS400     0     QSECOFR
                                                                  More...

F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 5    F24=More keys
```

REMAINSOFTWARE

Work management the 5250 way

TD/OMS

Object Maintenance
View 5

```
                        Object Maintenance
OMA00401                Work with Objects

Application . . . . . . .   OMS01       View on . . . . . . . . .   0
Position to . . . . . . .   _____   _____

1=Select  2=Change  4=Delete  5=Display relations  6=Print relations ...

Opt  IFS Object                     Directory
__   jsmjaxrpc.jar                  /QOpenSys/OMSOP/OMS01/TST/NonIBMi/j
__   AS3FileService_fr.properties   /QOpenSys/OMSOP/OMS01/TST/NonIBMi/p
__   AAADTA.PGM                     /QSYS.LIB/OMSOP1P.LIB/
__   AAADTA0001.PGM                 /QSYS.LIB/OMSOP1P.LIB/
__   AAADTA0002.PGM                 /QSYS.LIB/OMSOP1P.LIB/
__   AAADTA0003.PGM                 /QSYS.LIB/OMSOP1P.LIB/
__   AAADTA0004.PGM                 /QSYS.LIB/OMSOP1P.LIB/
__   A1.PGM                         /QSYS.LIB/OMSOP1P.LIB/
__   A4.FILE                        /QSYS.LIB/OMSOP1PD.LIB/
__   A7.CMD                         /QSYS.LIB/OMSOP1P.LIB/
                                                                More...

F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 1    F24=More keys
```

Work management the 5250 way

TD/OMS

> **Object Relations**
>> Endless Drill Down
>> Using
>> Used By
>> Add UDR with F6
>> Base for Impact Analysis

```
                              Object Maintenance
OMA00411                   Work with Object Relations
_____

Object . . . . . . . . :      PGM01
Location . . . . . . . :      OMSOP1P        Application  . . . . . :   OMS01
Object type  . . . . . :      *PGM           Environment  . . . . . :   *PRD

1=Connect  4=Delete    5=Display Relations    6=Print relations ...
Opt     Object         Location    Type        Detail       Env.     Appc.   Type
__    *  PGM01         OMSOP1P     *PGM                      *PRD     OMS01
__       OMAPPL1                   *FILE                     *none    *none   *INP
__       OMCNVL1                   *FILE                     *none    *none   *INP
__       OMDMPL1                   *FILE                     *none    *none   *INP
__       OMEODL1                   *FILE                     *none    *none   *INP
__       OMERDL1                   *FILE                     *none    *none   *INP
__       OMEROL1                   *FILE                     *none    *none   *INP
__       OMERRL1                   *FILE                     *none    *none   *INP
__       DSP01         OMSOP1PD    *FILE                     *PRD     OMS01   *I/O
__       QCMDEXC       QSYS        *PGM                      *none    *none
__       QUSRTVUS      QSYS        *PGM                      *none    *none
__       QCMD          QSYS        *PGM                      *none    *none
__    <  PGM17         OMSOP1P     *PGM                      *PRD     OMS01
__    <  PGM23         OMSOP1P     *PGM                      *PRD     OMS01
                                                                        Bottom
_____
F3=Exit    F5=Refresh    F6=Add    F10=Names    F11=View 2    F24=More keys
```

Work management the 5250 way

TD/OMS

> ## Request Maintenance
>> Command STRRM
>> Press F6 to Add
>> Use OMQCHGRE
>> Status is derived from connected tasks
>> *PLND Special Status

```
ЈM0003                              Request Maintenance
OMO00312                            Work with Requests
_____

Application code .......: OMS01
Position to ............: _____ _____

2=Change   3=Copy   4=Delete   6=Print   8=Display Fixes   12=Work with Fixes ...

Opt Appl.  Req-number  Short request description                     Stat.
 _   OMS01 R0000003    Extend customer address for the UK            *NEW
 __  OMS01 R0000002    Tax change as of Jan 1                        *PLND
 __  OMS01 R0000001    The date format is not showing correctly      *ACC




                                                                       Bottom
_____
F3=Exit   F5=Refresh   F6=Add   F9=History   F11=View   F12=Cancel   F24=More keys
```

REMAINSOFTWARE

►TD/OMS

► Fix (Task) Maintenance

  ► Option 12 from Request

  ► Command STRFM

  ► Press F6 to add

  ► Use OMQCHGFI

  ► Status is derived
    from Solutions

```
JMO004                          Fix Maintenance
OMO00401-1                      Work with Fixes
_____

Application code .......: OMS01      Application student 1
Position to ............: _____

2=Change  4=Delete  5=Display  6=Print  9=Process  12=Work with Solutions ...

   Fix        Description                      Status  St-Date Programmer
_  F0000003   Extend customer address for the UK  *NEW  25-06-10 OMSOP01
_  F0000002   Tax change as of Jan 1              *NEW  22-06-10 OMSOP01
_  F0000001   The date format is not showing corre *ACC  18-06-10 OMSOP01




                                                                  Bottom
_____
F3=Exit  F6=Add  F9=History  F10=View-2  F23=More Options  F24=More Keys
```

REMAINSOFTWARE

Work management the 5250 way

TD/OMS

> Fix (Task) Maintenance

> Connect to Request with Option 3

> Connect to Request with OMQCHGFI

> 12 = Work with Solutions

```
JMO004                          Fix Maintenance
OMO00409                   Select Requests for Connection
_____

Application code .......: OMS01      Application student 1
Fix number ............: F0000003    Extend customer address for the UK
Application code .......: OMS01      Application student 1
Request number .........: _____

1=Select
   Request     Description                                    Status
__ R0000003    Extend customer address for the UK             *NEW
__ R0000002    Tax change as of Jan 1                         *PLND
__ R0000001    The date format is not showing correctly       *ACC




                                                            Bottom
_____
F3=Exit   F5=Refresh   F12=Cancel   F17=Subset
```

REMAINSOFTWARE

Work management the 5250 way

⊳TD/OMS

⊳ Solution Maintenance

> ⊳ Solution is a Connected Object

> ⊳ Press F6 to Add (Connect an Object)

```
JMO005                        Solution Maintenance
OMO00501                    Work with Connected Solutions
_____

Application code .......:  OMS01      Application student 1
Fix number ............:  F0000001    The date format is not showing correctly

Position to ...........:  _____

2=Change  3=Copy  4=Delete  5=Display  7=Object history ...
Opt Object       Type/Dtl   Src Description                    Status
 _   jsmjax~1.jar *STMF                                         *ACC
 __  AS3Fil~1.pro *STMF                                         *ACC
 __  PGM01        *PGM          1   PROGRAM 1                   *ACC




                                                                  Bottom
_____
F3=Exit   F5=Refresh   F6=Add   F11=View   F12=Cancel   F24=More keys
```

REMAINSOFTWARE

Work management the 5250 way

⊳TD/OMS

> Solution Maintenance

>> 3 = Copy

>> 11 = Move

>> User options extend the IDE

```
JMO005                         Solution Maintenance
OMO00501                   Work with Connected Solutions
_____

Application code .......: OMS01      Application student 1
Fix number .............: F0000001   The date format is not showing correctly

Position to ............: _____

8=Object description  9=Toggle lock  10=Source Compare & Merge  11=Move  ...
Opt Object        Type/Dtl   Src Description                      Status
 _  jsmjax~1.jar *STMF                                            *ACC
 __ AS3Fil~1.pro *STMF                                            *ACC
 __ PGM01       *PGM         1   PROGRAM 1                        *ACC




                                                                 Bottom
_____
F3=Exit  F5=Refresh  F6=Add  F11=View  F12=Cancel  F24=More keys
```

REMAINSOFTWARE

Work management the 5250 way

> Exercise (Do not use the Casebook)

>> Explore the Object File (STROM)

>> Create a Change Request (STRRM)

>> Create a Fix (STRFM)

>> Connect one Object (STRSM)

Work management the 5250 way

▷TD/OMS

> ## Subset Screens
>> F9 = Retrieve Previous
>> F14 = Restore Default
>> Save as Default
>> F5 = Reset to Settings

```
JMO004                          Fix Maintenance
OMO00402                   Specify Fixes to Work with
_____

Application code .......: OMS01       Application student 1

Request_____
Request number .........: R0000002   - R0000002

Fix_____                -
Fix number .............:             - 9999999999
Release number .........:             - 9999999999
User Id ................:             - 9999999999
Type ...................: *ALL

General_____
Income date ............:  0-00-00   - 99-99-99
Priority ...............: *ALL         *ALL, F4 for list
Ratification status ....: *ALL         *ALL, *OPEN, *CMP
Status .................: *ALL         Status, *OPEN, *NEW, *PLND, *CMP, *ALL
Save as default subset .: 0            1=Yes
_____
F5=Refresh  F9=Retrieve  F12=Cancel  F14=Restore defaults
```

Work management the 5250 way

TD/OMS

> **Connection List Concepts**

>> When Objects are selected to be connected, they are first stored in the *Connection List*

>> The Connection List is the Shopping Cart for the Programmer

>> After the Objects are selected they are validated and processed

REMAINSOFTWARE

Work management the 5250 way

TD/OMS

> Connection List Concepts
> > You can keep objects in your Connection List
> > Command STRCLM

```
                              Connection List Processing
OMO00601                    Work with Object Clusters


Application . . . . . . . :   OMS01
Connection list . . . . . :   OMSOP01
Position to . . . . . . .     _____

  4=Delete    7=Move    9=Process    12=Work with connected objects

Opt  Appc.  Fix         Description
 _   OMS01               Object connected for application OMS01
 __  OMS01  F0000002     Tax change as of Jan 1




                                                                Bottom

F3=Exit    F5=Refresh    F6=Add    F11=Names    F12=Cancel
```

REMAINSOFTWARE

> Connection List Concepts
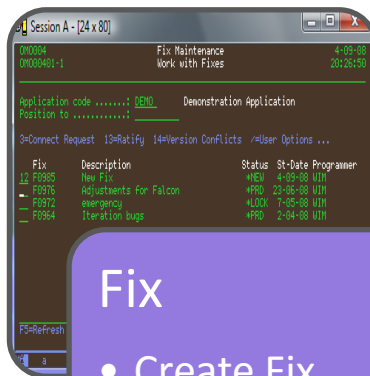
Fix
- Create Fix
- Use Option 12
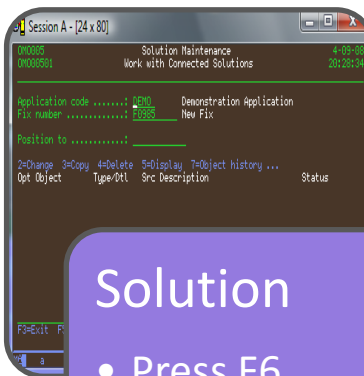
Solution
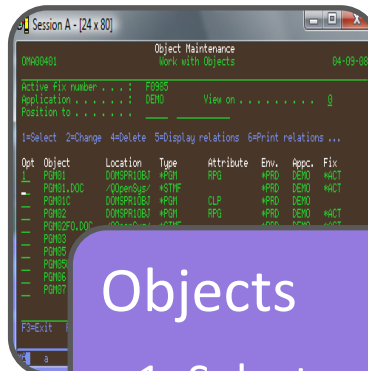- Press F6
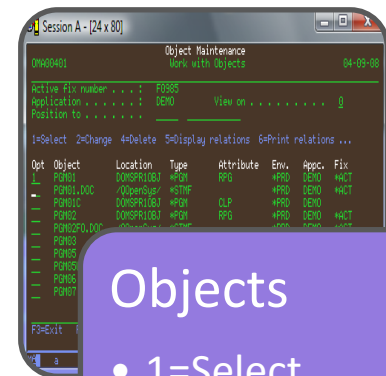
Objects
- 1=Select
- 11=Select with Rules

> ## Connection List Concepts

Solution
- Press F6

Objects
- 1=Select
- 11=Select with Rules

Connection List
- Objects are added

TD/OMS

> ## Connection List Concepts

Objects
- 1=Select
- 11=Select with Rules

Connection List
- Objects are added
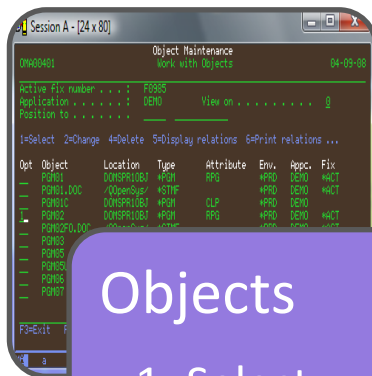
Objects
- 1=Select
- 11=Select with Rules

REMAINSOFTWARE

Work management the 5250 way

▶ Connection List Concepts

Connection List
- Objects are added

Objects
- 1=Select
- 11=Select with Rules

Connection List
- Objects are added

REMAINSOFTWARE

Work management the 5250 way

▷TD/OMS

▷ Connection List Concepts

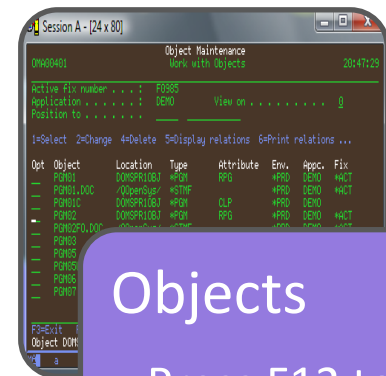**Objects**
- 1=Select
- 11=Select with Rules

Connection List
- Objects are added

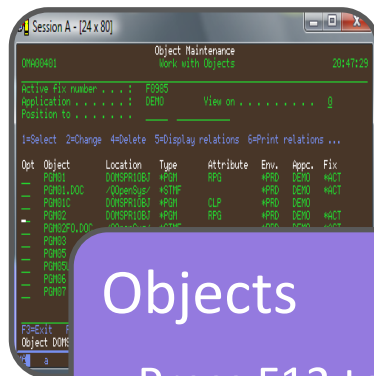**Objects**
- Press F12 to return to Solutions

REMAINSOFTWARE

TD/OMS

> ## Connection List Concepts

Connection List
- Objects are added

Objects
- Press F12 to return to Solutions

Start Connection Process

REMAINSOFTWARE

Work management the 5250 way

Connection List Concepts

Objects
- Press F12 to return to Solutions
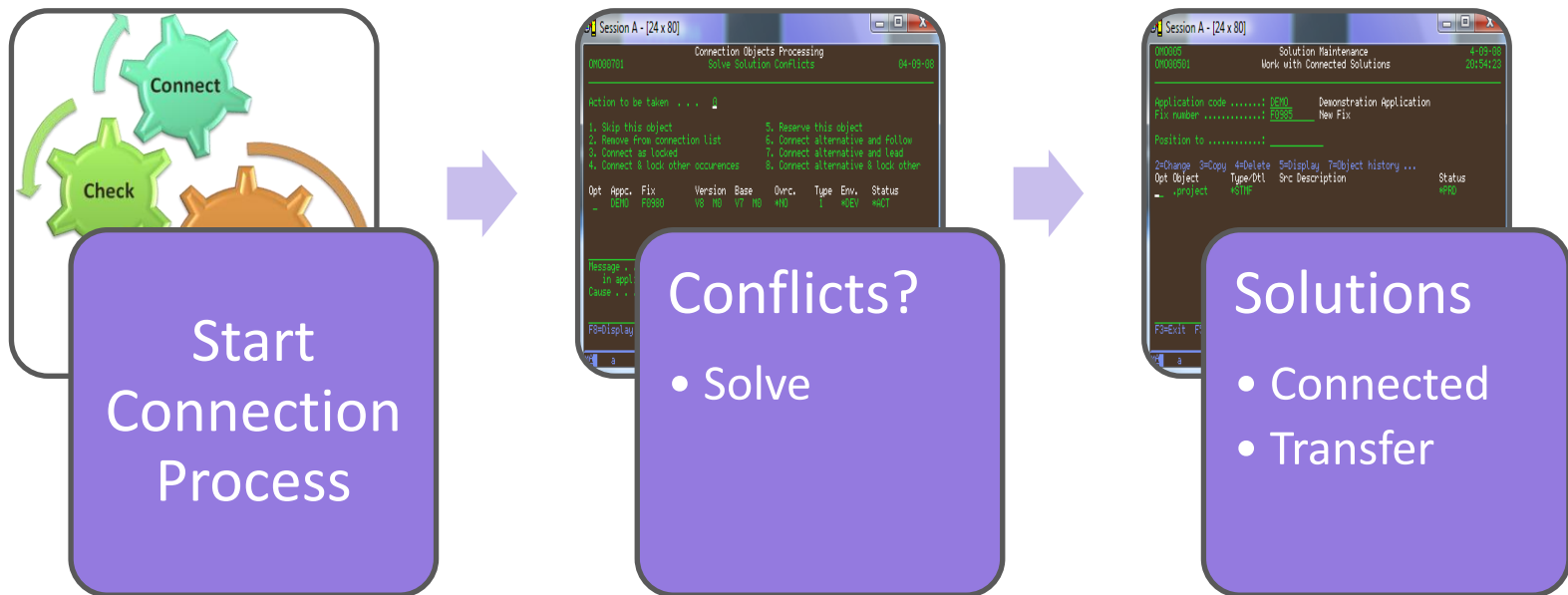
Start Connection Process

Conflicts?
- Solve

REMAINSOFTWARE

TD/OMS

> Connection List Concepts

Start Connection Process

Conflicts?
• Solve

Solutions
• Connected
• Transfer

REMAINSOFTWARE

Work management the 5250 way

> **Solution Conflicts**
>> When Objects are selected to be connected, problems can occur
>> E.g. the Object is already connected
>> E.g. You did not select the Latest Version

```
                            Connection Objects Processing
OMO00701                     Solve Solution Conflicts
_____

Action to be taken  . . .    0

1. Skip this object                    5. Connect & lock other occurences
2. Remove from connection list         6. Reserve this object
3. Connect and make leader
4. Connect and make follower

Opt  Appc.  Fix           Version  Base     Ovrc.    Type  Env.    Status

   (No alternatives available)
                                                                     Bottom
_____
Message . . . . :     Solution jsmjaxrpc.jar... type *STMF already connected to
  fix F0000001.
Cause . . . . . :     You requested the connection of IFS-object
                                                                    More...

F8=Display object    F12=Cancel
```

Work management the 5250 way

TD/OMS

> **Solution Conflicts**
>> Skip
>> Remove
>> Reserve
>> Lock
>> Follow
>> Lead


```
                         Connection Objects Processing
OMO00701                   Solve Solution Conflicts


Action to be taken  . . .    0

1. Skip this object              5. Reserve this object
2. Remove from connection list   6. Connect alternative and follow
3. Connect as locked             7. Connect alternative and lead
4. Connect & lock other occurences  8. Connect alternative & lock other


Opt  Appc.  Fix        Version  Base     Ovrc.    Type  Env.   Status
 _   OMS01  F0000001   V1  M0   V0  M0   *NO       1    *TST   *ACT

                                                                  Bottom

Message . . . . :   Solution PGM01, type *PGM is already active in fix
   F0000001 in application OMS01
Cause . . . . . :   You requested the connection of solution PGM01, type *PGM
                                                                  More...

F8=Display object    F12=Cancel
```
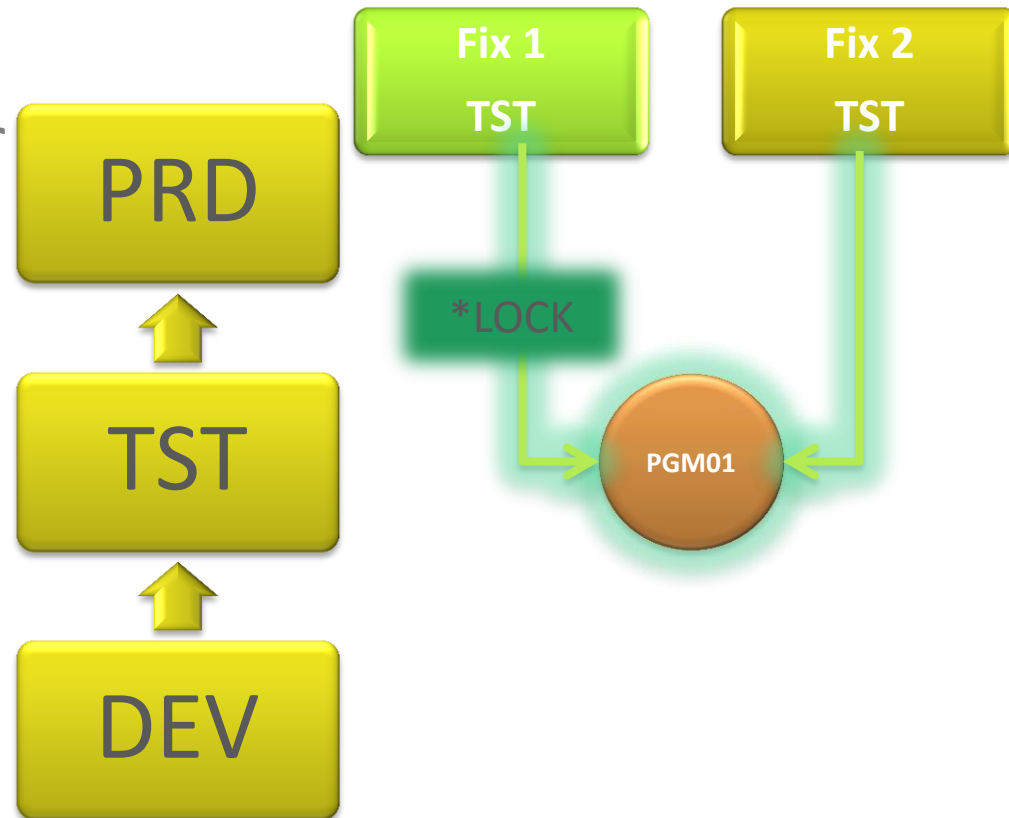
REMAINSOFTWARE

> TD/OMS

> Solution Conflicts
  > Lock before transfer
    • Fix 1 cannot move

PRD

TST

DEV

Fix 1
TST

Fix 2
TST

*LOCK

PGM01

REMAINSOFTWARE

TD/OMS

> Solution Conflicts
> > Lock after Transfer
> > > - Fix 1 cannot move
> > > - Test can continue for Fix 1

PRD

TST

DEV

Fix 1

TST

Fix 2

DEV

*LOCK

PGM01

PGM01

REMAINSOFTWARE

Work management the 5250 way
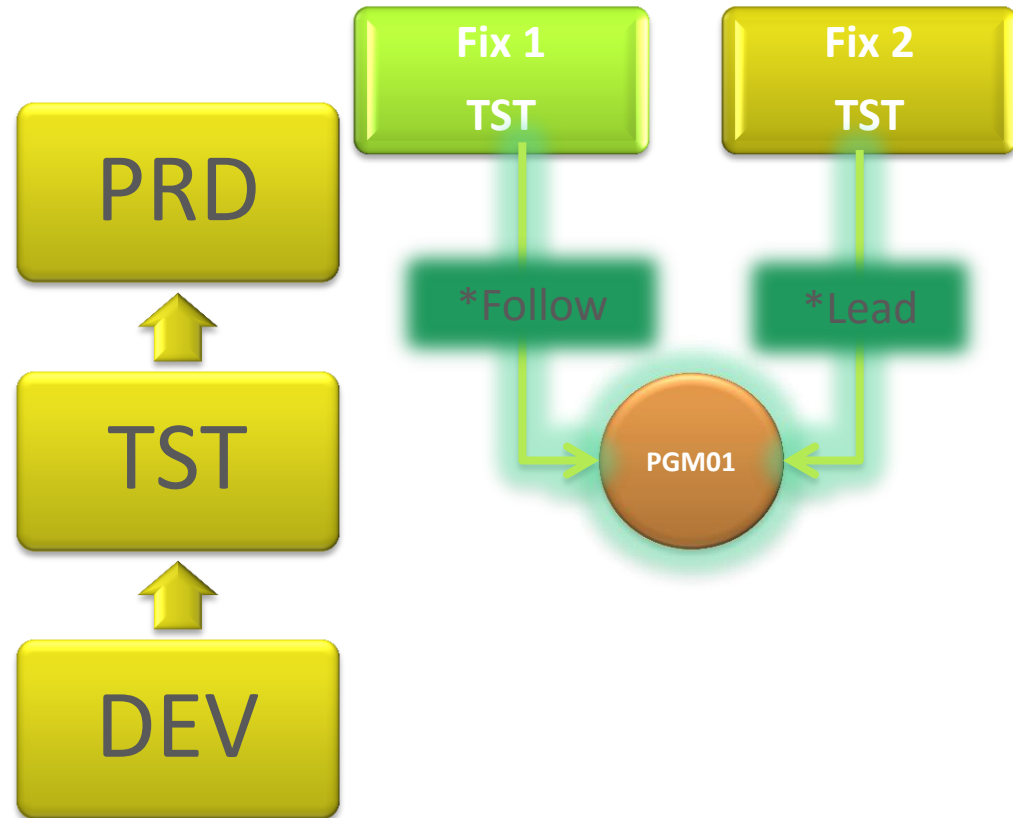
> ## Solution Conflicts
> > ### Sit. after transfer
> > > • Fix 1 cannot move

PRD

TST

DEV

Fix 1
DEV

Fix 2
DEV

*Follow

*Lead

PGM01

REMAINSOFTWARE

Work management the 5250 way

▷TD/OMS

> ▷ Transfer
>
>> ▷ Physical object movement between environments

PRD
- Move to DEV
- Copy to Dev

ACC
- Move to TST / DEV
- Copy to TST / DEV

TST
- Move to DEV
- Copy to DEV

DOWN

UP

ACC
- Move to PRD

TST
- Move to ACC

DEV
- Move to TST

REMAINSOFTWARE

Work management the 5250 way
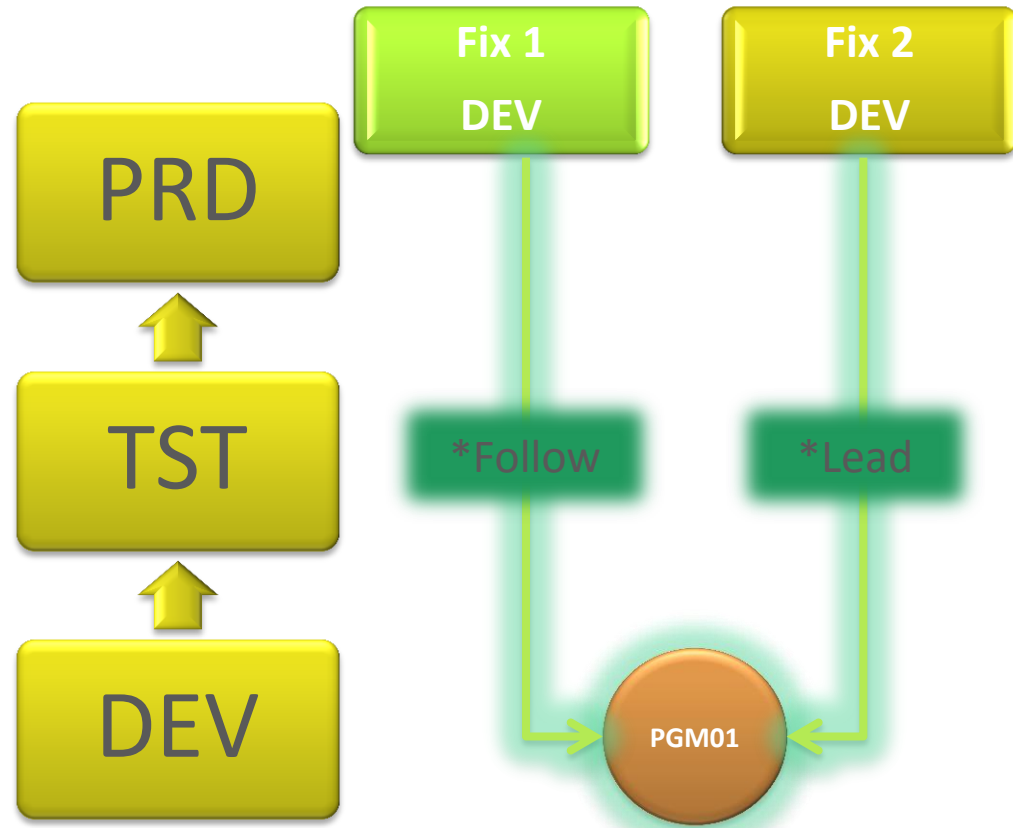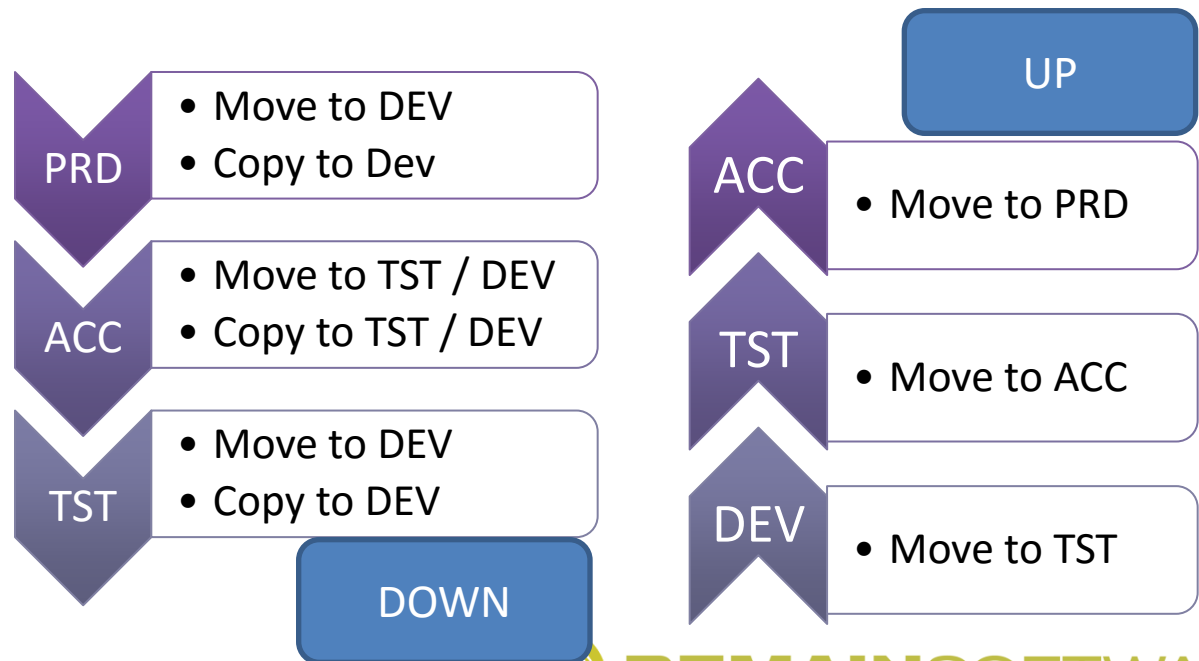
> ## Ratification

> > ## Option 13 in STRFM and STRRM

```
                                    Ratification
OMO01401                             Ratify
_____

Application . . . . . . :   OMS01       Application student 1
Environment . . . . . . :   *ACC        Acceptance
Fix . . . . . . . . . . :   F0000001    The date format is not showing

  1=Ratify    2=Change    4=Remove    5=Display

Opt  Mbr  Code  Rat.Group   User         Date       Description
 _                QC                                 Quality Control




                                                               Bottom
_____
F3=Exit    F5=Refresh    F12=Cancel
```

Work management the 5250 way

TD/OMS

> ## Ratification
> > ### Option 1 to Ratify

```
                                Ratification
OMO01402                      Add Ratification
_____

Application . . . . . . :    OMS01      Application student 1
Environment . . . . . . :    *ACC       Acceptance
Fix . . . . . . . . . . :     F0000001   The date format is not showing

Ratification date . . . :    *NOW       Ratification time . . . :   *NOW
User  . . . . . . . . . :     OMSOP05
Ratification group  . . :    QC         Quality Control
Ratification code . . . .    *YES       *YES, *NO
Password  . . . . . . . .

Full screen description :    0

Looking good !!!_
_____
_____
                                                            More...
_____
F3=Exit    F5=Refresh    F9=Show Password    F11=Edit    F12=Cancel
```

Work management the 5250 way

> Questions
>> When does a solution conflict occur
>> How can a user-defined relation be added to an object
>> When would you use this possibility
>> How can the selections that were entered on a subset screen be saved for future use

Work management the 5250 way

TD/OMS

> Exercise

> > Do exercise 4.1, 4.2, 4.3, 4.4, 4.5, 4.6 and 4.7 in the TD/OMS casebook

REMAINSOFTWARE

Contents

- About this Training
- Overview
- General Definitions
- Application Configuration
- Work Management the 5250 Way
- Distribution Setup
- Recovery
- Advanced
- History and Logging

Distribution

▶TD/OMS

```
JMSDSTM                    TD/OMS Distribution Management

Select one of the following:

    1. Remote Location Maintenance               (STRRLM)
    2. Remote Location Override                  (STRRLO)
    3. Remote Job Monitor                        (STRRJM)
    4. Remote Application Conversion Maintenance (STRRACM)
    5. Start Tape Management                     (STRTAPM)

  Transfer and Queueing
    11. Edit Transfer Server configuration file
    12. Edit Queue Manager configuration file
    13. Work with transfer and queue directories
    14. Send Network File                        (SNDNETFOMS)
    15. Work with Network Files                  (WRKNETFOMS)
    16. Send Network Message                     (SNDNETMOMS)
                                                          More...

Selection or command
===> _

F3=Exit   F4=Prompt    F5=Refresh    F9=Retrieve    F12=Cancel
 13=User support
```

Distribution

TD/OMS

> ## Remote Locations
>> ### System Level
>> ### STRRLM
>> ### 2 = Change
>> ### F6 = Add

```
                          Remote Location Maintenance
OMD00101                    Work with Remote Locations
_____

Position to . . . . . . .   _____

Type options, press Enter.
  2=Change    3=Copy    4=Delete    5=Display


Opt  Address   Description                   Device      OS Version
 _   EINSTEIN  Receiving                     *TCP        V6R1M0
 _   REMOTE    Remote example                *SNADS      V4R3M0




                                                              Bottom
_____
F3=Exit    F5=Refresh    F6=Add    F11=View 2    F12=Cancel    F21=Print usage
```

REMAINSOFTWARE

Distribution

TD/OMS

> ## Remote Locations

> > ### SNA Names Must Match TCP/IP Host

> > ### OS version used to save objects for distribution

```
                          Remote Location Maintenance
OMD00103                    Maintain Remote Location

CHANGE

Address . . . . . . . . :    EINSTEIN
Address description . . .    Receiving
Remote location name  . .    EINSTEIN

OS/400 version  . . . . .    V6R1M0
Device  . . . . . . . . .    *TCP        *SNADS, *TCP, device-code

TD/OMS Library  . . . . .    OMSRUN

Installation jobd.  . . .    DMSJOBD     Name, *FAST, *NORMAL, *DISABLED
Library . . . . . . . . .    OMS
Normal job description      DMSJOBD
Library . . . . . . . . .    OMS
Fast job description  . .    DMSJOBD
Library . . . . . . . . .    OMS
                                                                   More...

F3=Exit    F5=Refresh    F12=Cancel
```

REMAINSOFTWARE

Distribution

Remote Location Override

Application level

STRRLO

```
                    Remote Location Override Maintenance
OMD00203                Maintain Remote Location Override
_____

CHANGE
Application . . . . . . . :   OMS01

Address . . . . . . . . . :   EINSTEIN  Receiving
Remote location name  . . :   EINSTEIN

Device  . . . . . . . . .     *_____  (*TCP)         *=Default

Normal job description        *_____  (DMSJOBD)      *=Default
Library . . . . . . . . .     _____   (OMS)
Fast job description  . .     *_____  (DMSJOBD)      *=Default
Library . . . . . . . . .     _____   (OMS)
Distribute definition . .     *  (1)    0=No, 1=Yes, 2=When changed, *=Default
Distribute exceptions . .     *  (1)    0=No, 1=Yes, 2=When changed, *=Default
Process source  . . . . .     *  (0)    0=No, 1=Yes, *=Default
Monitor remote jobs . . .     *  (0)    0=No, 1=Yes, *=Default


_____

F3=Exit    F5=Refresh    F12=Cancel
```

REMAINSOFTWARE

Distribution

TD/OMS

How to Activate

- Make a Remote Sub Environment
- Attach a Remote Location (option 8)

```
OMA002                          Environment Maintenance
OMA00208                        Maintain Distribution Entry
_____

Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production
Library list description: Remote environment

From Environment code ..: *ANY
Address ................: EINSTEIN      Receiving

Distribute objects .....: 1             0=No, 1=Yes
Distribute sources .....: *  (0)        0=No, 1=Yes, *=Default
Distribute definition ..: *  (1)        0=No, 1=Yes, 2=When changed, *=Default
Distribute exceptions ..: *  (1)        0=No, 1=Yes, 2=When changed, *=Default
Monitor remote jobs ....: *  (0)        0=No, 1=Yes, *=Default

Normal job description .: *_____ (DMSJOBD)      *=Default
Library ................:   _____ (OMS)
Fast job description ...: *_____ (DMSJOBD)      *=Default
Library ................:   _____ (OMS)
_____

F3=Exit  F5=Refresh  F14=Retrieve Defaults  F12=Cancel
```

REMAINSOFTWARE

Distribution

⯈TD/OMS

> ▶ Setup Sending Machine
>
> > ▶ Set file OMFLT to 65535 (If the sending machine has a different CCSID then the receiving machine)
> >
> > ▶ Create the message queue OMS in library QUSRSYS
> >
> > ▶ Setup SNA or TCP/IP (INZOMSSVR)
> >
> > ▶ See Wiki for more information

REMAINSOFTWARE

Distribution

>TD/OMS

> Setup Receiving Machine
>> Install TD/OMS
>> Setup Job Description
- USRPRF(OMS)
- INLIBL(QTEMP *omslib ...)*
>> Setup SNA or TCP/IP (INZOMSSVR)
>> See Wiki for more information

REMAINSOFTWARE

Distribution

>**TD/OMS**

> # Remote Job Monitor
>> ## Tracks Transfers

```
                              Remote Job Monitor
OMD00401                 Work with Remote Transfer Status


Application . . . . . . .    OMS01        Demonstration Application
Transfer  . . . . . . . .    *ALL____     Code, *ALL, *ACTIVE, *ENDED, *TERM
Address . . . . . . . . .    *ALL____     Address, *ALL, F4=List

   9=Close
                            -----Job Send-----   ---Job Received---
Opt  Transfer  Address    Date       Time       Date       Time       Status
 _   OR019841  JULES      00-00-00   00:00:00   06-08-09   16:06:30   *NORM
 _   OR019675  JULES      23-06-09   11:52:32   06-07-09   09:53:51   *NORM
 _   OR019613  JULES      00-00-00   00:00:00   06-07-09   09:53:10   *NORM
 _   OR019578  JULES      00-00-00   00:00:00   06-07-09   09:51:35   *NORM
 _   OR019566  JULES      19-05-09   10:40:11   19-05-09   10:40:29   *NORM
 _   OR019564  JULES      19-05-09   10:28:16   19-05-09   10:33:10   *NORM
 _   OR019548  JULES      15-05-09   14:08:58   19-05-09   10:43:03   *NORM
 _   OR019543  JULES      12-05-09   12:44:01   19-05-09   10:43:01   *TERM
 _   OR019542  JULES      12-05-09   11:50:13   19-05-09   10:44:03   *NORM
                                                                      More...

F3=Exit    F5=Refresh    F11=View 2    F12=Cancel
```

REMAINSOFTWARE

Distribution

▷TD/OMS

▷ Remote Conversion
▷ Renames
- Application
- Environment
- Library

```
⌐MD008                    Application Conversion Maintenance
OMD00801                   Work with Application Conversions
_____

Remote address  . . . . : *GLOBAL   *GLOBAL, F4=List
Position to ............: _____

2=Change   3=Copy   4=Delete

     -------- Sender ---------        ------- Receiver --------
Opt Appl    Env    Library          Appl    Env    Library
_   OMS01           OMSOP1PD                        OMSOP1P
__  OMS01   *PRD                            *RCV
__  OMS02                           WMS




                                                          Bottom
_____
F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

REMAINSOFTWARE

> Questions

>> For what reason should the i/OS version of a remote system be specified in a remote location definition

>> In what situation could the element *Distribute objects* be set to the value 0

Distribution

> Exercise
>> Do exercise 6.1 and 6.2 in the TD/OMS casebook

Recovery


```
JMSRCYM                    TD/OMS Recovery Management

Select one of the following:

  Fallback Functions
    1. Dumped Sources Maintenance              (STRDSM)
    2. Fallback Library Maintenance            (STRFBLM)
    3. Start Fallback                          (STRFLBOMS)

  Recovery Functions
    10. Resume Transfer                        (RSMTFROMS)




Selection or command
===> _

F3=Exit    F5=Refresh    F4=Prompt    F9=Retrieve    F12=Cancel
```

▶ Fall Back Setup

▶ Create Fall Back Library

▶ Specify "**Save Replaced Objects**" in the Sub Environment Definition

```
OMA002                      Environment Maintenance
OMA00204                      Maintain Library List

CHANGE
Application code .......: OMS01 Application student 1
Environment code .......: *PRD   production

Sequence number ........:    10
Library list description: Local environment
Relation level .........: 4
Save replaced objects ..: 2        0=No     1=On error    2=Always
Quit and fall-back .....: 1        0=No     1=1st failure 2=Follow rules
Library list type ......: 0        0=Local  1=Both        2=Remote
Disable library list....: 0        0=No     1=Yes




F3=Exit  F5=Refresh  F10=Work with Libraries  F12=Cancel
```

>TD/OMS

> **Manual Fallback**
>> STRFBLM
>> Restore (option 1)
>> STRFLBOMS

```
                          Fall Back Library Maintenance
OMO01001              Work with Saved Fall Back Libraries
_____

Application . . . . . . .    OMS01   Application student 1

Position to . . . . . . .    00-00-00

  1=Restore    2=Change    4=Delete    5=Display    8=Display Contents    13=Force
Opt   Income date   Income Time   Transfer    Seq.   Fix/Req/Rel
__    28-06-10      17:55:17      OM000014      10   F0000001




                                                                        Bottom
_____
F3=Exit    F5=Refresh    F11=View 2    F12=Cancel
```

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REMAINSOFTWARE

TD/OMS

Sources

- Specify DUMP library
- Sources are saved automatically
- STRDSM to work with saved sources
- Option 10 for Object/Solution

```
OMA009                      Dumped Sources Maintenance
OMA00901                         Work With Sources
_____

Application code .......: OMS01 Application student 1

Position to ............: _____

3=Restore   4=Delete   5=Display
  Obj/Src        Type/Att  Fixnumber  Location    File/Route DumpSrc     Save date
_ PGM01          *PGM      F0000001   OMSOP1DMP   QRPGSRC    DMP0000001  25-06-10




                                                                          Bottom
_____
F3=Exit  F5=Refresh  F11=Drop/Fold  F12=Cancel  F14=Mass Delete  F17=Subset
```

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REMAINSOFTWARE

▶TD/OMS

> ## Remove Sources
>   > ### F14 = Mass Delete

```
JMA009                    Dumped Sources Maintenance
OMA00901                       Work With Sources
_____

Application code .......: OMS01 Application student 1

Position to ............: _____

3=Restore   4=Delete   5=Display
  Obj/Src       Type/Att  Fixnumber   Location   File/Route DumpSrc    Save date
_ PGM01         *PGM      F0000001    OMSOP1DMP  QRPGSRC    DMP0000001 25-06-10




                                                                        Bottom
_____
F3=Exit  F5=Refresh  F11=Drop/Fold  F12=Cancel  F14=Mass Delete  F17=Subset
```

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Questions

- What is the difference between the fall back save library and the fall back library

- What definitions should be made to use the fall back feature

- What is the purpose of the dump library

Recovery

> Exercise
>> See exercise 5.1 in the TD/OMS casebook

Advanced

> Connection Rules

> Data Conversion

> Compilation Library List

> Transfer Path

> Exceptions & Actions

> API's

> User Options

▶ Connection Rules

▶ Used to Link Objects

```
JMO021                    Connection Rules Maintenance
OMO02101                    Work with Connection Rules
_____
Application code .......: OMS01      Application student 1
Selection code .........: *ACTIVE    *ACTIVE, *ALL
Position to ............: _____

2=Change  3=Copy  4=Delete  12=Details
                                         Object      Type     Attribute
                                         _____  _____  _____
   Rule       Description
_  DOC        Connect Documentation      .*          *PGM     *ALL




                                                                Bottom
_____
F3=Exit  F5=Refresh  F6=Add  F12=Cancel  F21=Print list
```

Connection Rules

List all the object types this rule must match

```
JMO021                    Connection Rules Maintenance
OMO02103                Work with Connection Rule Details
_____

Application code .......: OMS01 Application student 1
Connection Rule Code ...: DOC
Description ............: Connect Documentation

2=Change  3=Copy  4=Delete
   Object regular expression          Type      Attribute  Dis Continue
__  &.doc                             *STMF     *ALL        0  *NONE








                                                                    Bottom
_____
F3=Exit  F5=Refresh  F6=Add  F12=Cancel
```

>TD/OMS

> Connection Rules

  > Specify rules

  > FORCECONNRULE registry setting to enforce
    connection rules

```
JM0021                    Connection Rules Maintenance
OMO02104                 Maintain Connection Rules Details
_____
CHANGE
Application code .......: OMS01
Connection Rule Code ...: DOC
Object code ............: .*
Object type ............: *PGM              Object attribute .......: *ALL

Related object regex ...: &.doc_____
_____

Object type ............: *STMF_____    *ALL, *SAME, Object type
Object attribute .......: *ALL_____    *ALL, *SAME, Object attribute
Object contains mask ..: 0             0=No, 1=Yes
Relation scope .........: *RELATED      *ALL, *RELATED, *USING, *USEDBY
Environment scope ......: *CURRENT      *ALL, *CURRENT
Continue with rule .....: *NONE_____    *NONE, *ALL, F4 for List
Disable connection rule : 0             0=No, 1=Yes

_____
F3=Exit  F5=Refresh  F12=Cancel
```

(◎) **REMAIN**SOFTWARE

Advanced

TD/OMS

> Data conversion
>> 1 = Table
>> 8 = Conversion program
>> 9 = Copy from another table

```
JME003                    PF Conversion Type Maintenance
OME00301                  Work With Conversion Definitions
_____

Application code .......: OMS01 Application student 1

Position to ............: _____

2=Change  4=Delete
   File          Member      T    Program     Library     Rel.Object
__ CONSTANTS     *ALL        1
__ FILE1         *ALL        8    CVTFILE1    CVTLIB
__ OLDFILE       *ALL        9                            NEWFILE




                                                              Bottom
_____
F3=Exit   F5=Refresh   F6=Add   F12=Cancel
```

Advanced

>TD/OMS

> **Compilation Library List**
>> Sets LIBL during transfer
>> Used for object creation

```
JMA002                      Environment Maintenance
OMA00215                 Work with Compilation Library list
─────────────────────────────────────────────────────────────────────
ADD
Application code .......: OMS01 Application student 1
Environment code .......: *DEV  Development
Sequence number ........:    10 Main sub environment

When to activate .......: 1     1=Always, 2=User Exit, 3=No User Exit
Run Extended Relations..: 0     0=No, 1=Yes

Library list action.....: 1     0=Replace, 1=Add

Libraries
004 DFATLIB1      028 _____      052 _____      076 _____
008 DATALIB2      032 _____      056 _____      080 _____
012 _____     036 _____      060 _____      084 _____
016 _____     040 _____      064 _____      088 _____
020 _____     044 _____      068 _____      092 _____
024 _____     048 _____      072 _____      096 _____
                                                                  More...
─────────────────────────────────────────────────────────────────────
F3=Exit   F5=Refresh   F12=Cancel
```

Advanced

>TD/OMS

> **Transfer Paths**

 > Set Environment Selection to *PATH

 > Assign Path to Sub Environment(s)

 > Assign Path to Task

*PRD			PRODLIB
*ACC	P1ACC	P2ACC	P3ACC
*TST	P1TST	P2TST	P3TST
*DEV	P1DEV	P2DEV	P3DEV

REMAINSOFTWARE
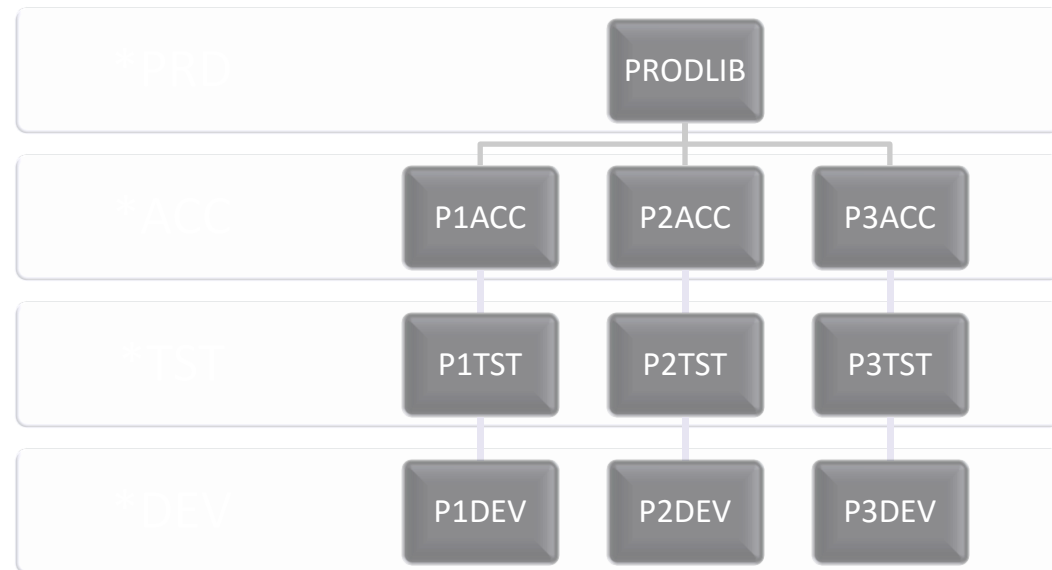
Exceptions Functions

Command

Exception Program = Program with described set of parameters

```
JME001                      Exception Function Maintenance
OME00101                        Work with Exception Functions
_____

Application code .......: OMS01        Application student 1
Exception scope ........: *ALL         *ALL, *APP, *SYS
Position to ............: _____

2=Change  4=Delete  12=Display Selections
    Function    Sys   Description                           Cri Loc  Owner
__  CHGOWN            Change Object Owner                     1   0   OMS01
__  CPYLANSA    *SYS  Export and Import local including genera 1   0   XMP
__  RCVIMPORT   *SYS  Import objects on remote adress         1   2   XMP




                                                                     Bottom
_____
F3=Exit   F5=Refresh   F6=Add   F12=Cancel   F24=More keys
```

> Exception command

> Is executed during transfer

> ##OBJC is substitution value

> See wiki for more values

```
JME001                      Exception Function Maintenance
OME00102                     Maintain Exception Function

CHANGE
Application code .......: OMS01 Application student 1

Function Id. ...........: CHGOWN
Function Description ...: Change Object Owner

System exception .......: 0          0=No, 1=Yes
Critical exception .....: 1          0=No, 1=Yes
Where to activate ......: 0          0=Local   1=Both        2=Remote
Address ................: *ALL       Address, *ALL, F4=List

Command ................: CHGOBJOWN OBJ(##TOOL/##OBJC) OBJTYPE(##OBJT) NEWOWN(O
MSOPGRP)


Program name ...........: _____
Library ................: _____
Interface level ........: *V5R1M0    *V5R1M0, *V3R0M0, *V2R1M0

F3=Exit  F4=Prompt  F5=Refresh  F12=Cancel
```

http://www.remainsoftware.com/wiki/index.php/DFG:Exception_Substitution_Variables

▷TD/OMS

> ## Exception function
>
> > ### Is executed during transfer
> > ### Program is called
> > ### PULLVAROMS
> > ### PUSHVAROMS
> > ### See QUSRSRC for source examples

```
                         Pull OMS Variable (PULLVAROMS)

Type choices, press Enter.

Exception buffer . . . . . . . . >  &BUF           Character value
OMS Interface level  . . . . . . >  *V5R1M0        *V3R0M0, *V5R1M0
CL var for TFRC          (8) . .  _____        Character value
CL var for TSB         (3 0) . .  _____        Number
CL var for APPL          (5) . .  _____        Character value
CL var for REQ          (10) . .  _____        Character value
CL var for RLS          (10) . .  _____        Character value
CL var for FIX          (10) . .  _____        Character value
CL var for OBJC         (12) . .  _____        Character value
CL var for OBJT          (9) . .  _____        Character value
CL var for OBJA         (10) . .  _____        Character value
CL var for DTLC         (10) . .  _____        Character value
CL var for OCLS          (1) . .  _____        Character value
CL var for TOVI          (1) . .  _____        Character value
CL var for OVRC          (1) . .  _____        Character value
CL var for SOLT          (1) . .  _____        Character value
                                                               More...
F3=Exit    F4=Prompt    F5=Refresh    F12=Cancel    F13=How to use this display
F24=More keys
```
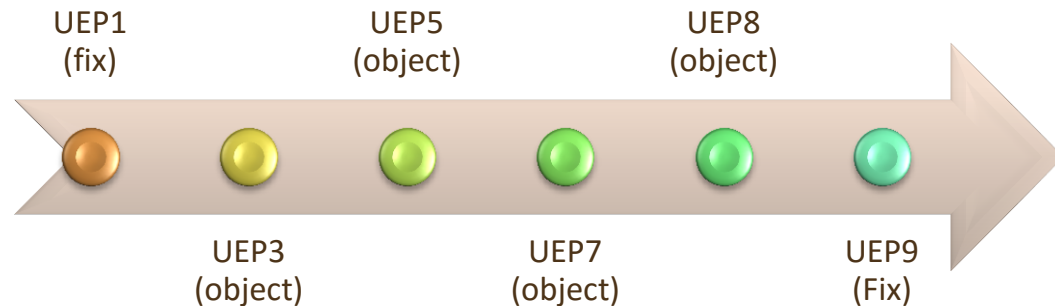
REMAINSOFTWARE

⯈TD/OMS

> Exception selection
  > Determines when an exception function is
    executed

UEP1 (fix) · UEP3 (object) · UEP5 (object) · UEP7 (object) · UEP8 (object) · UEP9 (Fix)

REMAINSOFTWARE

Advanced

> ## Actions
>
> > ### Similar to Exceptions
> > ### Faster
> > ### Better
> > ### Newer
> > ### More complex

```
OMC001                          Action Maintenance
OMC00101                        Work with Actions
_____

Selected actions only ..: 0            Action cluster .........: _____
Position to ............: _____

2=Change  3=Copy  4=Delete  5=Display  8=Selections  12=Details

Opt  Command    Description                              Cluster
_    CHGOBJOWN  Change the Object owner                  OBJECTS
_    SNDMSG     Example of an action                     XMP




                                                              Bottom
_____
F3=Exit  F4=Prompt  F5=Refresh  F6=Add  F12=Cancel
```

> Actions

>> More exit points

>> Activation conditions are broader

>> Commands and programs can be grouped into action groups

>> Lists of objects can be connected to actions

>> Execution can have a dependency on the object version

>> Actions can be executed outside of the transfer process

>> Etc..

REMAINSOFTWARE

> TD/OMS

> Action selection

> > Determines when an action function is executed

SP   SO   EO   SD   EP

SL   CO   EL   ED

REMAINSOFTWARE
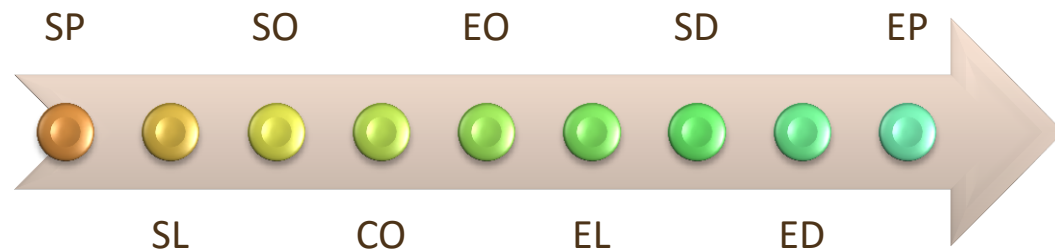
Advanced

> **TD/OMS**

> APIs > OMQ* Commands
>> Change (IO Module) CHG
>> Display   USI
>> Retrieve   RTV
>> Print   PRT

Main entities
>> Object   OB
>> Relation   OR
>> Request   RE
>> Fix   FI
>> Solution   SO
>> Application   AP

> OMQCHGOB
> OMQUSIFI
> OMQPRTOB
> OMQRTVAP
> Etc…

REMAINSOFTWARE

Advanced

TD/OMS

> ## User Options
>
> > ### Extend TD/OMS Options
> >
> > - Object
> > - Request
> > - Fix
> > - Solution
> >
> > ### 5250 and GUI

```
                          User Option Maintenance
OMX20201                    Select User Option
_____

Position to  . . . .   __

  1=Select    5=Display
Opt  Option  User         Description
 _     CF    *ALL         Complete fix
 _     CR    *ALL         Complete Request
 _     CS    *ALL         Connect Solution tp other Fix
 _     CW    *ALL         Command line in a window
 _     DF    *ALL         Display fix
 _     DL    *ALL         Display OMS log
 _     DM    *ALL         Display message
 _     DS    *ALL         Display source
 _     ES    *ALL         Edit source
 _     FS    *ALL         Size of Fix (in bytes)
 _     FU    *ALL         Transfer Fix Up
 _     LF    *ALL         Load fields from file object
                                                    More...
_____
F5=Refresh    F8=Toggle Edit    F10=Names    F11=View 2    F12=Cancel
```

TD/OMS

Questions

- What is the PF Conversion Type
- When would you use PF conversion type 8
- What is the purpose of a compilation library list
- Which processing steps in the action mechanism do not have a counterpart in the exception mechanism
- How can the name of the FROM environment be retrieved in an exception program

REMAINSOFTWARE

Advanced

> Exercise

> Do exercise 8.1 in the TD/OMS casebook

History and Logging

TD/OMS

> **Object History**
> > Object/Solution only (option 7)
> > Version numbers
> > Request and Fix
> > F21 to print

```
JMI008                          Display object history
OMI00801                          Object information


Object code ............: AS3Fil~1.pro      Route .................: NONIBMI
Object type ............: *STMF
Detail .................:
Object description .....:

5=Display Object  8=Display Fix/Request  10=Display Solution
Opt Version     Vrs.based    Appl. Compl.    Fix/Req     Pgmr./User Stat. Overr.
_   V1     M1    V0    M0      OMS01  0-00-00 F0000001    OMSOP01     *ACC
__                             OMS01  0-00-00 R0000001    OMSOP01     *ACC




                                                                        Bottom

F3=Exit   F5=Refresh   F12=Cancel   F21=Print list
```

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History and Logging

TD/OMS

> ## Transfer History
>> ## Option 20 from:
- Object
- Request
- Fix
- Solution
>> ## Version numbers
>> ## Environment
>> ## 5 = Detail log

```
OMI011                        Object Maintenance
OMI011D-01                 Work with transfer history
_____

Application . . : OMS01
Object  . . . . : AS3Fil~1.pro
Object Type . . : *STMF
Object Attribute:

5=Details
     Transfer              From   To
Opt  Code      Vrs.  Mod.  Env.   Env.   User ID    Date         Time
__   OM000007    1     1   *TST   *ACC   OMSOP01    22.06.2010 13.27.00
__   OM000006    1     1   *ACC   *TST   OMSOP01    22.06.2010 13.23.52
__   OM000005    1     1   *TST   *ACC   OMSOP01    22.06.2010 11.36.14
__   OM000004    1     0   *DEV   *TST   OMSOP01    22.06.2010 11.35.23
__   OM000003    1     0   *TST   *DEV   OMSOP01    21.06.2010 13.01.10
__   OM000002    0     0   *DEV   *TST   OMSOP01    21.06.2010 10.16.08

                                                               Bottom

F3=Exit  F12=Cancel
```

REMAINSOFTWARE

History and Logging

TD/OMS logging
- DSPLOGOMS
- 8 = Job details
- 5 = Details

```
OMI004                              Log Inquiry
OMI00401                           Work with Jobs
_____

Application code .......: OMS01     Application student 1
Remote address   . . . . : *CURRENT Local system
Position to ............:  0-00-00

5=Display  6=Print  8=Display AS/400 job
        Date       Time  Job                        Fix/Req/Rel
_   22-06-10  11:35:21  025806/OMSOP01/OM000004        F0000001




                                                            Bottom
_____
F3=Exit   F5=Refresh   F12=Cancel
```

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TD/OMS

TD/OMS logging

- F14=Collapse / Expand sections
- F8=Job details
- 5=Details
- 8=Section detail

```
JMI004                          Log Inquiry
OMI00402                  Work with Job Messages
_____

Application code .......: OMS01     Application student 1
Remote address  . . . . : *CURRENT Local system


5=Display   8=Display Section
  Message                                                       Time
_ Start Object Transfer OM000004 for application OMS01 with Fix F0000001 11:35
_ Start library list 00010 in environment *TST                 11:35
_ Start creating *STMF object jsmjaxrpc.jar.                    11:35
_ Start creating *STMF object AS3FileService_fr.properties.     11:35
_ Starting clean-up                                             11:35
_ Processing completed normally. 2 object(s) created.           11:35




                                                              Bottom
_____
F3=Exit  F5=Refresh  F12=Cancel  F8=Job  F14=Expand  F17=Top  F18=Bottom
```

History and Logging

> ▶ TD/OMS logging details
>
> > ▶ Last section is info only
> >
> > ▶ Colour for warning/error
> >
> > ▶ 5=Details

```
JMI004                              Log Inquiry
OMI00404              Work with Section of Job Messages


Application code .......: OMS01    Application student 1
Remote address   . . . . : *CURRENT Local system
5=Display
  Message                                                      Time
_ Processing completed normally. 2 object(s) created.         11:35
_     Start rebuilding relations !                            11:35
_     Rebuilding relations can be done quicker. See message details.   11:35




                                                              Bottom

F3=Exit   F5=Refresh   F12=Cancel
```

Thank you for your attendance