

Information Engineering Technology

HE Installation Verification



Release 8.8

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Introduction

This *HE Installation Verification* guide has been created to help verify that installation has been performed successfully and that there are no environmental/technical issues which would affect the main functional areas following initial installation or subsequent upgrade of the system software. The key areas of functionality assessed are:

- Project Administration
- Migration definition and execution
- Subset definition
- System Updating
- HE Task Assistant (optional)

We have designed this documentation for use by system software installation staff and have assumed no previous DevOps Suite / GuardIEn knowledge – although some background with Gen migration/code generation would be beneficial (if you do not have this experience it may be worthwhile asking for assistance).

The installation verification is documented as a set of tests to be completed in the order presented. Failure to complete the tests in correct sequence may produce inconsistent results. At present, tests assume connection to a single HE.

The verification should take approximately 2 hours to complete (excluding any problem resolution).

Installation Verification Pre-Requisites

- Implementation of Host Encyclopaedia (HE) supporting model schemas 9.2.A6 (including Host Construction).
- Implementation of IET DevOps Suite HE software (clients and servers). This includes installation of the Windows help files.
- Access to installed client software during the tests.
- Gen Models for use with the Installation Verification guide.

Questions and/or Feedback

Each section verifies a particular area of functionality, such as Subset definition/download. If any part of a test fails, then that test section should be considered failed. A failure to complete one test section **does not** mean that another section cannot be tested. For example, if Subset definition fails, then you could attempt the System Updating tests which are independent.

If you encounter any problems or questions whilst completing the verification and are unable to resolve them, please do not hesitate to contact IET at support@iet.co.uk

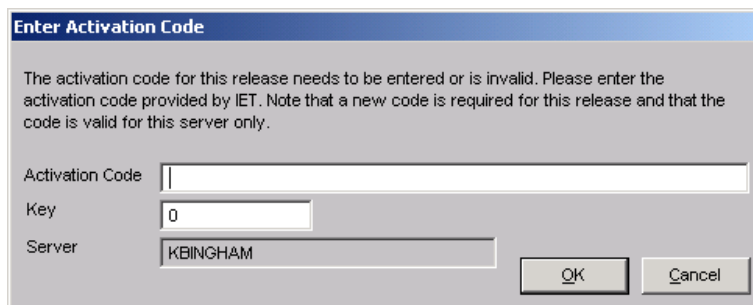
Initial Tests

Before the formal software verification is undertaken, some initial GuardIEn client logon tests should be completed to confirm you can connect to the software successfully.

Test Connection to GuardIEn

The following procedure tests the connection between GuardIEn clients and servers:

- Launch GuardIEn's *System Administration Client*. This program should be available through a Start Menu Shortcut. The GuardIEn clients use direct TCP/IP connections to the TE by default, so there is no need to use *Client Manager*. However, it is still possible to utilise Client Manager instead if you prefer –consult the client installation guide for details on how this can be achieved.
- A logon panel should be displayed and a dialog should appear asking you to enter your GuardIEn *Site Activation Key*. If this dialog appears ok then it proves that you can connect to the GuardIEn Server and that the server can access the GuardIEn database. The *Site Activation Key* consists of a coded textual string stating what software you are licensed to use and for what period, and also a check-sum numeric value. IET or your local distributor will have provided these.



The activation code for this release needs to be entered or is invalid. Please enter the activation code provided by IET. Note that a new code is required for this release and that the code is valid for this server only.

Activation Code

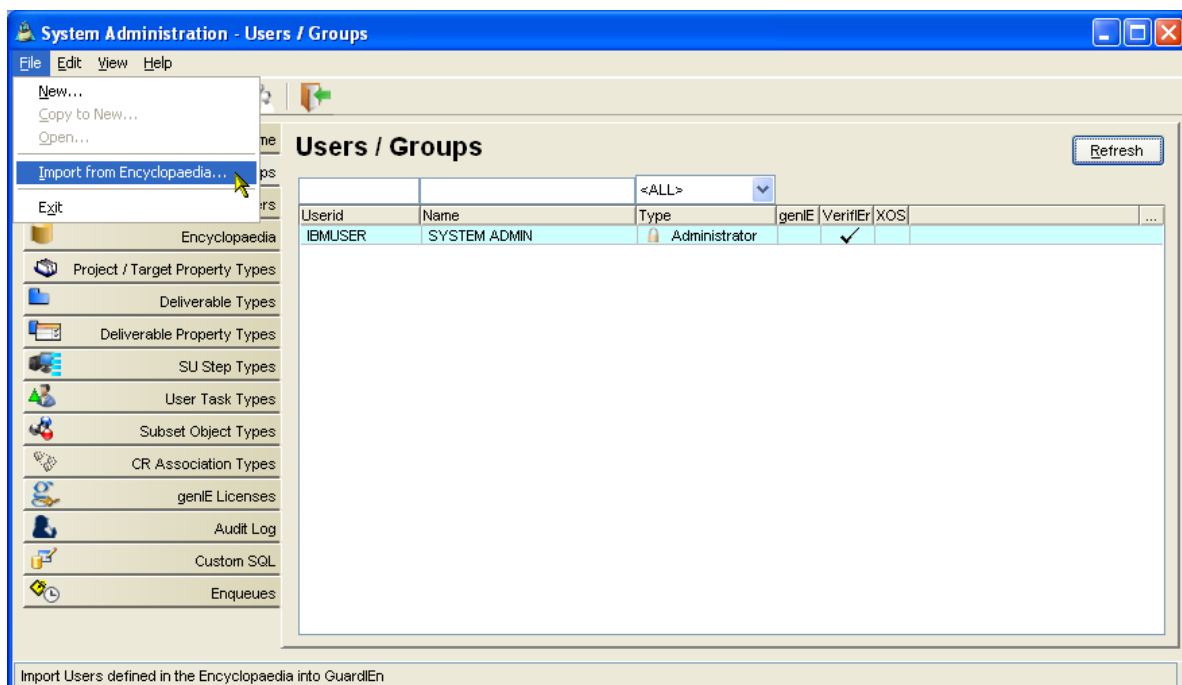
Key

Server

OK Cancel

Define Users (for NEW Installations only)

During the GuardIEn server software installation the default data load will have created a userid for the user that performed the installation. You must use this user to logon to the *System Administration client* for the first time. Using this userid you can import the other userids from the HE using the *Import Users* facility on the *System Administration client*.



System Administration - Users / Groups

File Edit View Help

New...
Copy to New...
Open...
Import from Encyclopaedia...
Exit

Encyclopaedia
Project / Target Property Types
Deliverable Types
Deliverable Property Types
SU Step Types
User Task Types
Subset Object Types
CR Association Types
genIE Licenses
Audit Log
Custom SQL
Enqueues

Users / Groups

Refresh

Userid	Name	Type	genIE	VerifiEr	XOS	...
IBMUSER	SYSTEM ADMIN	Administrator		✓		

Import Users defined in the Encyclopaedia into GuardIEn

Set the filters to return the rows that you want, populate the list on the right with the userid(s) that you wish to import. Set the project and optionally the password; then import the selected users/groups.

Field	Purpose
Userid	An identifier for the user. This should be the same as the user's Gen userid.
Name	The user's Name
Default Project	The default project for the user. The user can change this if they want to use a different project. Imported users are given 'S' access to the project specified at the time of import.
Password	Note that passwords are optional. The passwords are encrypted when sent from the client to the server and are in an encrypted form on the server. When importing users/groups from the encyclopaedia, the same password is set for all users imported at one time.
Admin	Specifies if the userid is a GuardEn system administrator. This is automatically set if the user is already an Encyclopaedia administrator.
XOS	Check if this user is allowed to use XOS
genIE	Check if this user is allowed to use genIE
Manages Users	Check if this user is allowed to define/update user details

Common Set-up

Various tasks must be completed successfully before you can tackle any of the actual verification tests. These tasks are explained here.

Load Model

An **UPDATE.TRN** file is supplied with this verification document in 'upload' ready form. The **update.trn** file contains a model at schema 9.2.A6 and can be used for Gen Host Encyclopaedia 8.0 or higher.

The model uploaded is called **IET DEMO -LIVESTOCK REC SYS DEV**. Upload this model into your HE by whatever means you normally use to achieve this – probably a batch job. Alternatively, you can load this file (binary) straight into your local IEF.TRN file on the HE Server and then type the command

%IEFUP

...using a TSO command interface (option 6 from the ISPF standard menu usually works) session. Once this has completed you can verify that the upload has worked successfully by listing the models in the encyclopaedia and seeing if the name **IET DEMO -LIVESTOCK REC SYS DEV** exists.

Note that if you do not have an existing IEF.TRN file on the host, ensure that you allocate the file with the correct dataset control block information before performing the file transfer.

Allocate Gen Generate & Install Libraries

You now need to allocate some datasets in order to perform the code generation and installation tests. The following table indicates the datasets to be allocated, with record formats and suggested allocation sizes. You may use the same libraries for the RIT and standard Gen objects to be generated/installed. All datasets are partitioned and should be defined as PDSEs.

Name	RECFM	LRECL	Size (3390 Trks)
Installation Control (CNTL)	FB	80	20
Generated Source Code (COBOL)	FB	80	50
DB2 DBRM Modules (DBRM)	FB	80	10
Compile Load Modules (NCAL)	U	0	20
Executable Load Modules (LOAD)	U	0	30

Generate & Install RI Triggers

We must firstly generate and install all the RI triggers associated with the servers of the application. Select the application construction menu (option 4 on the main menu). The choose option 3 (RIT Construction) and select the model you have just uploaded to the encyclopaedia. The RIT Construction Menu is displayed: choose option 3 (Specify target environment and construction libraries).

Now specify the target environment variables and additionally confirm the RIT construction libraries (refer to the datasets you have just created) using options 1 and 2. Then generate and install the RIT code.

```
Specify RI Trigger Target Environment and Construction Libraries
COMMAND ==>

Model name . . . : IET DEMO -LIVESTOCK REC SYS DEV

Select one of the options below, then press enter.

= 1. Specify RI Trigger Target Environment
  2. Specify RI Trigger Construction Libraries
```

```
Specify RI Trigger Target Environment Parameters
COMMAND ==>

Specify desired target environment parameters.

Operating System . . . . . MVS
Generated Source Language . . . . COBOL
Database Management System . . . . DB2
DB2 Subsystem for package binds. . . _
```

```
Specify RI Trigger Libraries
COMMAND ==>

Specify construction libraries for Referential Integrity Triggers.

Generated source code . . . 'WHND03.LRSDEV1.COBOL'
Compiled load modules . . . 'WHND03.LRSDEV1.NCAL'
DB2 DBRM modules . . . . 'WHND03.LRSDEV1.DBRM'
Installation control . . . 'WHND03.LRSDEV1.CNTL'
Compile listings . . . . .
```

```
Generation Status Row 17 to 27 of 27
COMMAND ==> _ SCROLL ==> PAGE

Model name . . . : IET DEMO -LIVESTOCK REC SYS DEV
Business system : ALL

Item Status INSTALLATION COMPLETED SUCCESSFULLY
-----
LRSRIE04 COMPILATION COMPLETE, RC=0
FORD USER EXIT -LIBAUDIT- COMPLETE
LRSRIE05 COMPILATION COMPLETE, RC=0
FORD USER EXIT -LIBAUDIT- COMPLETE
LRSRIF02 COMPILATION COMPLETE, RC=0
FORD USER EXIT -LIBAUDIT- COMPLETE
LRSRIF01 COMPILATION COMPLETE, RC=0
FORD USER EXIT -LIBAUDIT- COMPLETE
LRSRIF03 COMPILATION COMPLETE, RC=0
Referential Integrity Trigger ***** Installation Complete *****
PRESS ENTER KEY TO CONTINUE.
***** Bottom of data *****
```

Generate & Install Servers

Use the Application System Construction facilities on the HE to specify the target properties and libraries (again use the libraries you have previously allocated).

```
Application System Construction Menu
COMMAND ==>
Target environment and libraries retrieved.
Select one of the options below, then press enter.

5 1. Generate business system
  2. Application test facility
  3. Define load module packaging
  4. Generate data base definition
  5. Specify target environment and construction libraries
  6. Create, read, update and delete report
  7. Generate entire business system in background
  8. Screen generator options
```

```
Specify Target Environment and Construction Libraries
COMMAND ==>

Model name . . . : IET DEMO -LIVESTOCK REC SYS DEV
Business system : LIVESTOCK_RECORDING_SYSTEM

Select one of the options below, then press enter.

  1. Specify Target Environment
  2. Specify Construction Libraries
  3. Restore Target Environment and Construction Libraries
    specifications from the Encyclopedia.
```

```
Specify Target Environment Parameters
COMMAND ==>

Operating System . . . . . MVS
Generated Source Language . . . . . COBOL
Database Management System . . . . . DB2
TP Monitor . . . . . IMS
Screen Format Type . . . . . BYPASS
Profile Type . . . . . SQL
Extended Attribute Support . . . . . YES
Enforce DM Constraints . . . . . NO
Optimize import view initialization . . . . . NO
Restartable Application . . . . . YES
Clear Screen Default Command . . . . . RESET
DB2 Subsystem . . . . . DXDD (MVS only)
Dynamically link procedure steps . . . . . NO (MVS only)
Dynamically link action blocks . . . . . NO (MVS only)
Dynamically link screen managers . . . . . NO (MVS only)
Pseudoconversational Support . . . . . NO (CICS only)
Handle CICS Command Abends . . . . . NO (CICS only)
XCTL for flows when possible . . . . . NO (CICS only)
```

```
Specify Construction Libraries
COMMAND ==>

Model name . . . : IET DEMO -LIVESTOCK REC SYS DEV
Business system : LIVESTOCK_RECORDING_SYSTEM

Select one of the options below, then press enter.

  1. Specify internal libraries
  2. Specify external action block load libraries
  3. Specify external action block DBRM libraries
  4. Specify external system load libraries
```

```
Specify Internal Libraries
COMMAND ==>

Enter or verify the following business system library specifications:

Generated source code . . . 'WHN003.LRSDEV1.COBOL'
NCAL load modules . . . . 'WHN003.LRSDEV1.NCAL'
Executable load modules . . . 'WHN003.LRSDEV1.LOAD'
DB2 DBRM modules . . . . 'WHN003.LRSDEV1.DBRM'
Installation control . . . 'WHN003.LRSDEV1.CNTL'
Generated MFS/DECforms . . .
Generated batch JCL . . .
Compile listings . . . .
```

Now use option 1 of the Application System Construction menu to generate and install all the application code. Please ensure that all code is installed successfully (there is no need to issue DB2 binds) before continuing further.

Copy Models

Now that we have a fully generated DEvelopment model (with generate timestamps in the encyclopaedia), we can copy this model to create an INTEgration Test model and a PRODUCTION model.

Use the standard Gen HE facilities to perform the two Model Copies.

```
Copy Model
COMMAND ==>

Type the current model name or request Prompt for list selection. Type
the new model name. Select an execution mode and an object history
log mode for the new model, then press enter.

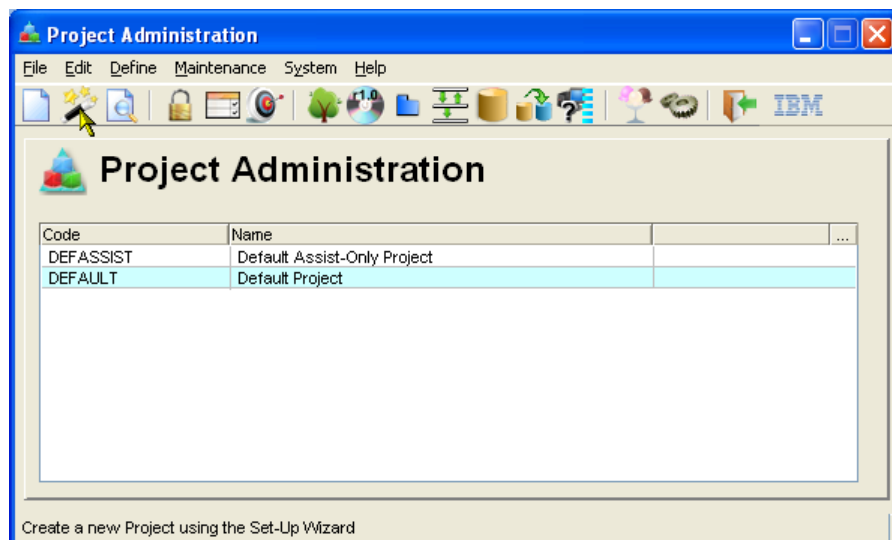
From model name . . . . . IET DEMO -LIVESTOCK REC SYS DEV_ +
Copy to new name . . . . .
Execution mode . . . . . / Online
                        / Batch
New model object history . . / Enable
                        / Disable
Lock encyclopedia tables . . / Yes (Must be encyclopedia administrator)
                        / No
```

Name the new models **IET DEMO –LIVESTOCK REC SYS INT** and **IET DEMO –LIVESTOCK REC SYS PROD**. Ensure that both copies complete successfully.

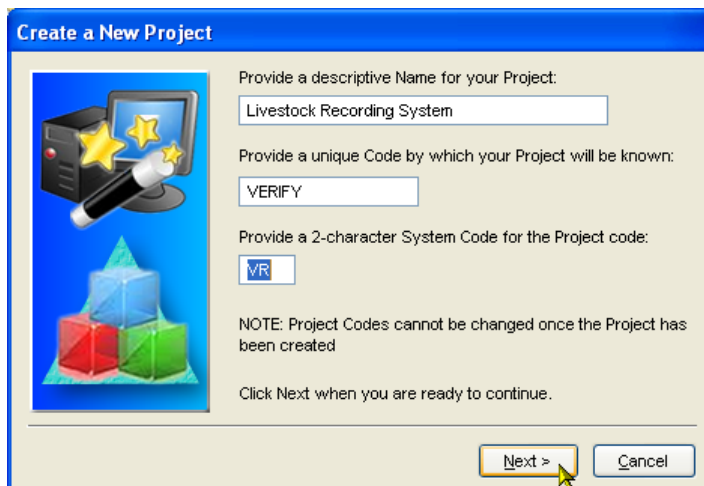
Project Creation

Use the Project Administration client’s Set-Up Wizard to create a new Project...

Logon to the GuardIEn Windows client and choose the Function->Project Administration menu (you must use a userid which has access to create projects).



Press the **Wizard** toolbar button. The **Create a New Project** dialog of the Wizard will appear first. Enter the values 'Livestock Recording System', 'VERIFY' and 'VR' into the 3 fields respectively:



Create a New Project

Provide a descriptive Name for your Project:
Livestock Recording System

Provide a unique Code by which your Project will be known:
VERIFY

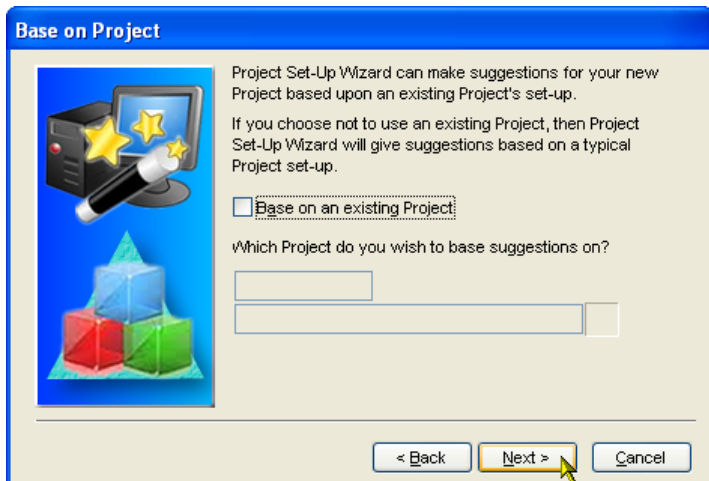
Provide a 2-character System Code for the Project code:
VR

NOTE: Project Codes cannot be changed once the Project has been created

Click Next when you are ready to continue.

Next > Cancel

Press **Next** to proceed to the **Base on Project** dialog. Ensure that the checkbox is turned **OFF** and press the **Next** button:



Base on Project

Project Set-Up Wizard can make suggestions for your new Project based upon an existing Project's set-up.

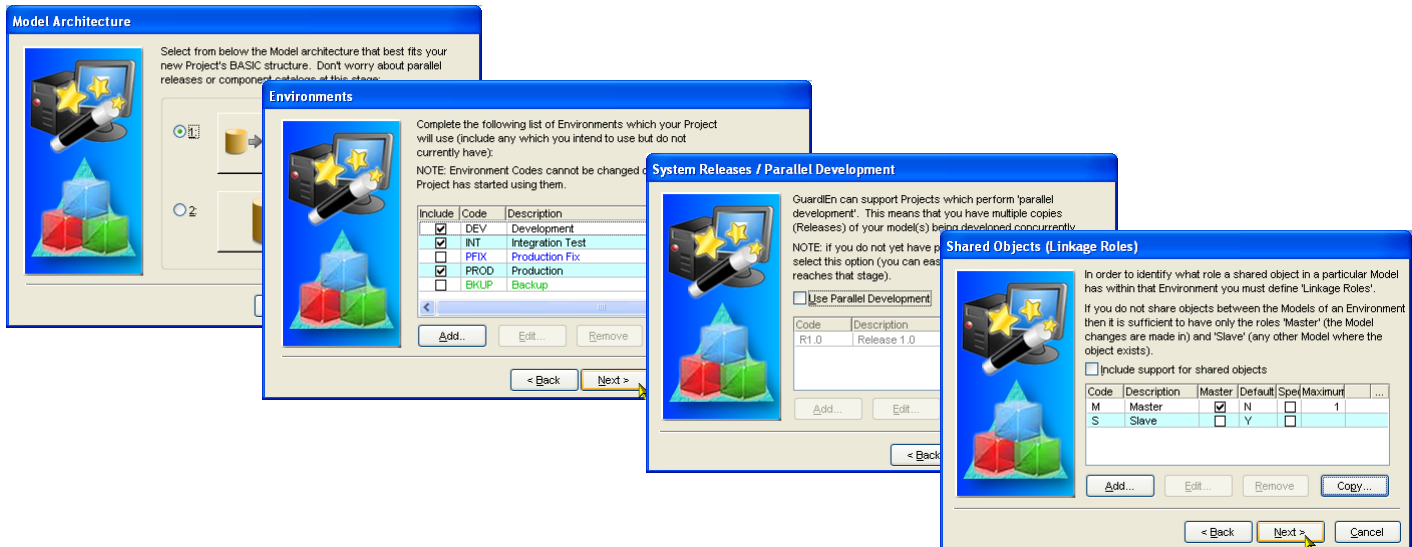
If you choose not to use an existing Project, then Project Set-Up Wizard will give suggestions based on a typical Project set-up.

☐ Base on an existing Project

Which Project do you wish to base suggestions on?

< Back Next > Cancel

You can simply accept the default suggestions for the next 4 dialogs...



Model Architecture

Select from below the Model architecture that best fits your new Project's BASIC structure. Don't worry about parallel releases or component categories at this stage.

Environments

Complete the following list of Environments which your Project will use (include any which you intend to use but do not currently have):

NOTE: Environment Codes cannot be changed once the Project has started using them.

Include	Code	Description
<input checked="" type="checkbox"/>	DEV	Development
<input checked="" type="checkbox"/>	INT	Integration Test
<input checked="" type="checkbox"/>	PRFX	Production Fix
<input checked="" type="checkbox"/>	PROD	Production
<input checked="" type="checkbox"/>	BKUP	Backup

Add... Edit... Remove

< Back Next >

System Releases / Parallel Development

GuardEn can support Projects which perform 'parallel development'. This means that you have multiple copies (Releases) of your model(s) being developed concurrently.

NOTE: If you do not yet have a release, select this option (you can easily reach that stage).

☐ Use Parallel Development

Code	Description
R1.0	Release 1.0

Add... Edit...

< Back

Shared Objects (Linkage Roles)

In order to identify what role a shared object in a particular Model has within that Environment you must define 'Linkage Roles'.

If you do not share objects between the Models of an Environment then it is sufficient to have only the roles 'Master' (the Model changes are made in) and 'Slave' (any other Model where the object exists).

☐ Include support for shared objects

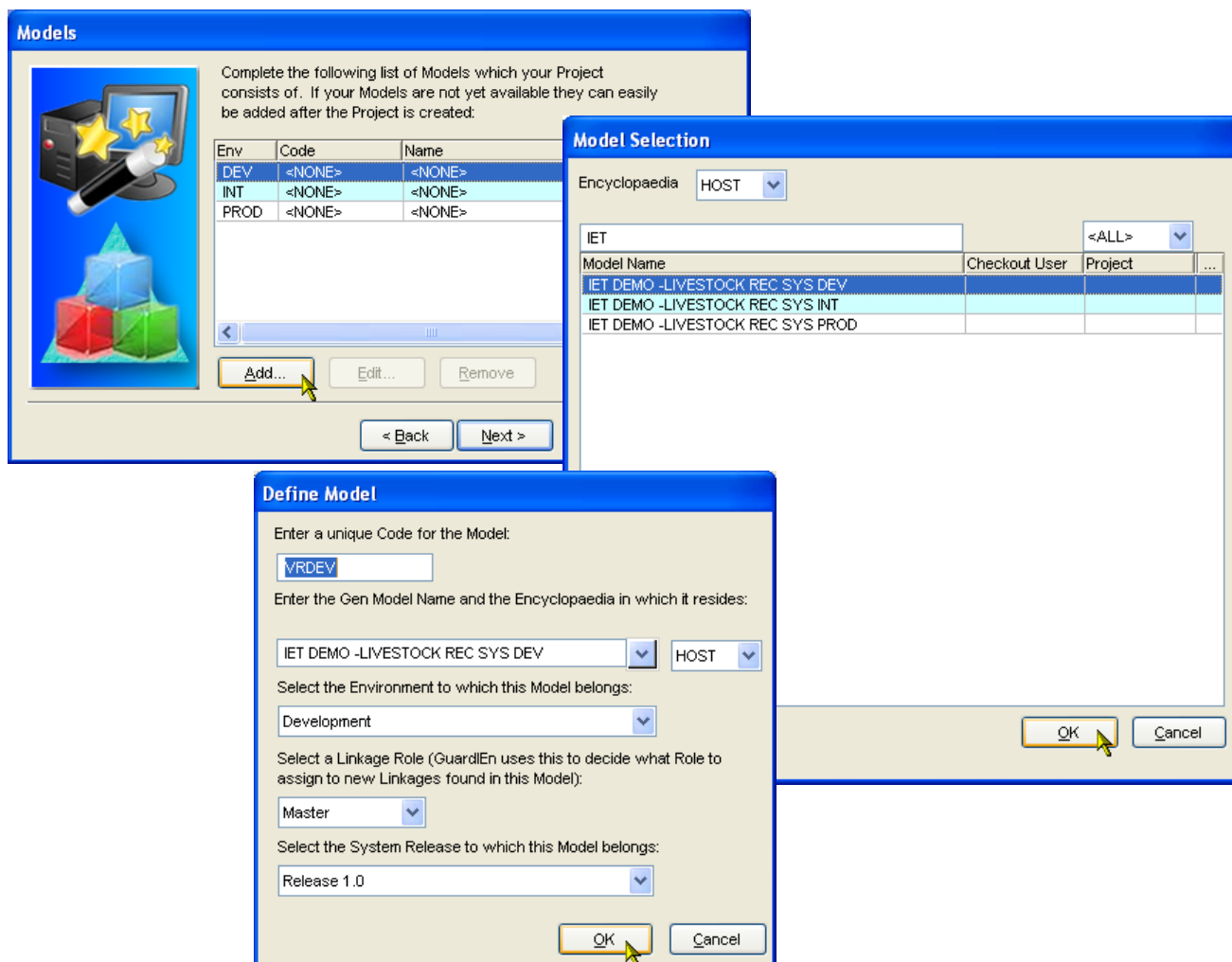
Code	Description	Master	Default	Spec	Maximum	...
M	Master	<input checked="" type="checkbox"/>	N	<input type="checkbox"/>	1	
S	Slave	<input type="checkbox"/>	Y	<input type="checkbox"/>		

Add... Edit... Remove Copy...

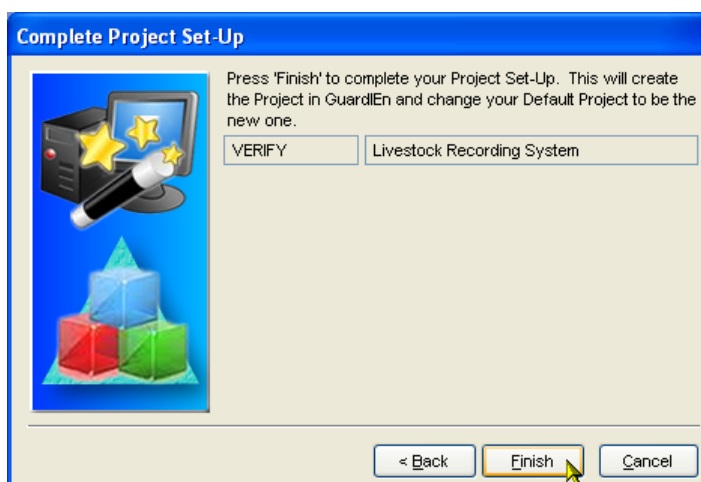
< Back Next > Cancel

...until the Model selection dialog.

Double-click each of the 3 rows and choose the corresponding model from the Encyclopaedia Model Selection dialog that appears. On the Define Model window, simply Click **OK**. Click **Next** when all 3 models have been defined in the list.

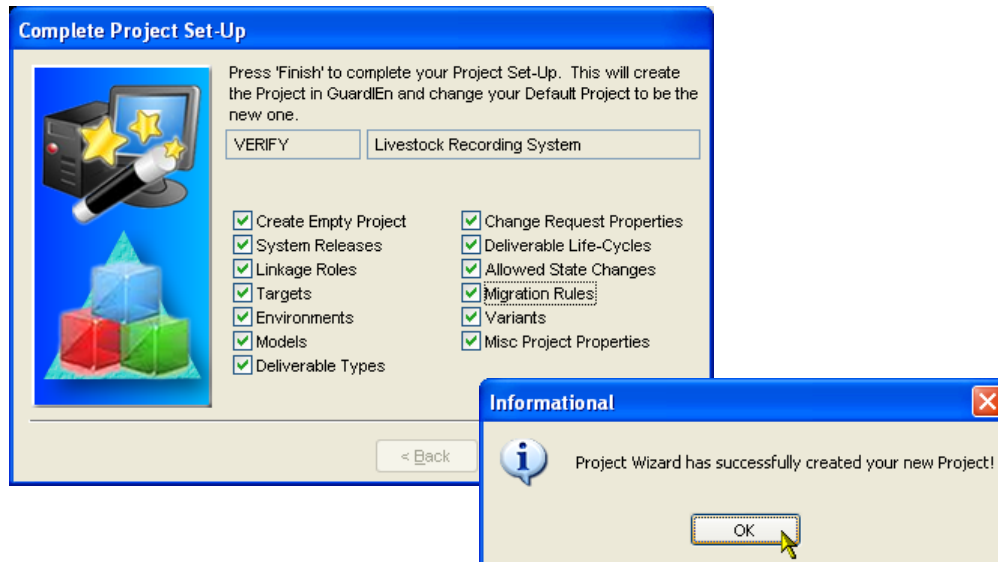


The suggested settings should be ok for all the remaining dialogs (5 in total) so simply press **Next** on each one until you come to the Complete Project Setup dialog. All of the Project options have now been chosen. Simply press **Finish** on the final Wizard



dialog:

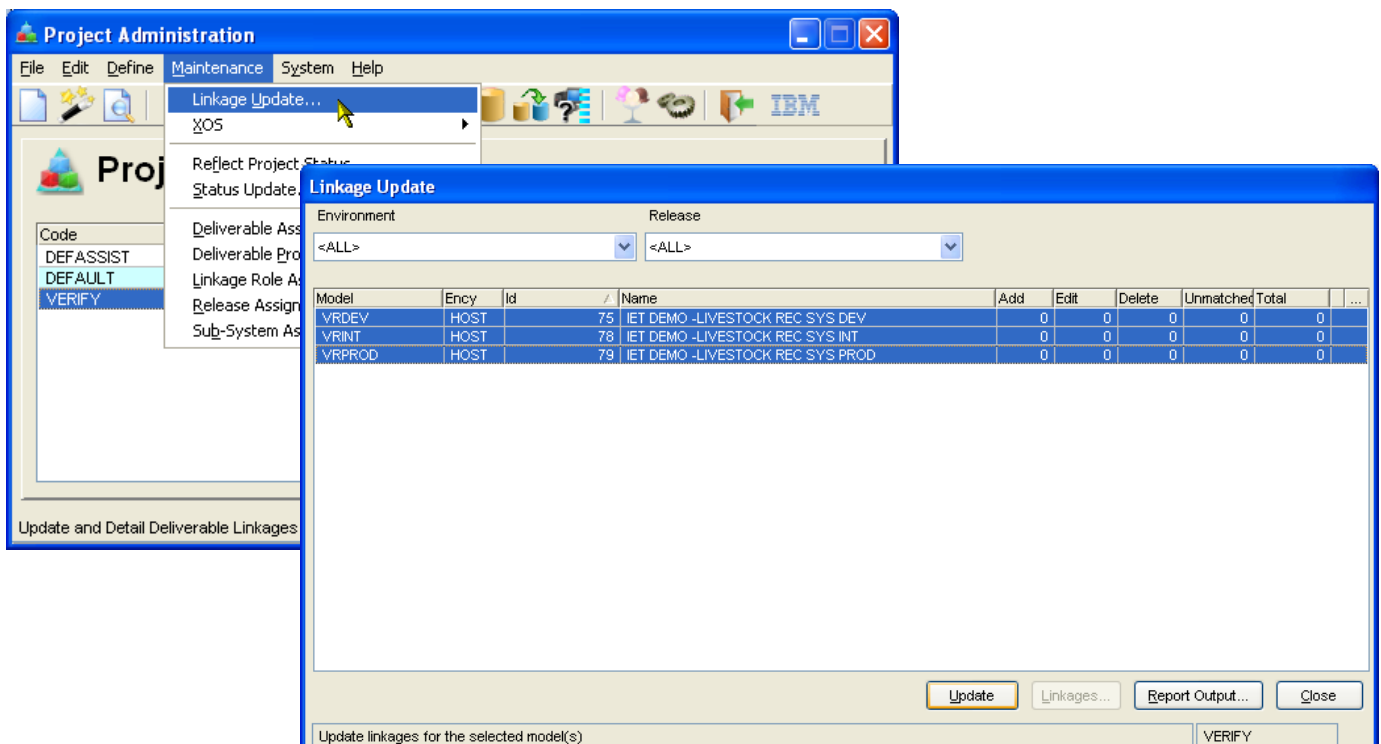
The Wizard will now create the Project for you. When it is completed successfully all of the checkboxes will be checked and a message will be issued:



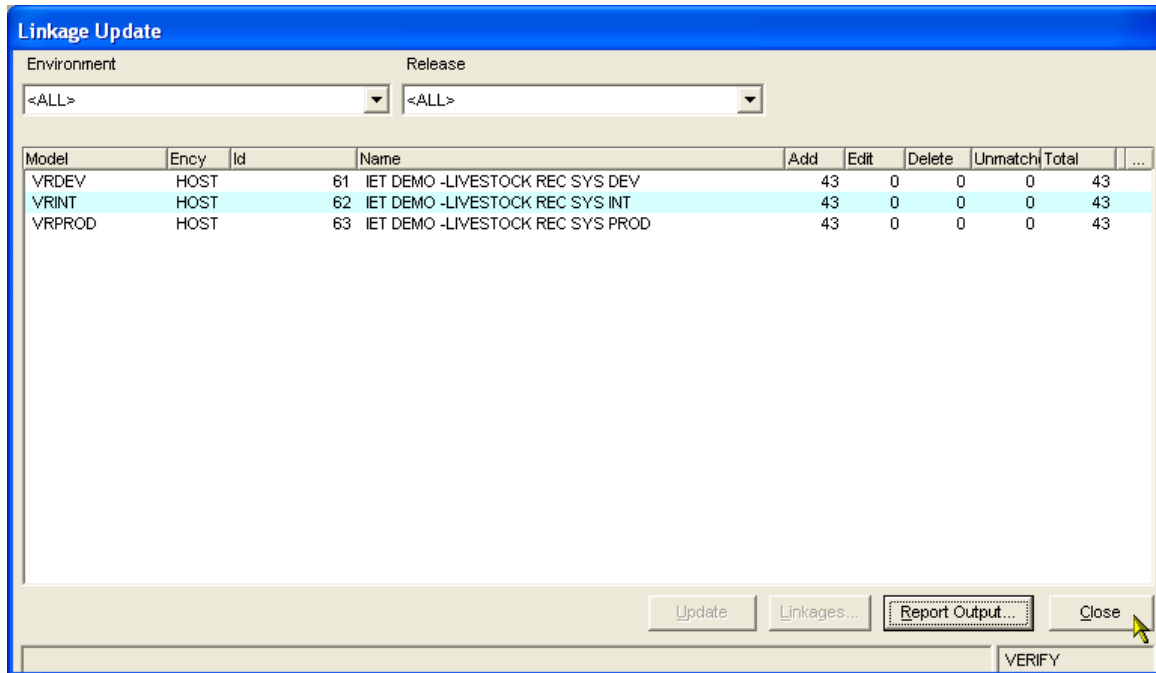
Press **Ok** then **Done** to return to the Project Administration client.

Linkage Update

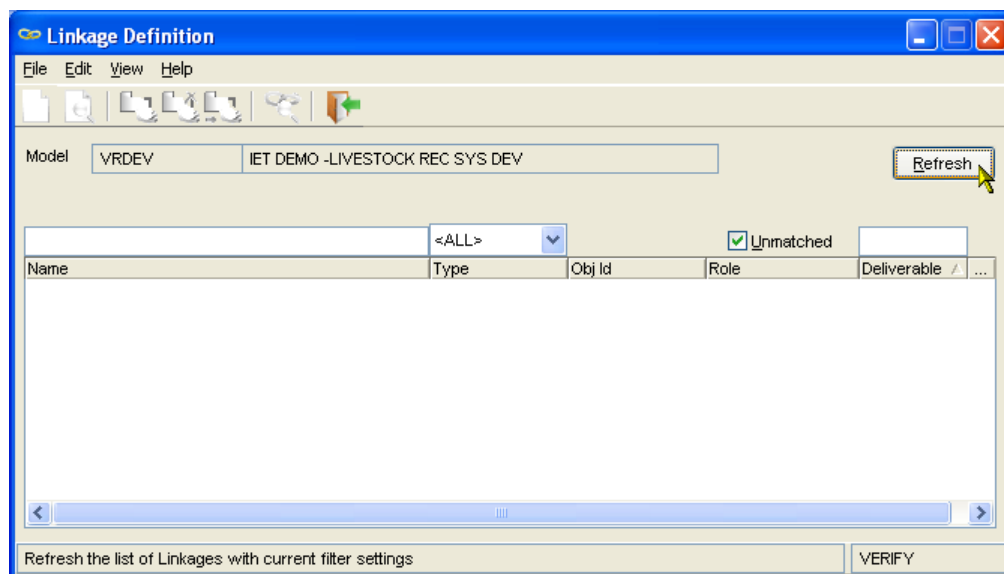
We must now perform a Linkage Update so that GuardIEn knows about all of the objects in the project. Using the Project Admin client, choose **Maintenance->Linkage Update** from the drop-down menu. Select all three models in the **VERIFY** project and press the **UPDATE** button...



A progress bar will appear showing you the Linkage Update process working through the 3 models selected. When it completes, you should see Linkage Update refreshed showing 43 linkages in the **Add** column for each model.



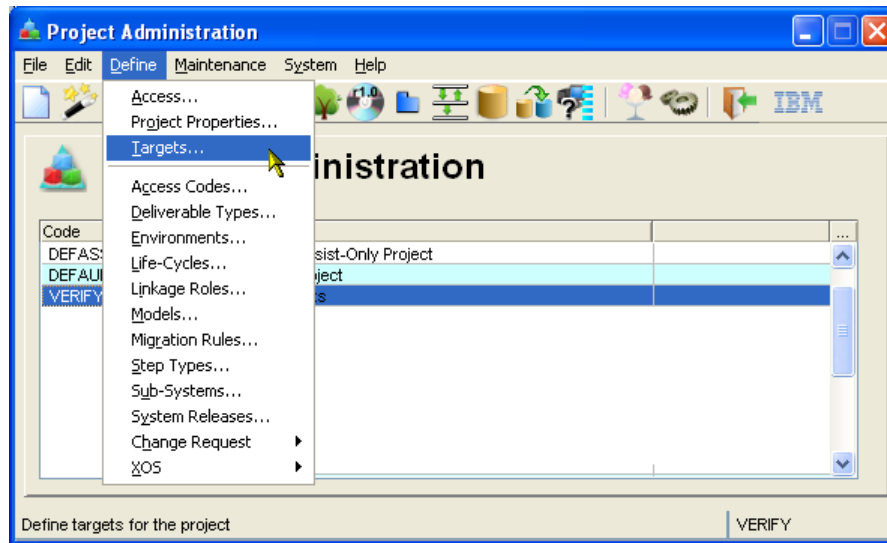
Make sure that the **Unmatched** count is zero for each model. If any of the **Unmatched** counts are not zero, select each model in turn and press **Linkages**. You will be presented with the Linkage Definition window where all of that model's linkages are listed. Verify that they are all present and matched to a deliverable by turning the **Unmatched** checkbox on. If any linkages are still displayed in the list you must determine why and correct it, probably creating deliverables manually if necessary...



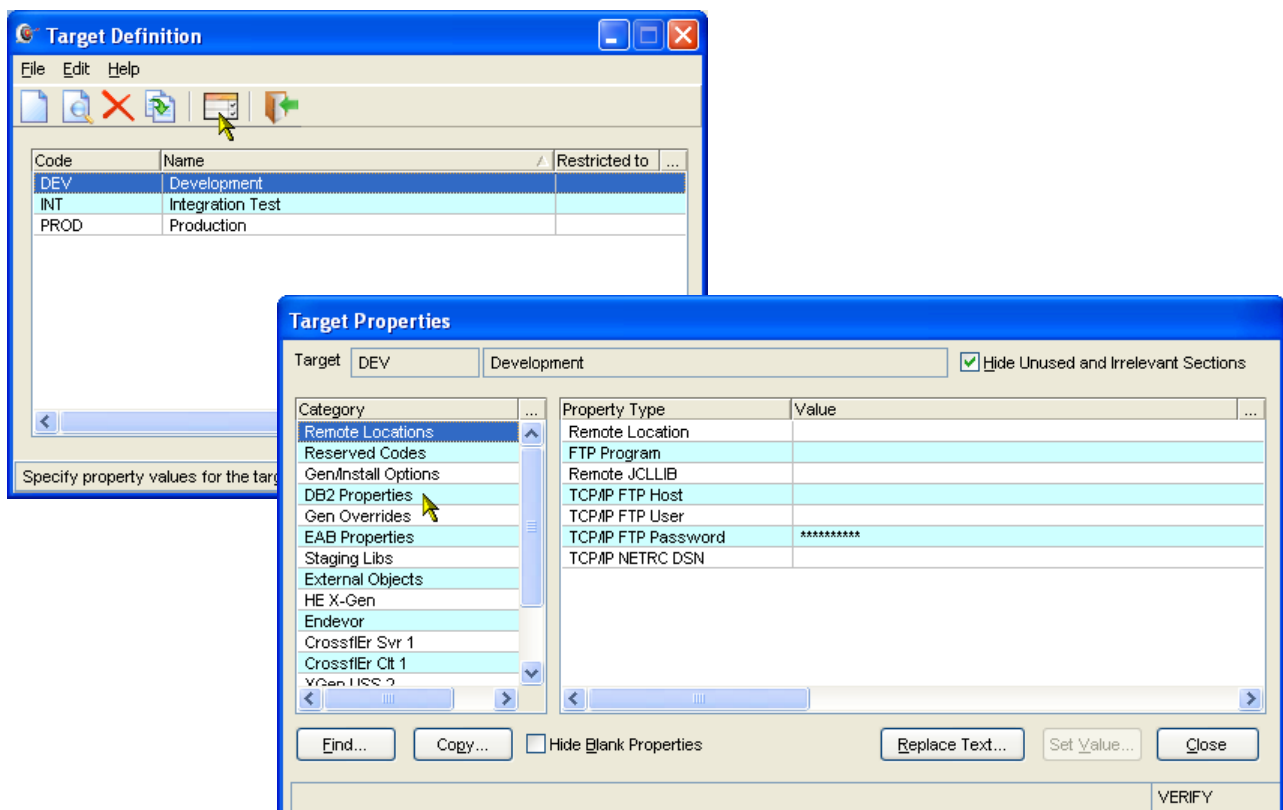
If you are unable to assess why the deliverables were not matched to linkages then please contact IET before continuing further with the verification process.

Set Generation Parameters

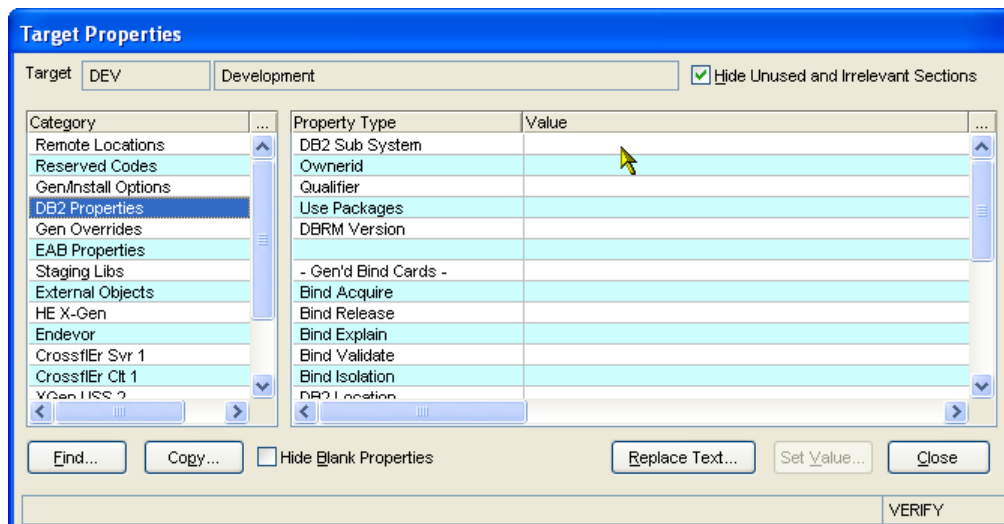
You now need to define some additional parameters within GuardIEn to allow the Gen code generation and installation tests to succeed later during verification (under *System Updating* tests). On the Project Admin toolbar, choose **Define->Targets**



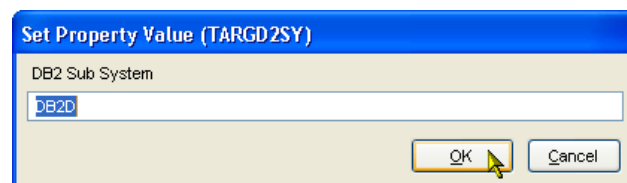
Target Definition is displayed. You should have 3 targets available but choose the target for DEV (Development) and select **Properties** from the toolbar. The list of **Target Properties** is then shown, categorised in the left-hand column (*Remote Locations*, *Reserved Codes*, *Gen/Install Options* etc.).



Choose the **DB2 Properties** category and select the **DB2 Sub System** property in the right-hand column.



Then press the **Set Value...** button and set the property to the DB2 Sub System required at your site for successful code generation/installation using your Host Encyclopaedia. When complete, press OK.



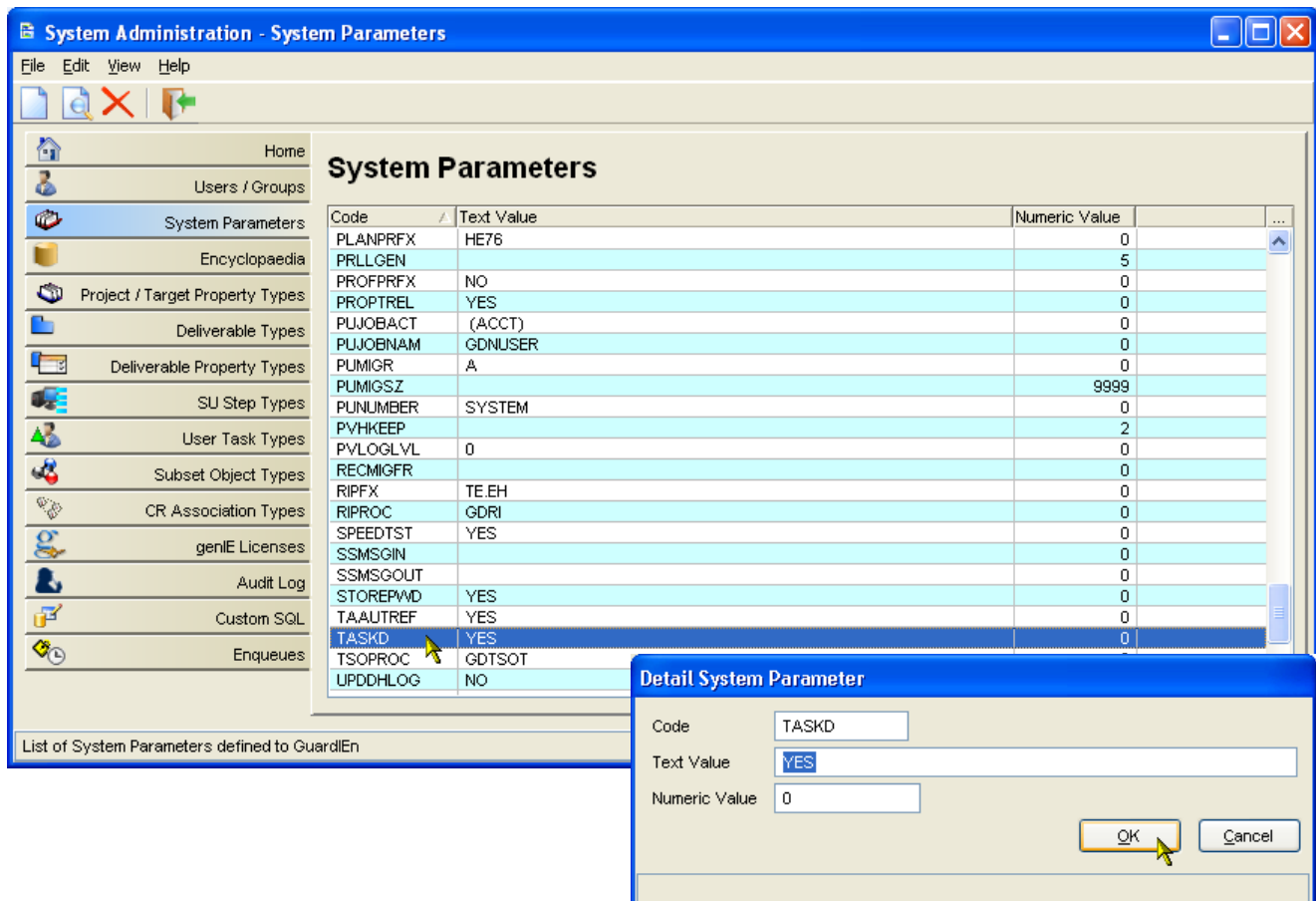
The changes should be displayed in the property type list back on the **Target Properties** screen. You have now successfully completed the Project Setup phase of the GuardlEn verification. You can now exit out of the Project Administration client completely.

Task Assistant

The HE installation verification guide assumes that you will be using the Task Assistant. If not, then please skip this section and proceed to the Subset Assistant verification.

System Parameters

To test that the HE Task Assistant is correctly installed, first open the System Administration client and access **System Parameters**.

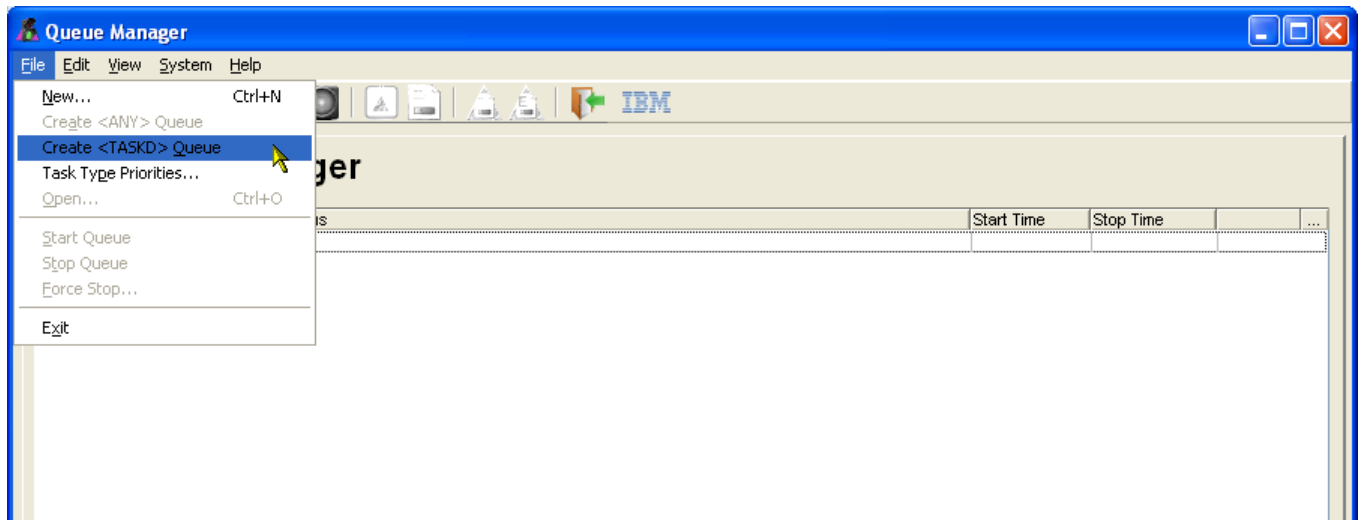


Check that the following system parameters are set:

Code	Description	Example
TASKD	YES specifies that the task dispatcher is used.	YES
MIGREXCL	Specifies that migrates have exclusive access to the encyclopaedia for the specified task types	* for all tasks or a string containing the task types, i.e. UDMC for uploads, downloads, migrates and model copies
TSOPROC	Specifies the JCL procedure used to execute a GuardIEn system update	GDTST if using the task dispatcher
DOWNSDN	Dataset prefix for download tran files	GDN.DOWNLOAD
UPLDSN	Dataset prefix for upload tran files	GDN.UPLOAD
VERDSN	Dataset prefix for verify tran files	GDN.VERIFY

Define Queues

Logon to the Queue Manager via the Task Assistant and check that you have defined at least one queue. If the queues have not yet been defined, follow these steps to define a sample set of queues.

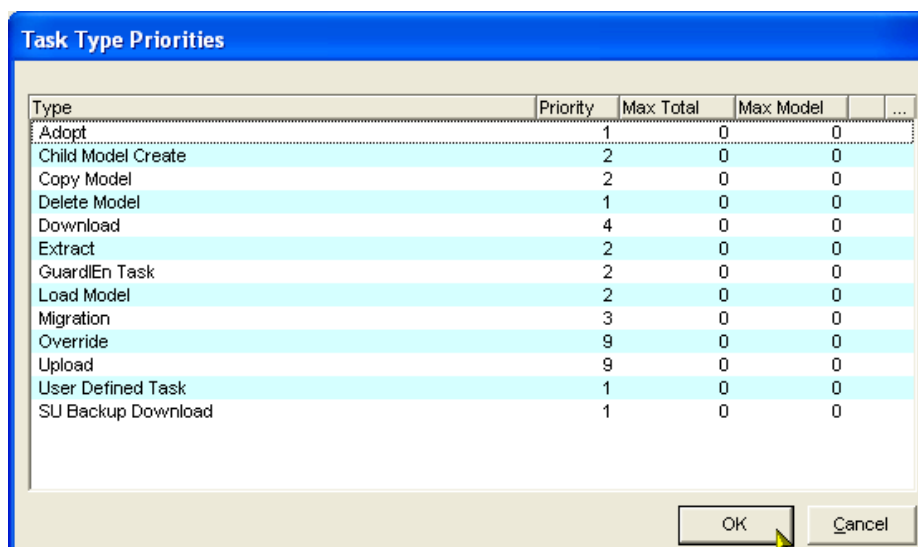


1. Create the <TASKD> queue by selecting the *File->Create <TASKD> Queue* menu option.
2. Create the <ANY> queue by selecting the *File->Create <ANY> Queue* menu option.
3. Use File-New to create the following queues:

Code	Description	Job Class	Start Time	Stop Time
DAY1	Daytime 1	<day time job class on site>	07:00	21:00
NIGHT1	Night 1	<night time job class on site>	21:00	07:00

Note that the job classes should be against initiators runs on the same machine as the Gen/GuardIEn installation. The daytime job class should have at least one initiator started in the desired time slot and the night time job class should also be available when the night queue is required.

4. Use the File->Task Type Priorities to review the priorities for each task type.

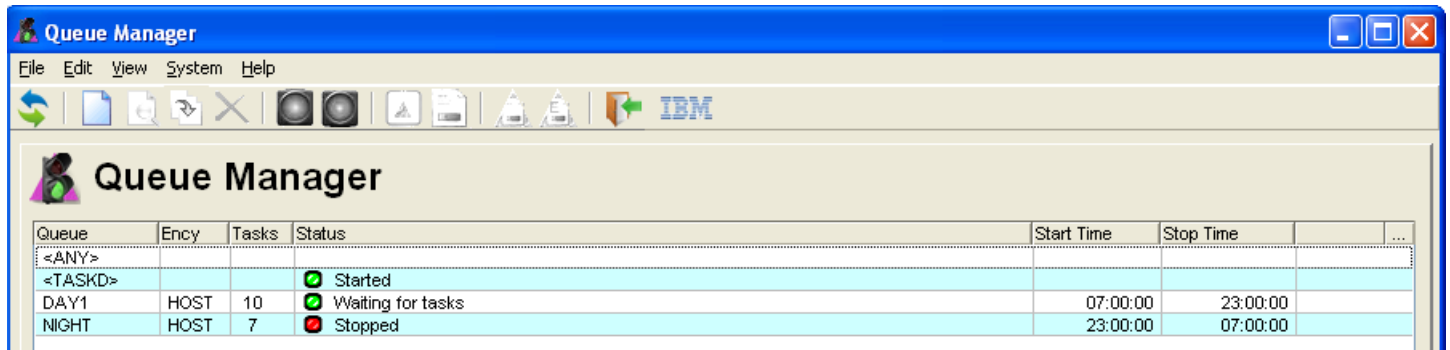


Start Task Dispatcher

The Task Dispatcher is a batch job or started task that monitors the task list and dispatches tasks as batch jobs. It can be started as a started task or as a batch job. *For testing purposes, it is recommended that the task dispatcher is started as a batch job, but that this is converted to a z/OS started task for eventual 'live' use.*

The Task Dispatcher is started using the **GDTD** batch job located in the JCLRUN dataset.

Check that the job has started. Logon to the Queue Manager and you should see that the status of the <TASKD> queue is 'Started'...



The screenshot shows the Queue Manager application window. It has a menu bar (File, Edit, View, System, Help) and a toolbar with various icons. The main area displays a table with the following data:

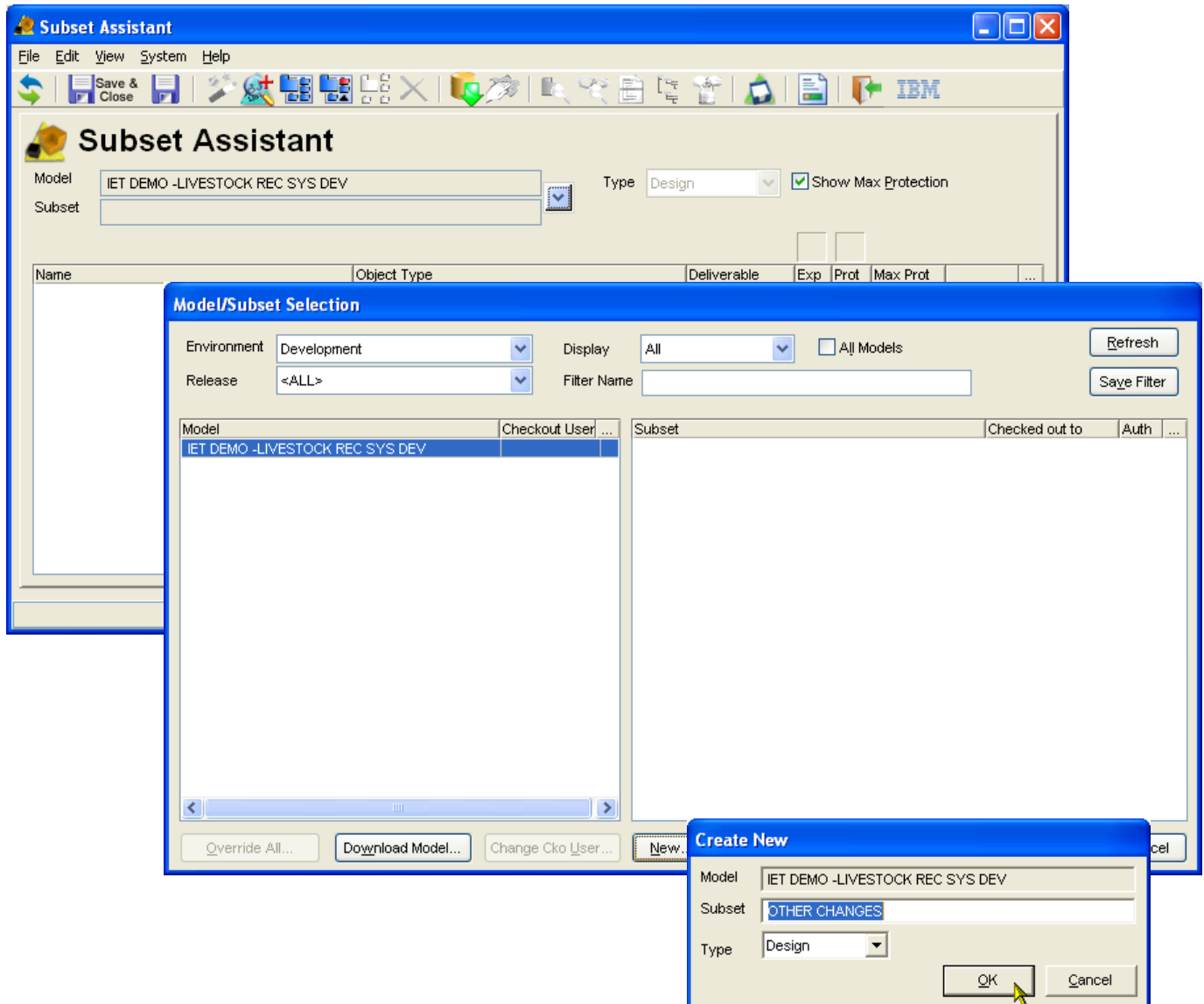
Queue	Ency	Tasks	Status	Start Time	Stop Time	...
<ANY>						
<TASKD>			Started			
DAY1	HOST	10	Waiting for tasks	07:00:00	23:00:00	
NIGHT	HOST	7	Stopped	23:00:00	07:00:00	

...with, depending on the time of day, the DAY1 queue stating that it is 'Waiting for tasks'. The Task Assistant is now available to submit batch jobs for GuardIEn.

Subsetting

Create a Subset

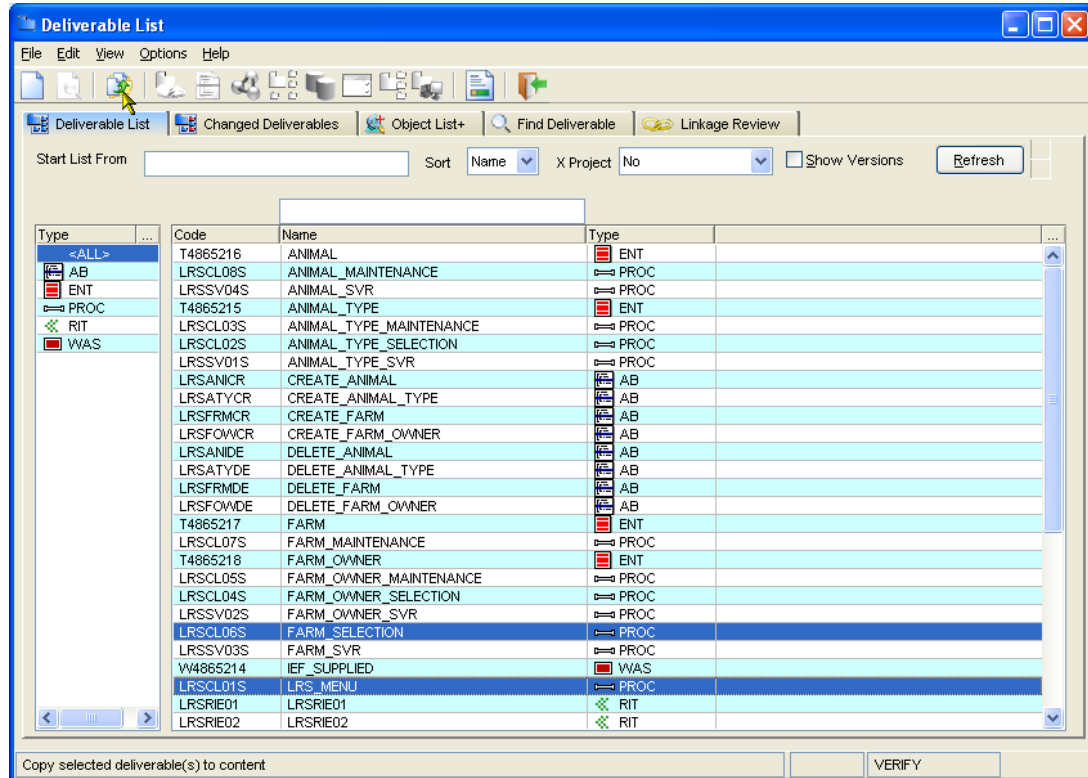
Start the **Subset Assistant** from the main GuardIn client Functions menu. You will be presented with a dialog containing the Models belonging to the First environment in your new Project, i.e. Development. Create a subset called **OTHER_CHANGES** and when ready press OK.



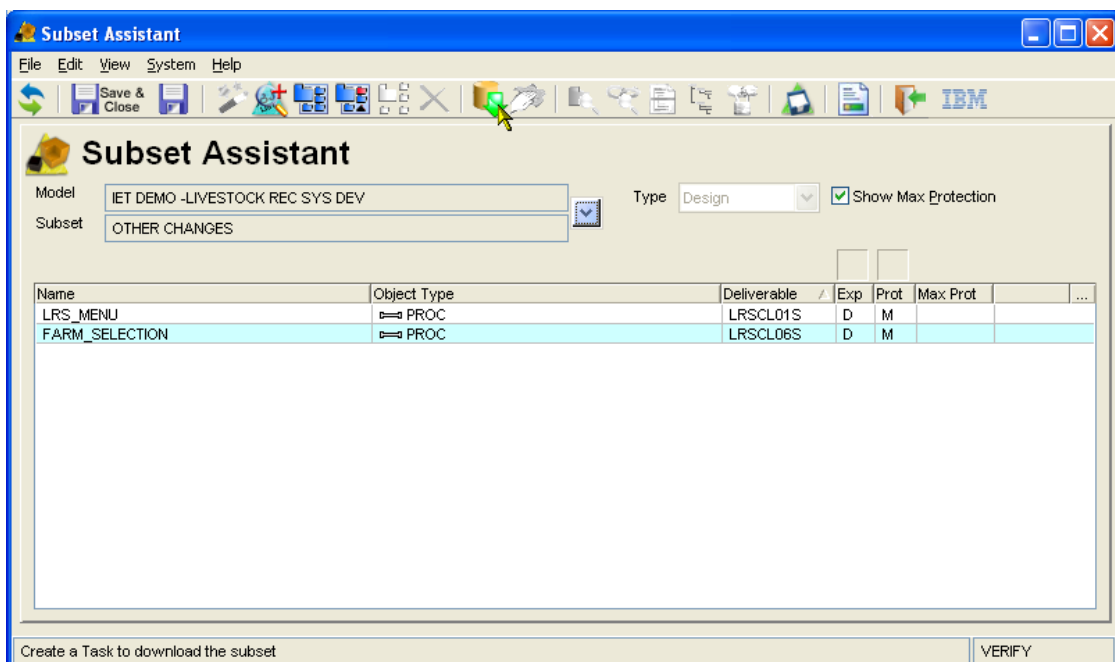
Modify Definition using Subset Assistant

Select the **OTHER_CHANGES** subset you have just created. The main Subset Definition window will appear next. Initially it will be empty.

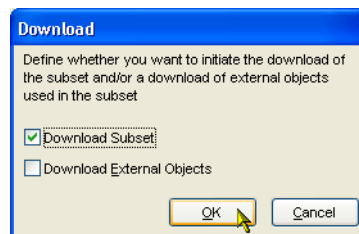
Use the **Select from Deliverable List** toolbar button in Subset Assistant to view a list of GuardIEn deliverables (as created previously). With the 2 PROCs **FARM_SELECTION** and **LRS_MENU** selected, press the **Copy to Content** toolbar button to copy the 2 objects into the subset definition. Close the Deliverable List window to return to the subset definition.



The 2 objects should now be displayed in the list. Press **Save** to store that subset definition in the HE. Now press the **Download** button.



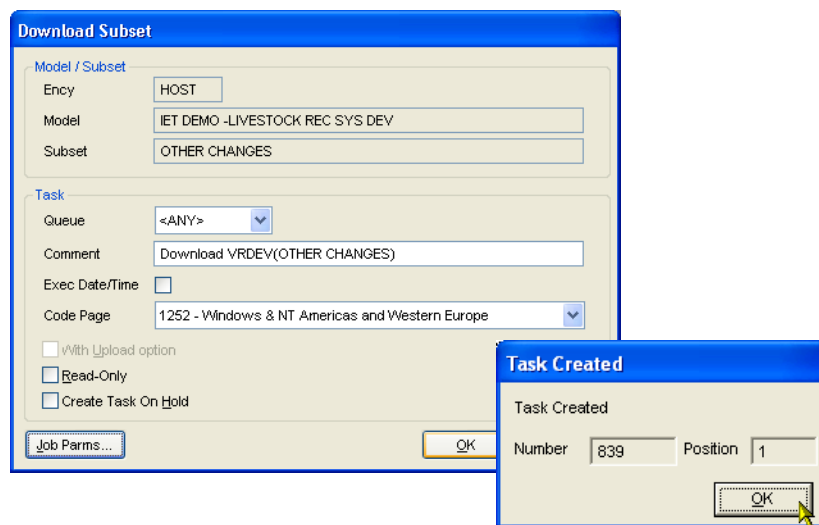
This displays the Download dialog providing you with the opportunity to download additional XOS objects (not tested here) –



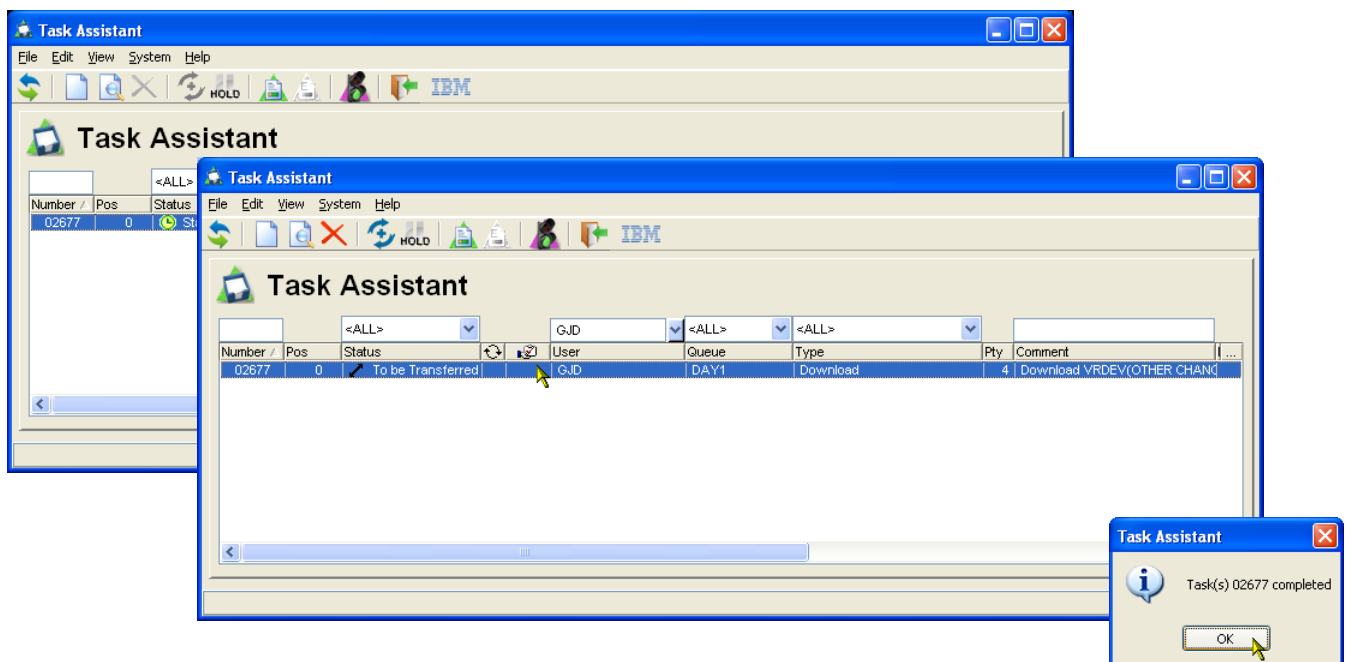
Therefore, simply click **OK** here to continue...

Submit the Download

Note: if you are **not** using the Task Assistant, please refer to **Appendix A: Subset download without the Task Assistant** to complete this aspect of the installation verification. Otherwise, the Download Subset confirmation is displayed. Select the Queue required



The job should be submitted (via the HE Task Assistant) to MVS. You are now returned to the Subset Assistant screen – press the **Task Assistant** icon to be taken to the Task Assistant. You can monitor the status of the Task on the Task Assistant Task window. If the job does not start or complete, then check the job output in SDSF (or similar) to see if it has failed. The HE Task Assistant should inform you when the job has completed successfully or failed.



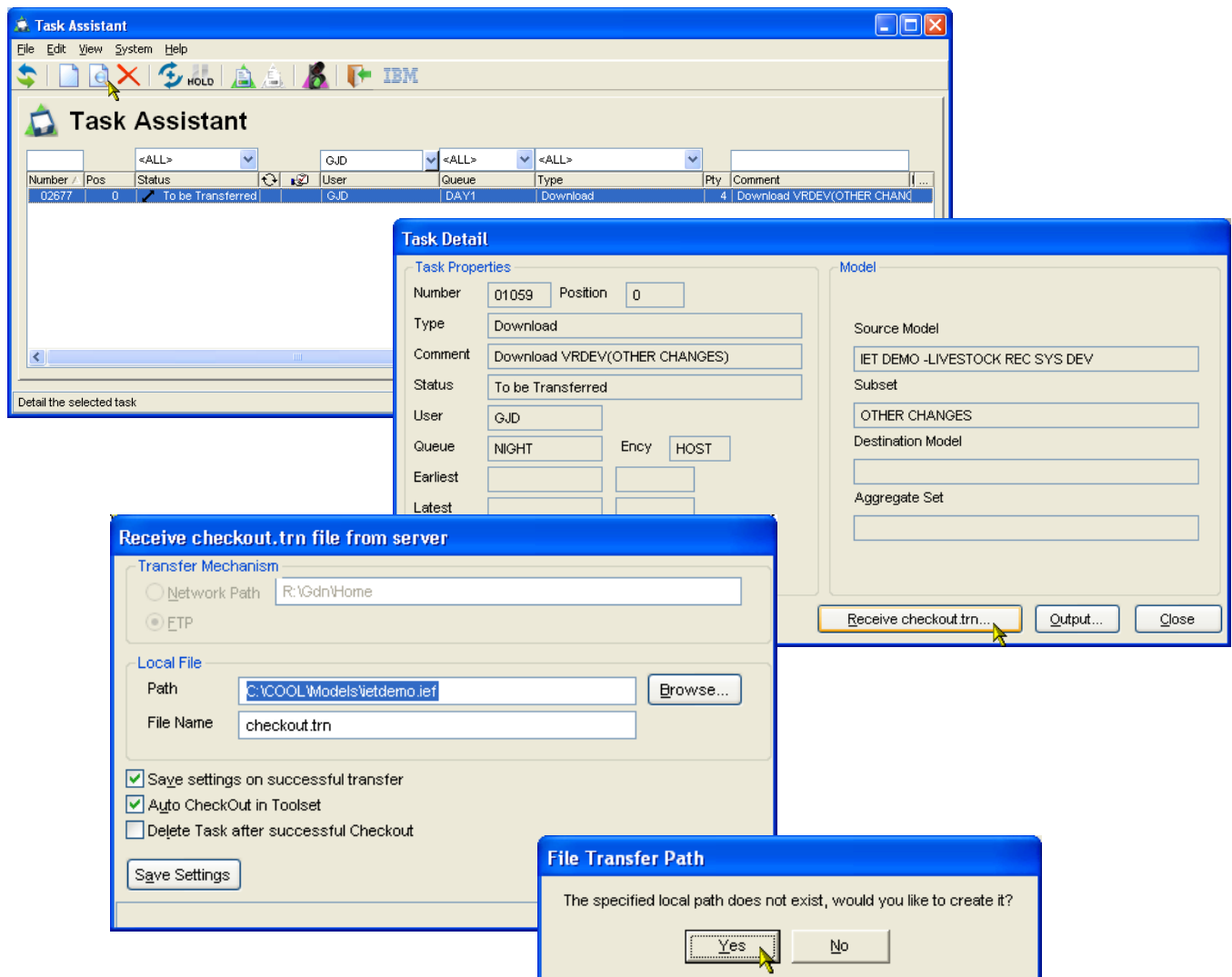
When completed successfully the status of the Download Task should change to 'To be Transferred' indicating that the Gen model checkout.trn file is ready to be transmitted to your workstation.

File Transfer

When the task has been completed successfully (you can check the job output from the MVS job by pressing the Task Output toolbar button) press the Detail button and then, on the Task Detail window, press the Transfer Transaction File button.

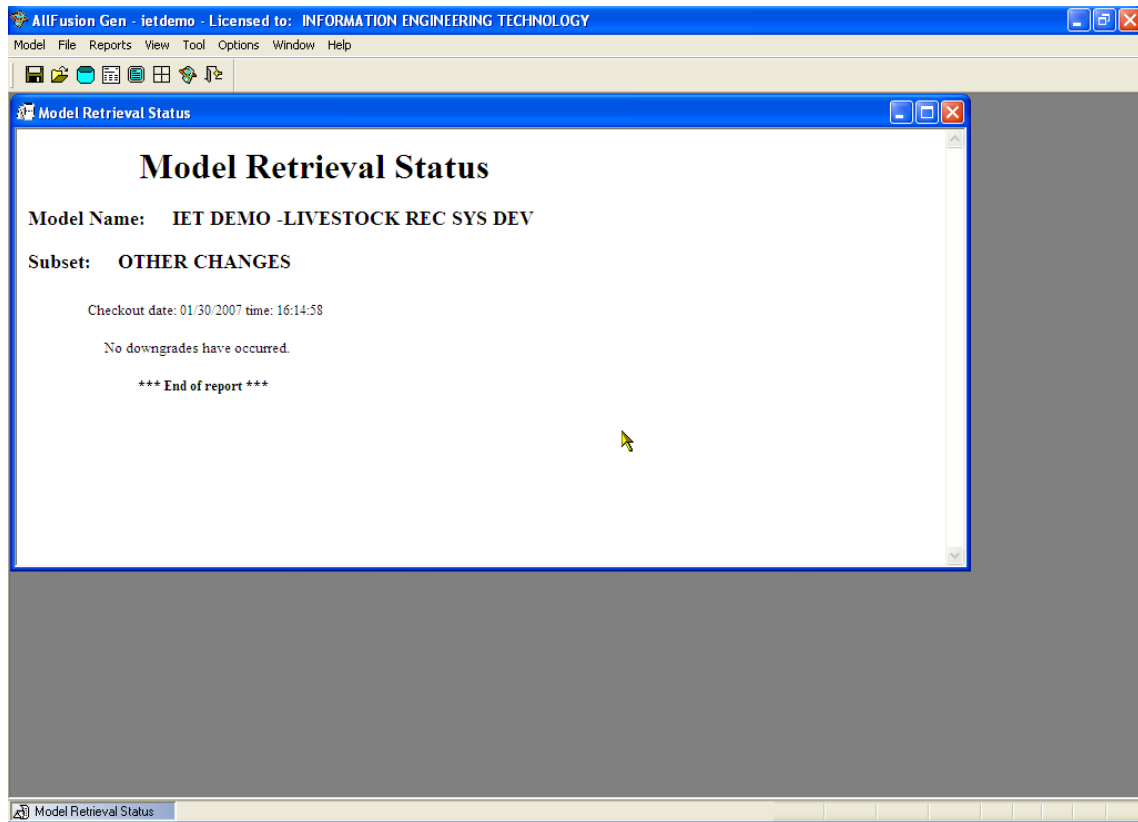
Wait for the task to complete (it will have a status *To Be Transferred* in the list), then **Detail** it in Task Assistant and choose the **Receive checkout.trn...** button.

On this new dialog, enter a suitable path on your workstation where you wish to transfer the checkout.trn file. Press **Receive** to perform the file transfer to your workstation. Please ensure that you have the 'Auto CheckOut in Toolset' switch selected AND that you have a copy of the Gen toolset open on your workstation (it does not need to be in any model)



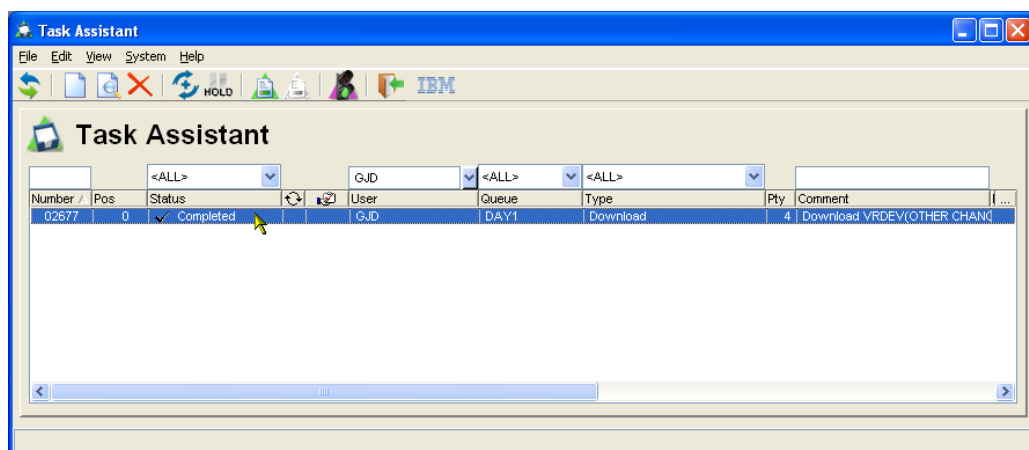
Automated Toolset Startup

Once the process is initiated by confirming the file transfer path, you should find that the file transfer occurs successfully, followed by an invocation of the Gen toolset to extract the downloaded checkout.trn file. If all has gone well you should see this report issued by the Gen toolset. The screen dump below shows the extract having been successfully completed.



So, you could now proceed to make changes to the downloaded subset if required.

Back on the Task Assistant, the task will be displayed as 'Completed'



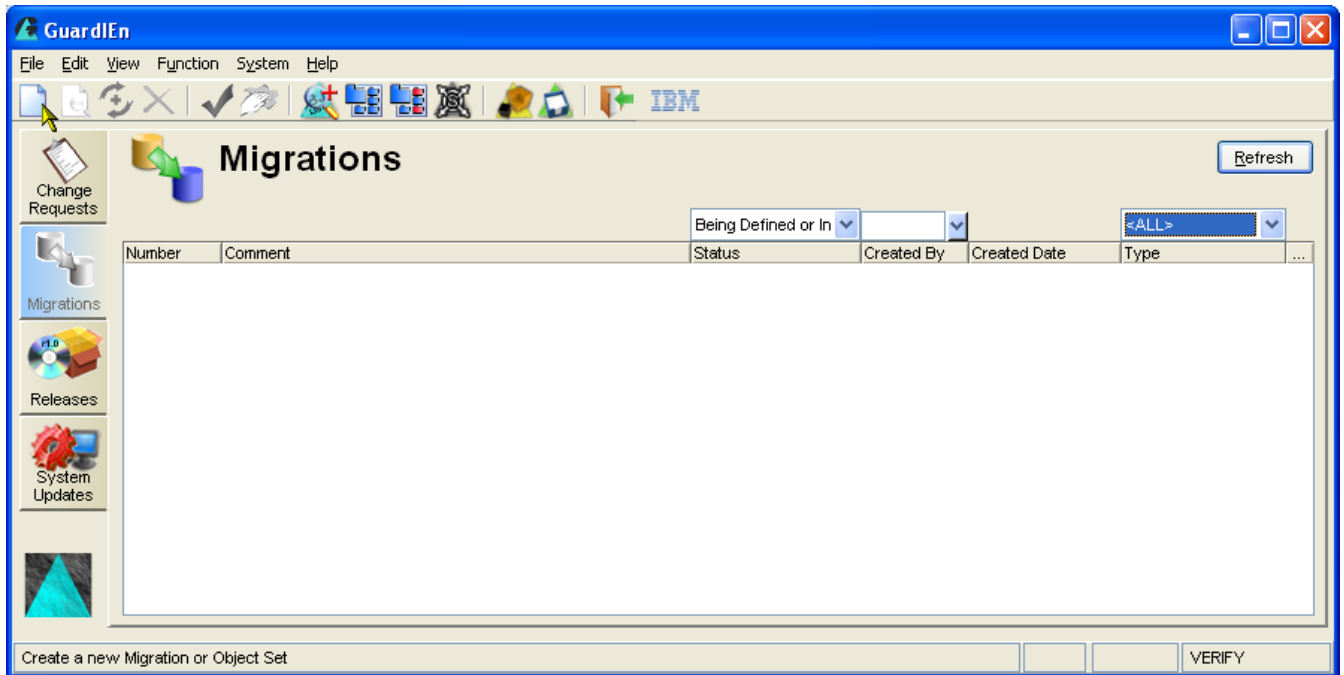
This completes Subsetting verification.

Migration

Define a Migrate using Adhoc Migration

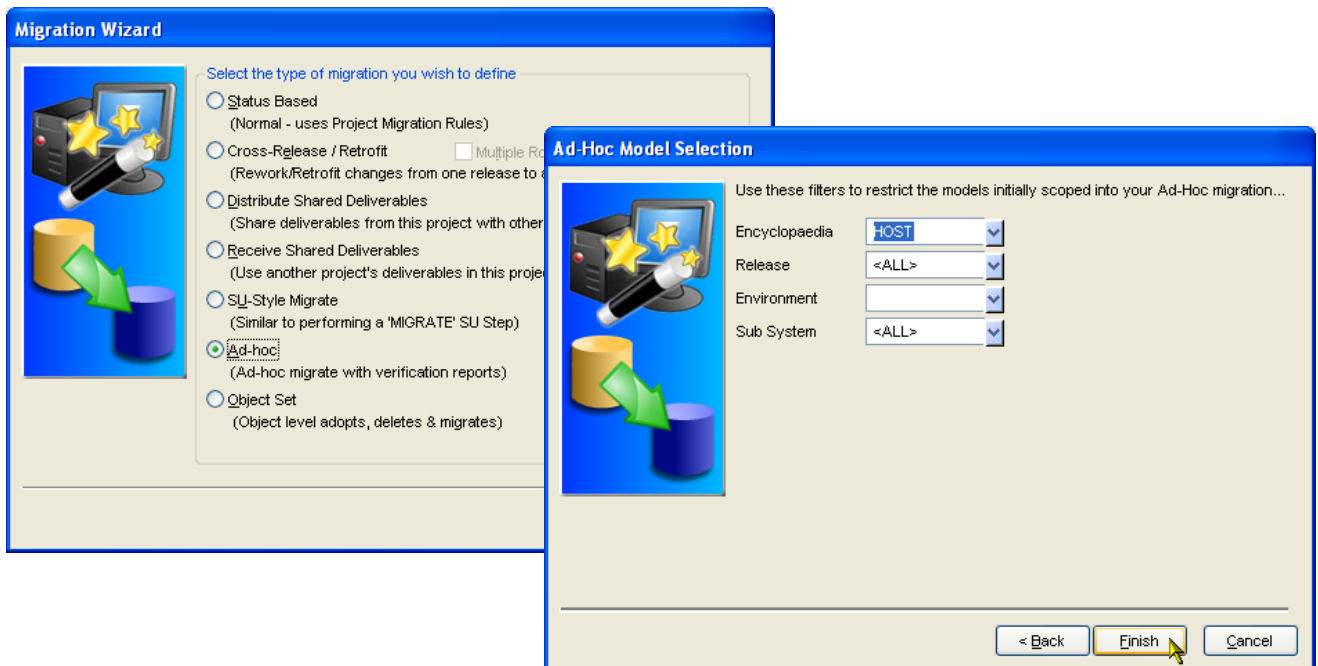
To check that the migration facilities work correctly we shall attempt a test migration using the Adhoc Migration. For this test we will attempt to migrate the Entity *ANIMAL* from the DEV model to INT and PROD.

Choose **Migrations** in the main GuardlEn client.

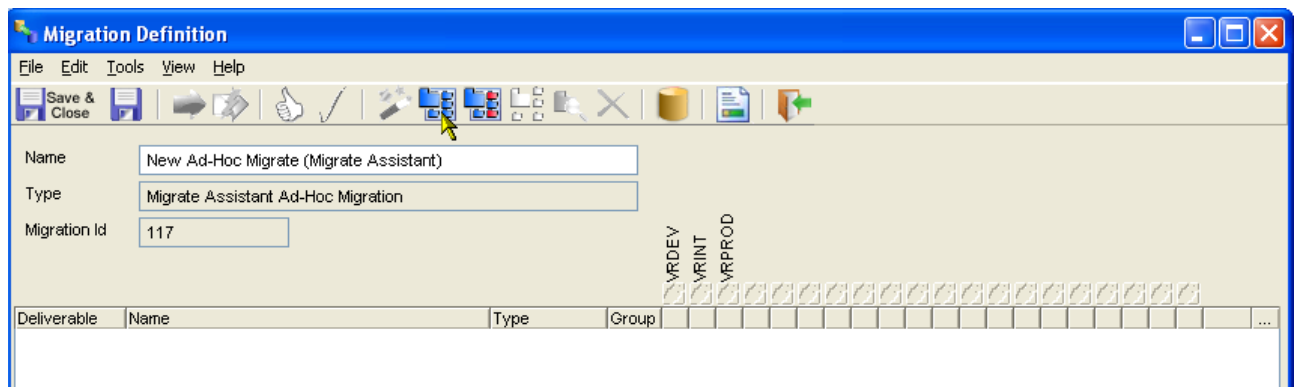


The list is blank indicating that there are no migration definitions yet created for the VERIFY Project, so press the **New** toolbar button to add one.

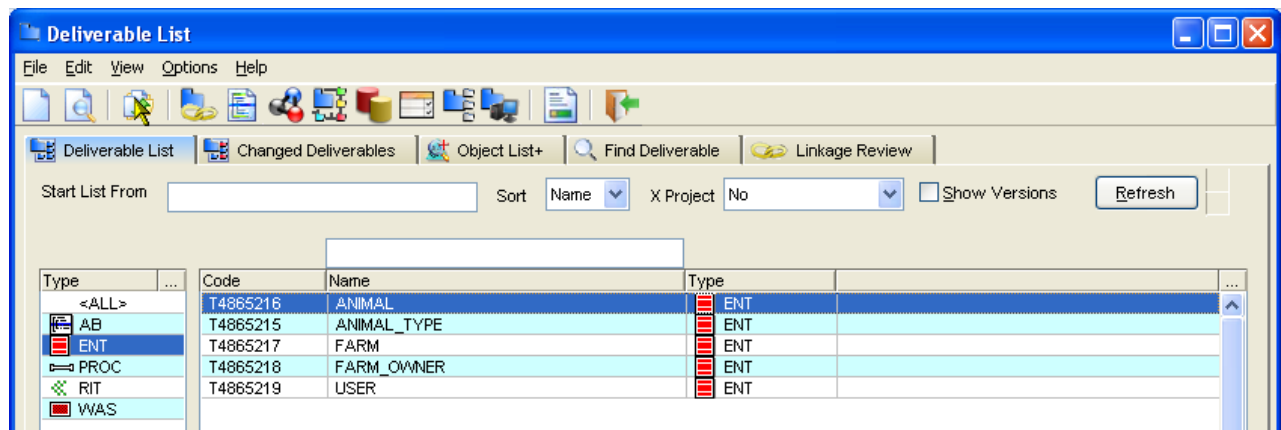
Select **Ad-Hoc** then Next and on the Ad-Hoc model selection dialog just press **Finish**.



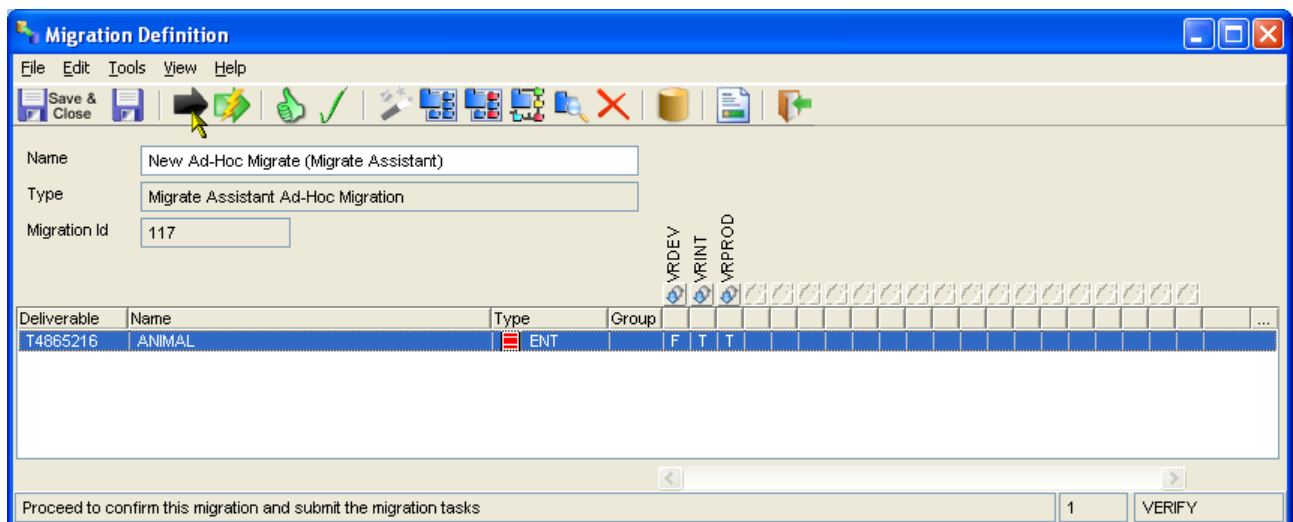
The migration definition window will appear. Press the **Select from Deliverable List** toolbar button.



Deliverable List is displayed...locate the Entity called *ANIMAL* on the subsequent list (this should be the top row with just ENTity types selected for display). Select it and press the **Copy to Content** toolbar button. Close the deliverable list window.



The Entity should be displayed in the migration definition list now. Click the models, column entries for that row setting the DEV model entry to 'F' (from) and the INT and PROD model entries to 'T' (to) as in the example following:



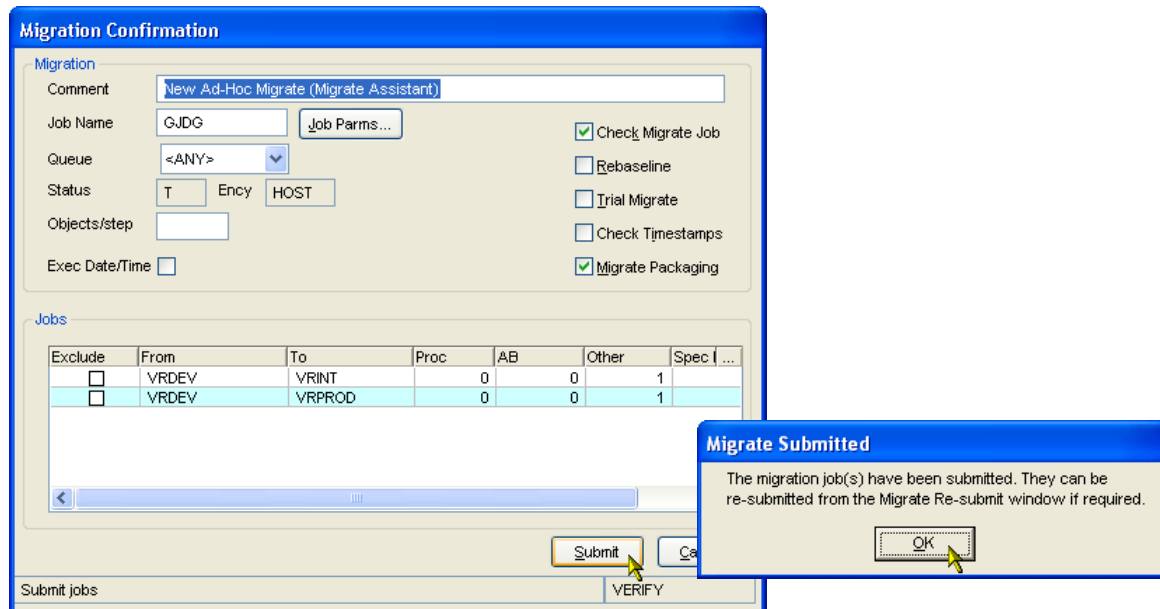
Press the **Save** toolbar button when you have finished. Then press the **Proceed** toolbar button to go to Migration Confirmation...

Submit Migration

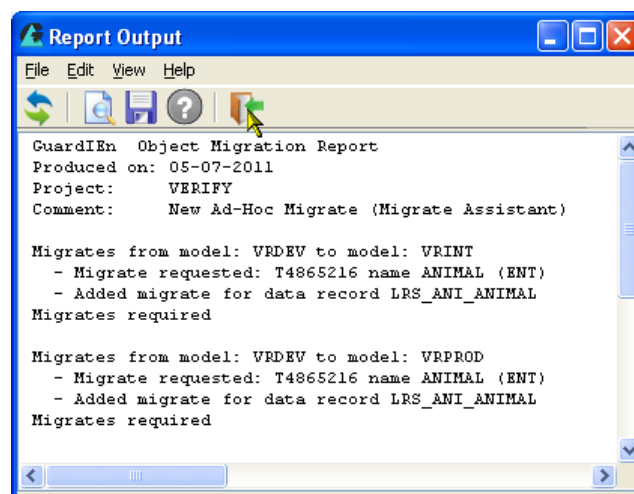
Note: if you are not using the Task Assistant, please refer to **Appendix B: Migration submission without the Task Assistant** to complete this aspect of the installation verification. Otherwise, the Migration confirmation is displayed.

The Migration Confirmation will be displayed. Verify that 2 rows are displayed in the main list. One should detail the migration from

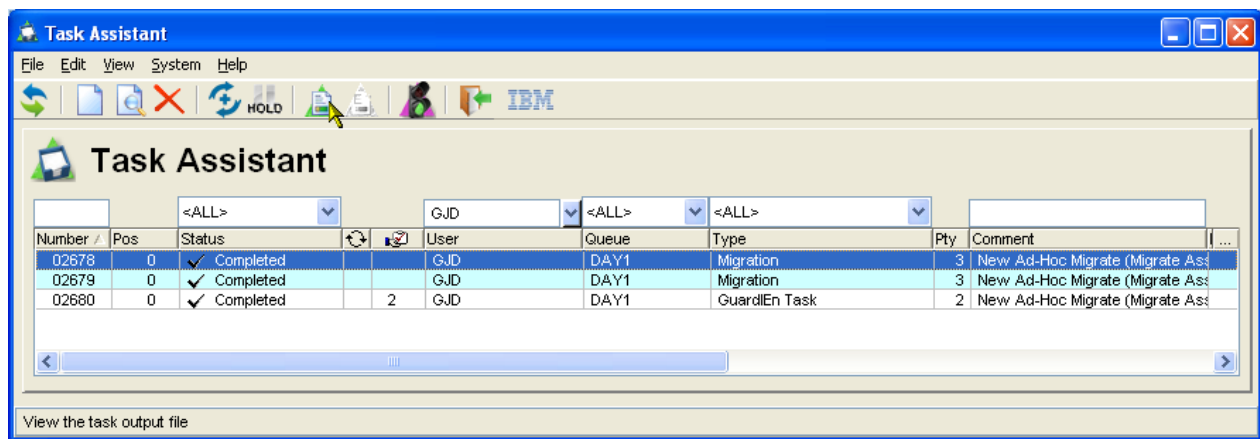
DEV to INT, and the other from DEV to PROD. Select an active (started) queue and press **Submit**.



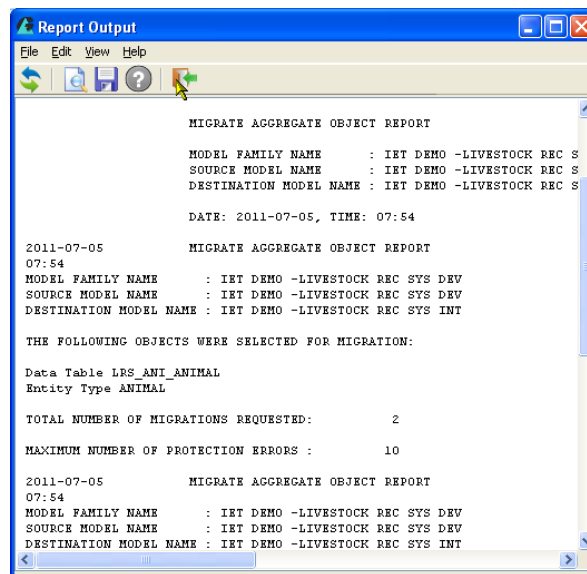
A confirmation is displayed and a summary report of actions is also produced...



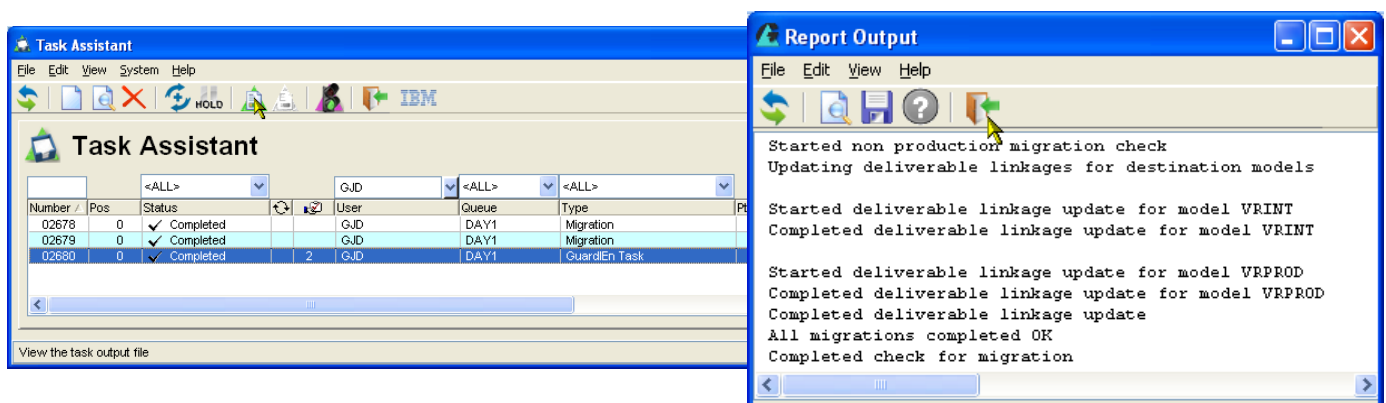
Now go back to the main GuardIEn client and select the **Task Assistant** icon. The Task Assistant will be displayed...



If all is well your migration will have submitted 3 tasks – the 2 migration jobs (DEV->INT, DEV->PROD) themselves followed by a 'check' job to verify that they succeeded (or otherwise). Highlight the first job and press **Task Output**...



...this shows the actual migration output extracted from the MVS job submitted on the HE. Close this and then select the 3rd task, selecting **Task Output** again. This describes what GuardIEn has checked in relation to the migration and completes the



testing of the Migration functionality via HE Task Assistant.

This completes Migration verification.

PAD Listing

GuardIEn stores the PAD statements in the GuardIEn PAD cache. If the PAD has never been extracted or the PAD has been changed since it was extracted to the cache, it needs to be extracted from the encyclopaedia.

GuardIEn provides two methods for extracting the action diagrams from the encyclopaedia. The preferred method is to use the GuardIEn supplied PAD list started task to extract the PADs. The alternative method is for a batch job to be submitted when a PAD extract is required.

If you have not configured the PAD list started task, it is recommended that you do so and use this method in preference to submitted batch jobs.

To ensure that the PAD Listing facility is available we must make sure that an extract works.

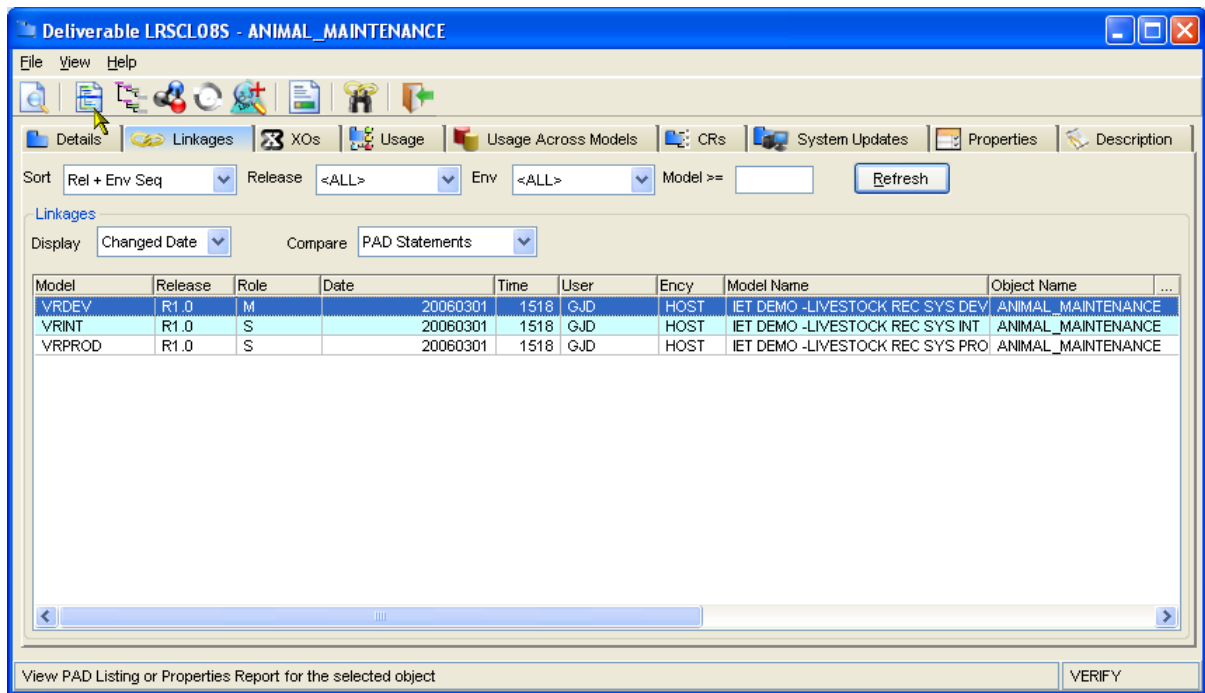
Press the **Deliverable List** toolbar button. Select the PROC called **ANIMAL_MAINTENANCE** and press the **Linkages** toolbar button.

The screenshot displays the GuardIEn software interface. The main window is titled 'Change Requests' and features a menu bar (File, Edit, View, Function, System, Help) and a toolbar. Below the toolbar, there are filters for 'Number', 'Status', 'Short Description', 'Owner', 'Assigned', 'Release', and 'Distributions'. A 'Refresh' button is located in the top right corner. On the left side, there is a vertical toolbar with icons for 'Change Requests', 'Migrations', 'Releases', 'System Updates', and 'Launch the Deliverable List'.

Overlaid on the main window is a smaller window titled 'Deliverable List'. This window also has a menu bar (File, Edit, View, Options, Help) and a toolbar. It includes tabs for 'Deliverable List', 'Changed Deliverables', 'Object List+', 'Find Deliverable', and 'Linkage Review'. Below the tabs, there are fields for 'Start List From', 'Sort' (set to 'Name'), 'X Project' (set to 'No'), and a 'Show Versions' checkbox. A 'Refresh' button is also present. The main area of the 'Deliverable List' window contains a table with columns for 'Type', 'Code', 'Name', and 'Type'. The table lists various deliverables, including 'ANIMAL', 'ANIMAL_MAINTENANCE', 'ANIMAL_SVR', 'ANIMAL_TYPE', 'ANIMAL_TYPE_MAINTENANCE', 'ANIMAL_TYPE_SELECTION', 'ANIMAL_TYPE_SVR', 'CREATE_ANIMAL', 'CREATE_ANIMAL_TYPE', 'CREATE_FARM', 'CREATE_FARM_OWNER', 'DELETE_ANIMAL', 'DELETE_ANIMAL_TYPE', 'DELETE_FARM', 'DELETE_FARM_OWNER', 'FARM', 'FARM_MAINTENANCE', 'FARM_OWNER', 'FARM_OWNER_MAINTENANCE', 'FARM_OWNER_SELECTION', 'FARM_OWNER_SVR', 'FARM_SELECTION', 'FARM_SVR', 'IEF_SUPPLIED', 'LRS_MENU', 'LRSRIE01', and 'LRSRIE02'. Each row is color-coded by type: AB (light blue), ENT (red), PROC (light blue), and WAS (red). At the bottom of the window, there is a status bar that reads 'Display the linkages (objects) that are matched to a deliverable' and a 'VERIFY' button.

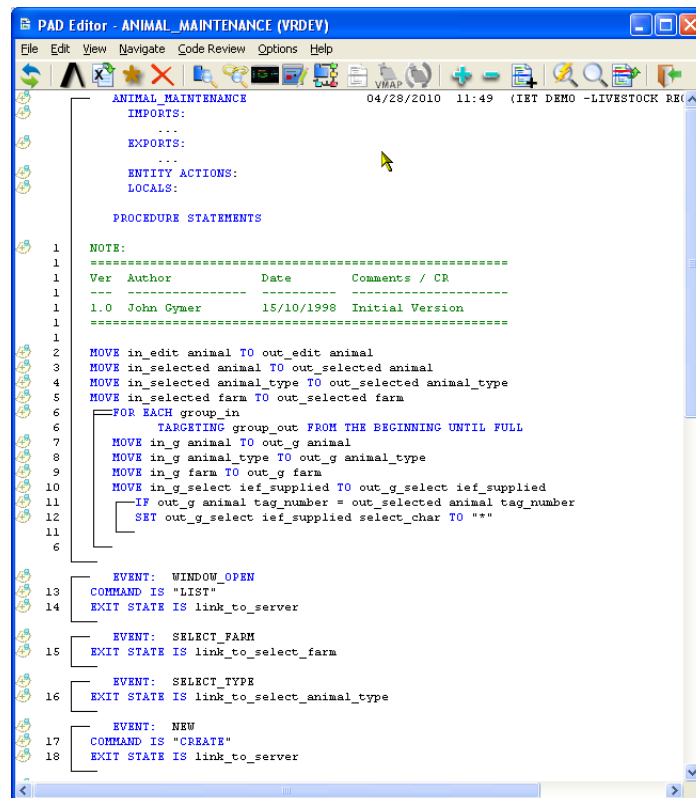
Type	Code	Name	Type
AB	T4865216	ANIMAL	ENT
PROC	LRSCLO8S	ANIMAL_MAINTENANCE	PROC
PROC	LRSSV04S	ANIMAL_SVR	PROC
ENT	T4865215	ANIMAL_TYPE	ENT
PROC	LRSCLO3S	ANIMAL_TYPE_MAINTENANCE	PROC
PROC	LRSCLO2S	ANIMAL_TYPE_SELECTION	PROC
PROC	LRSSV01S	ANIMAL_TYPE_SVR	PROC
AB	LRSANICR	CREATE_ANIMAL	AB
AB	LRSATYCR	CREATE_ANIMAL_TYPE	AB
AB	LRSFRMCR	CREATE_FARM	AB
AB	LRSFOWCR	CREATE_FARM_OWNER	AB
AB	LRSANIDE	DELETE_ANIMAL	AB
AB	LRSATYDE	DELETE_ANIMAL_TYPE	AB
AB	LRSFRMDE	DELETE_FARM	AB
AB	LRSFOWDE	DELETE_FARM_OWNER	AB
ENT	T4865217	FARM	ENT
PROC	LRSCLO7S	FARM_MAINTENANCE	PROC
ENT	T4865218	FARM_OWNER	ENT
PROC	LRSCLO5S	FARM_OWNER_MAINTENANCE	PROC
PROC	LRSCLO4S	FARM_OWNER_SELECTION	PROC
PROC	LRSSV02S	FARM_OWNER_SVR	PROC
PROC	LRSCLO6S	FARM_SELECTION	PROC
PROC	LRSSV03S	FARM_SVR	PROC
WAS	W4865214	IEF_SUPPLIED	WAS
PROC	LRSCLO1S	LRS_MENU	PROC
RIT	LRSRIE01	LRSRIE01	RIT
RIT	LRSRIE02	LRSRIE02	RIT

The Deliverable Linkage window is displayed, showing that there are 3 linkages for this deliverable. Select the one in the Development model (VRDEV) and press the **PAD** toolbar button.



PAD Listing Extract

In a few moments you should see the following PAD Editor display automatically...

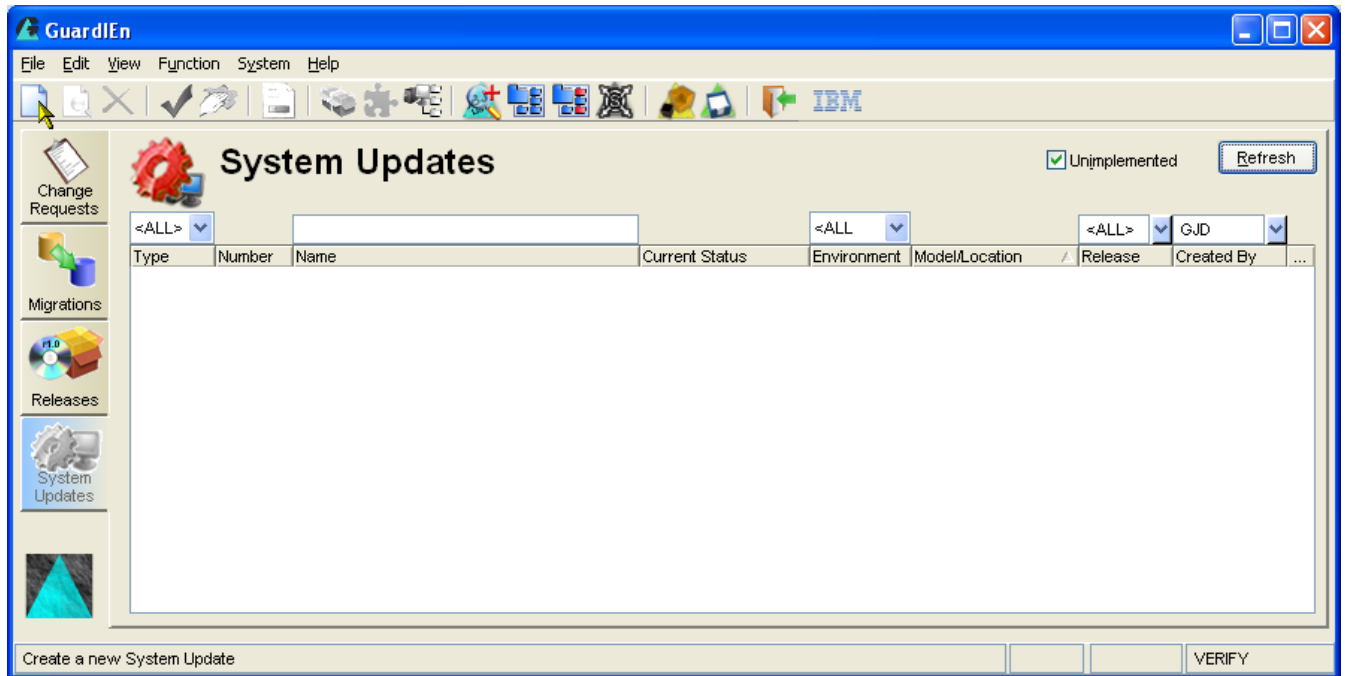


This completes PAD listing verification.

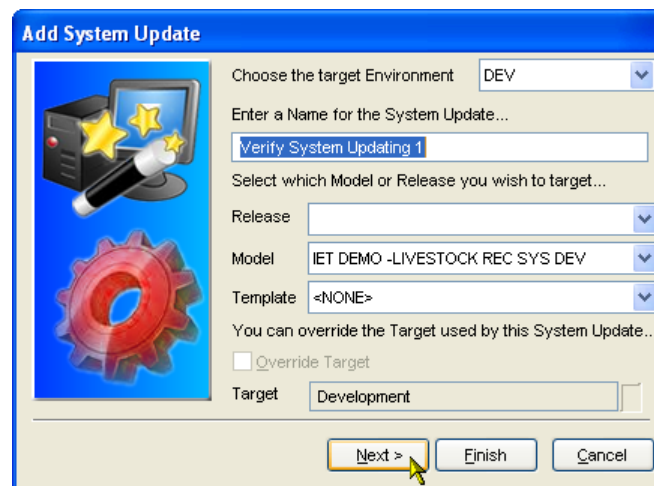
System Updating

We need to ensure that you can run through a development update smoothly. This includes code generation and installation into the libraries we specified earlier. This test will verify that GuardIEn can update the application.

Logon to main GuardIEn client and choose the **System Updates** Task option, and press the New System Update toolbar button...

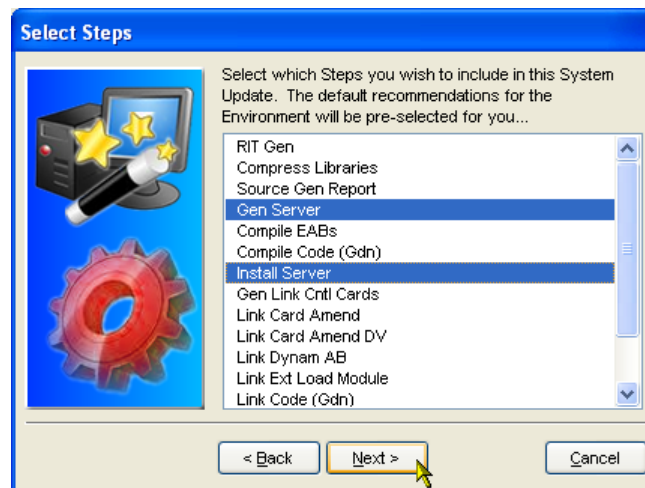


Select the **target Environment** (DEV) from the drop down, enter a **Name** for this System Update (e.g. Verify System Updating 1) and finally select the **Model** (DEV model) from the drop down (only 1 model should be available).



When completed, press **Next**.

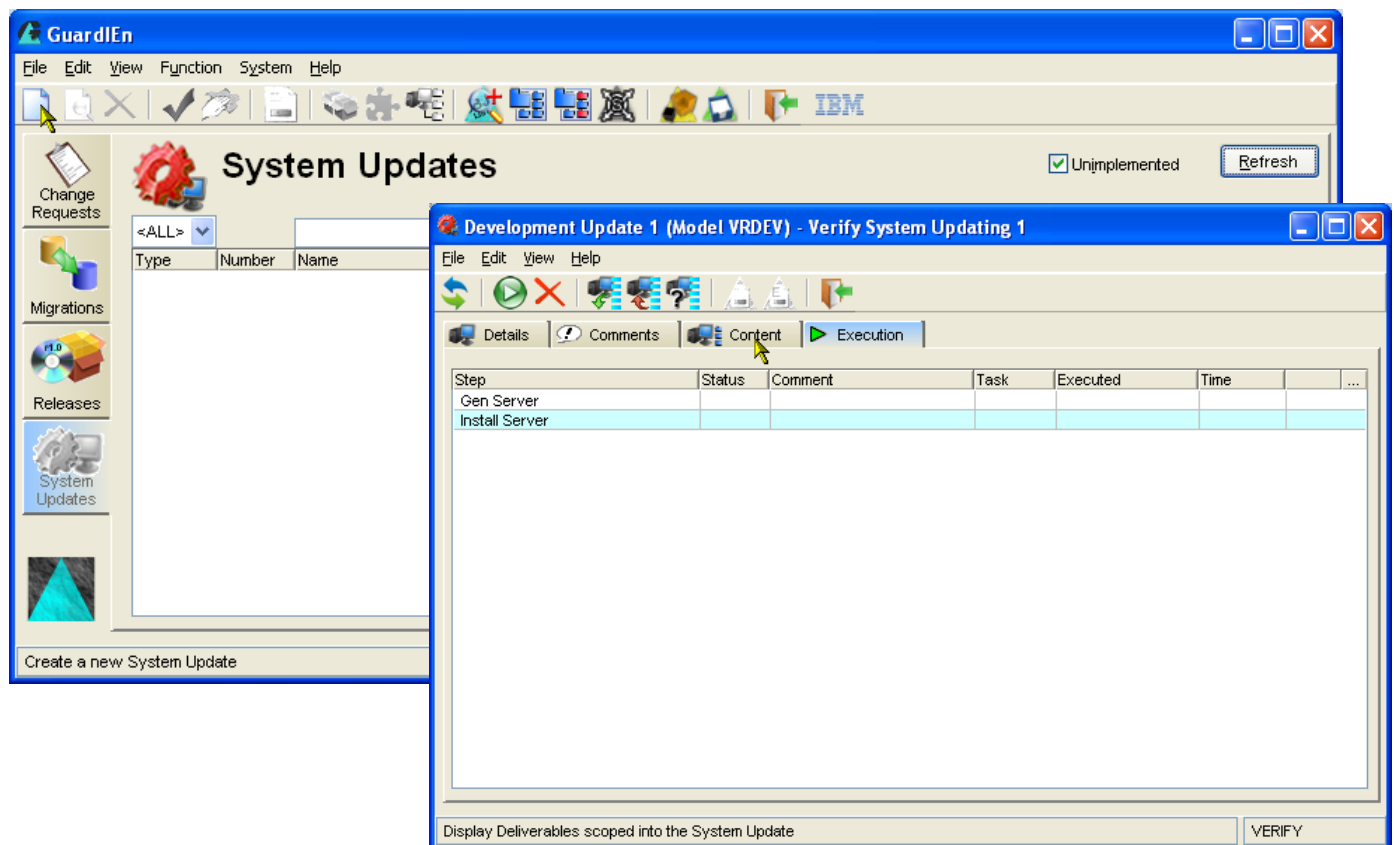
Now you need to select the discrete implementation activities (steps) that you wish to perform for this system update. Highlight only the RIT Gen, Source Gen and Install Code steps.



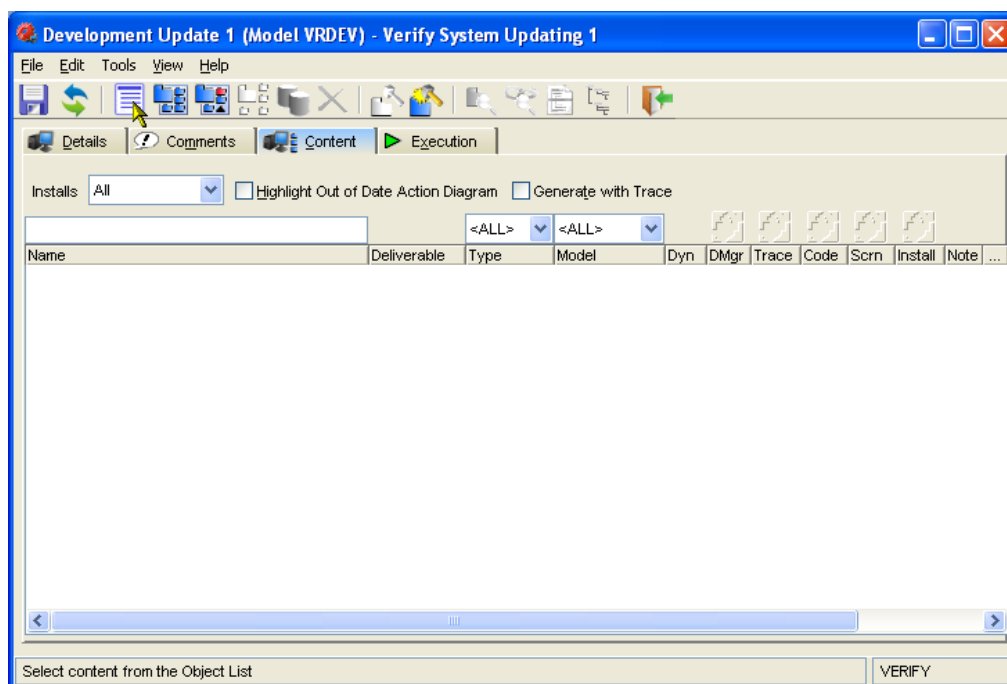
Press **Next>** when you have selected the steps as shown above. You are then requested to **Choose Restrictions/External Interface Id**. Ignore these for now, leaving both fields blank and instead just press **Finish** to continue.



The new System Update is created and you are automatically placed on the Execution tab.



Select the **Content** tab for the new System Update, and press the **Select from Object List** toolbar button.



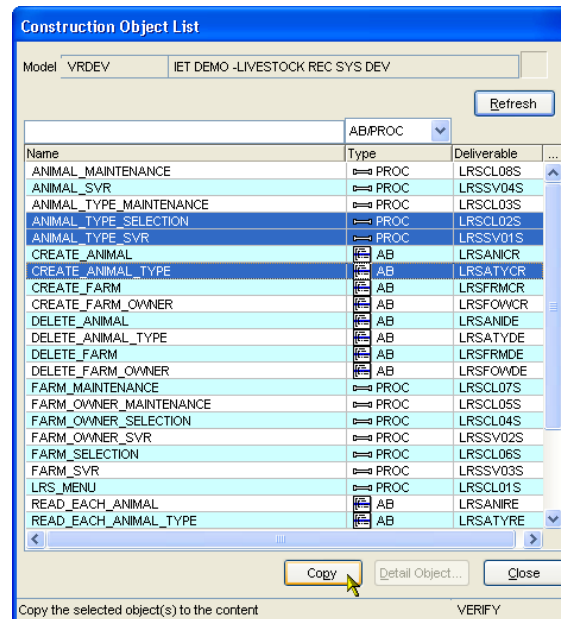
For this test we will generate and install a Server Pstep and a Server Action Block...

Press the **Refresh** button to list all Action Blocks and Procedure Steps. Select and **Copy** each of the following items:

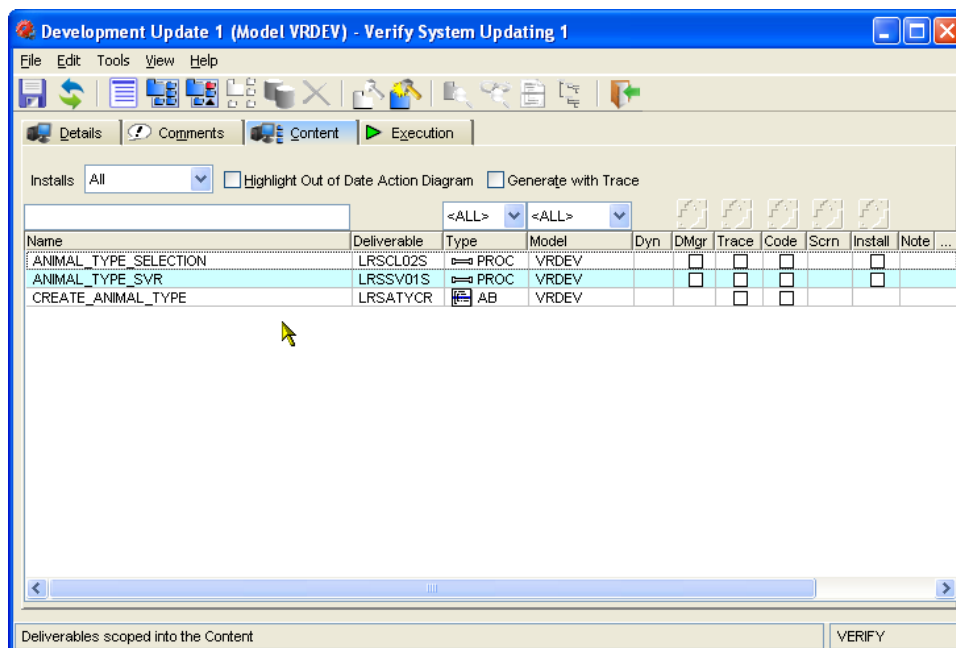
ANIMAL_TYPE_SELECTION – client Pstep (it will be ignored in the generate/install)

ANIMAL_TYPE_SVR – server Pstep

CREATE_ANIMAL_TYPE – server Action Block



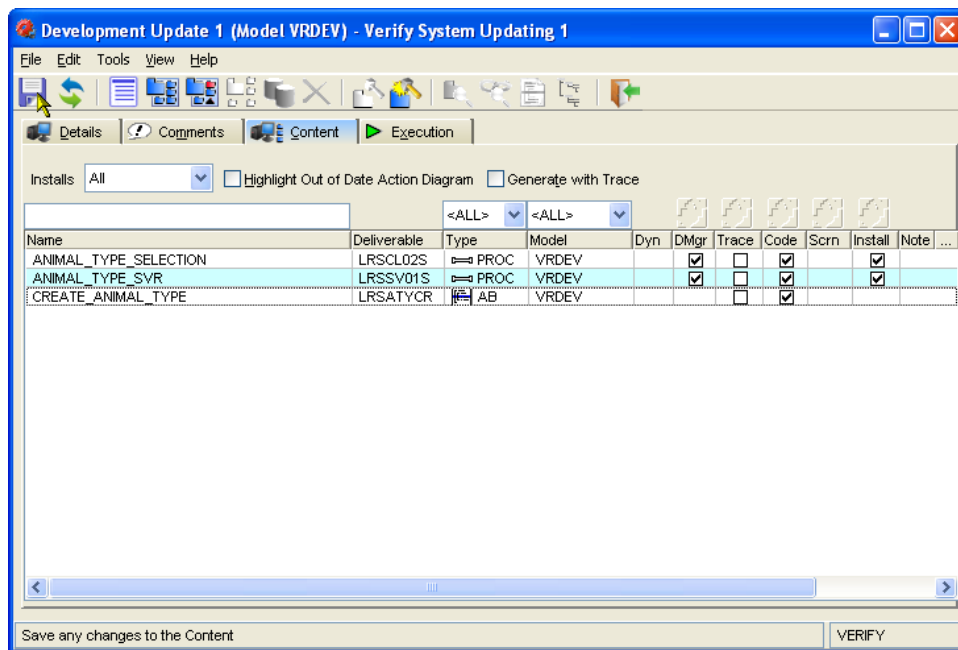
Close the Object List dialog when you are done. You are returned the Content screen with the selected objects now included in the list.



Check that the content of your system update contains the objects you selected on the previous screens. Now select all the items in the list and then use the Toggle keys ...

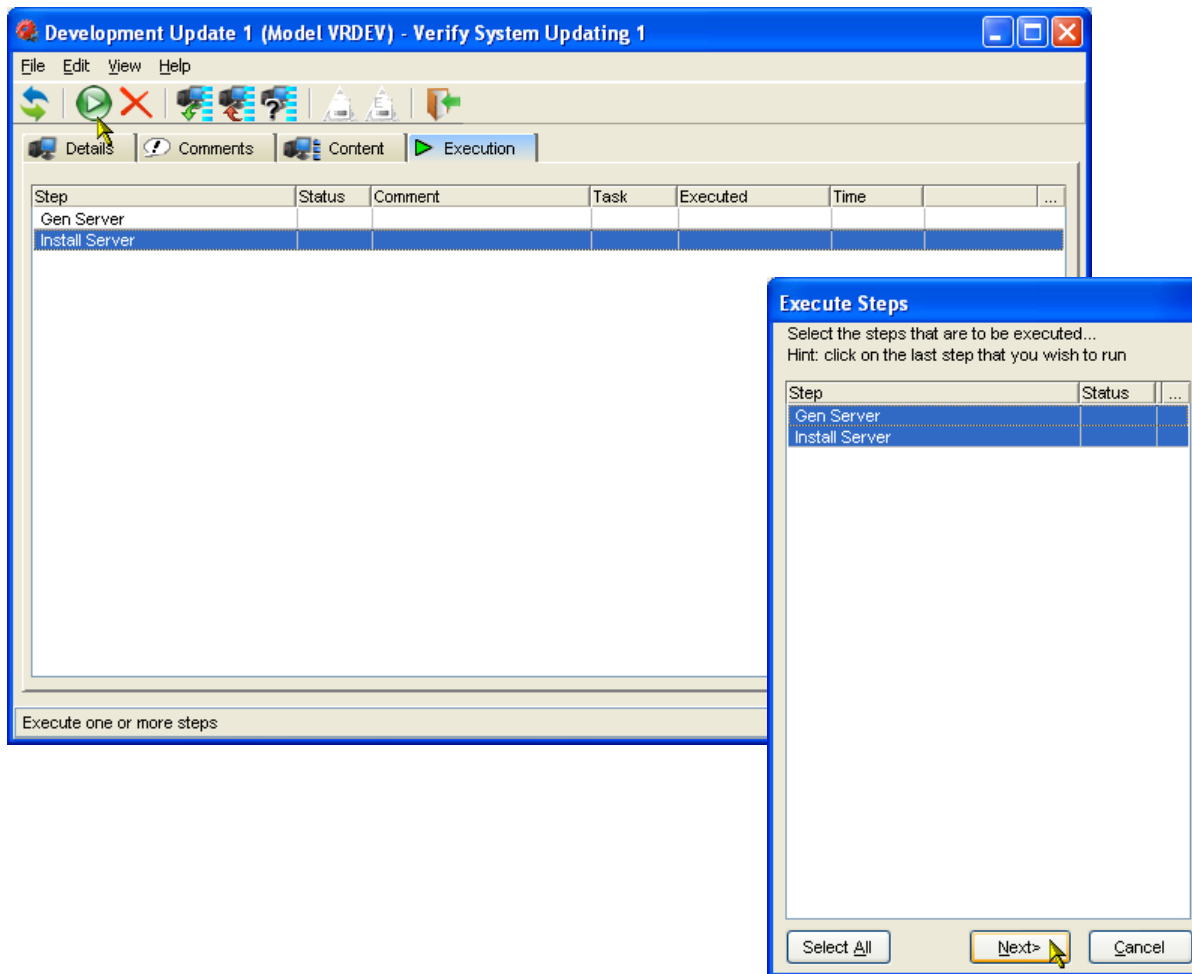


...to switch on all the Dlg (Dialog Manager), Code (AB/PrAD logic) and Install flags as shown below. Press the **Save** toolbar button when complete.



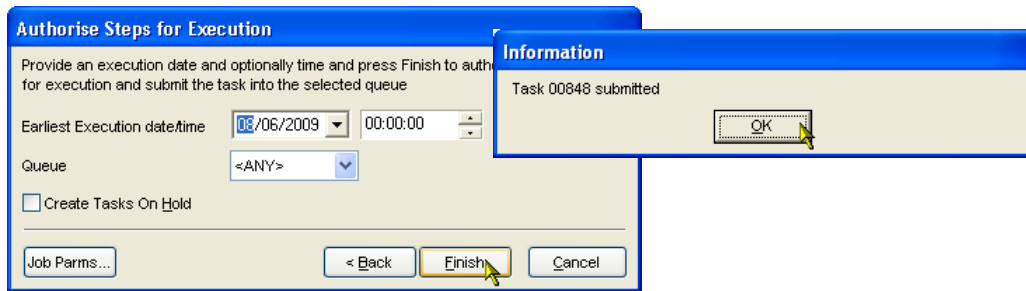
Now press the Execution tab and select the last System Update step you wish to run to at this point – in this case you wish to run all the steps to the final Install Code step, so select that step. Then select Execute Steps from the toolbar...

The Execute Steps dialog is pre-filled completed and you are taken to Authorise Steps for Execution...

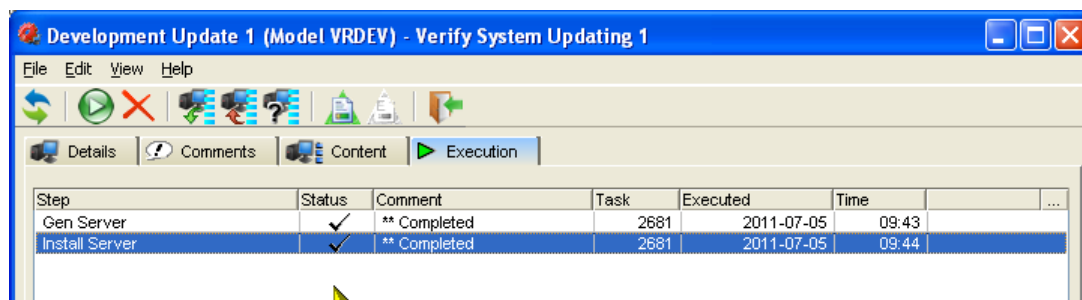


Submit System Update

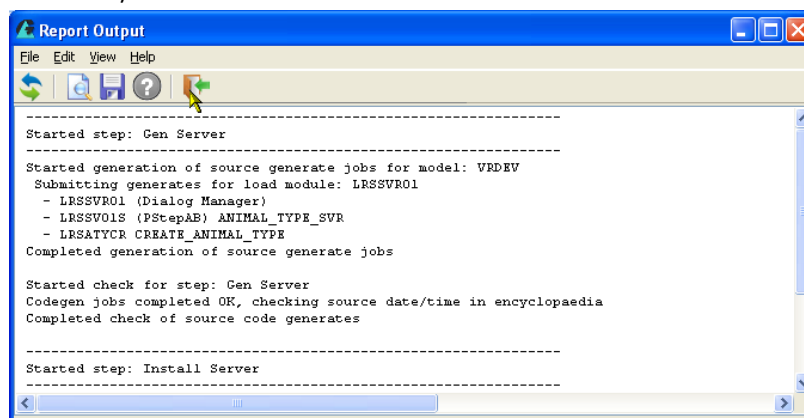
Note: if you are not using the Task Assistant, please refer to **Appendix C: System Update submission without the Task Assistant** to complete this aspect of the installation verification. Otherwise, select the correct queue from the drop down and press the **Finish** button. Finally, a confirmation dialog will appear to tell you that a job has been submitted to process these steps.



You are returned to the Execution tab for this system update. Pressing the **Refresh** toolbar button will report the current status of each step as it progresses (or not!).



As you are using the HE Task Assistant once a step has completed you can highlight it and then press Task Output to see details of the job output as submitted on the z/OS server...

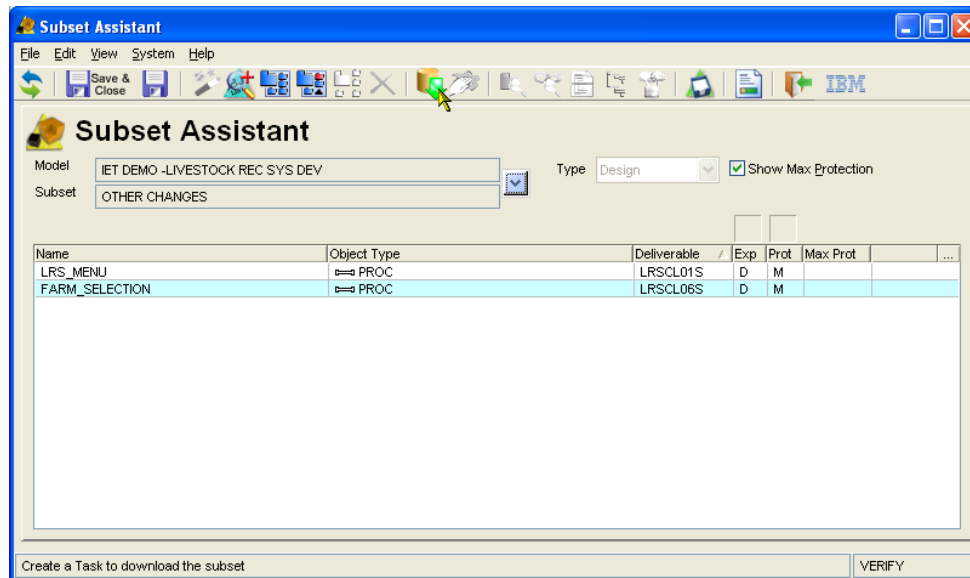


This test verifies that Server generation and Installation work correctly and completes the verification process.

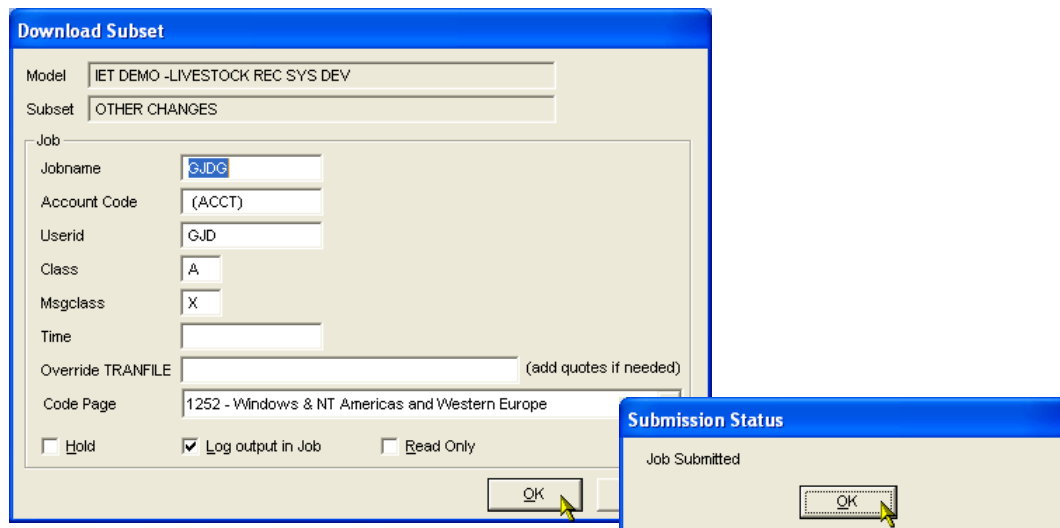
Appendix A: Subset download without the Task Assistant

Submit Download

From the Subset Definition panel, press the Download icon



This will then display the Download Subset JCL confirmation. Enter valid values for the download JCL and click OK. The job is submitted.



You can now use your site JES job scheduler (SDSF or equivalent) to view the Gen Download job as it executes on the z/OS Server...

```

Display Filter View Print Options Help
-----
SDSF DA BAND  BAND  PAG  0 SIO 1989 CPU 90/ 64
COMMAND INPUT ==>
NP  JOBNAME  STEPNAME  PROCSTEP  JOBID  C POS  DP  REAL
W#N003G2  DOWNLOAD  DOWNLOAD  J0813683  B  IM  03  364
W#N003  TSO1  UT580A3E  TSU06026  IN  65  1117

Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY W#N003G2 JOB13683 DSID  2 LINE 0  COLUMNS 02- B1
COMMAND INPUT ==>  _  SCROLL ==> CSR
***** TOP OF DATA *****
JES2 JOB LOG -- SYSTEM BAND -- NO D

18.09.54 J0813683  ---- WEDNESDAY, 20 OCT 1989 ----
18.09.54 J0813683  ICH700011 W#N003  LAST ACCESS AT 11:51:43 ON WEDNESDAY, OCT
18.09.54 J0813683  $HASP379 W#N003G2 STARTED - INIT 5  - CLASS 0 - SYS BAND
18.09.54 J0813683  IEF4031 W#N003G2 - STARTED - TIME=16.09.54
18.10.17 J0813683
18.10.17 J0813683  JOBNAME STEPNAME PROCSTEP  AC  EXCP  TCB  SRS  ELAPSE
18.10.17 J0813683  W#N003G2 DOWNLOAD  DOWNLOAD  00  454  9.38  0.03  0.3
18.10.17 J0813683  IEF4041 W#N003G2 - ENDED - TIME=16.10.17
18.10.17 J0813683  W#N003G2 ENDED. NAME=GDW
18.10.17 J0813683  REFACTAT-JOB TERMINATION DATE=98283, TIME=161017, ACCT=515P81T
18.10.17 J0813683  $HASP395 W#N003G2 ENDED
----- JES2 JOB STATISTICS -----
20 OCT 1989 JOB EXECUTION DATE
17 CARDS READ
124 SYSOUT PRINT RECORDS
0 SYSOUT PUNCH RECORDS
3 SYSOUT SPool VENTED

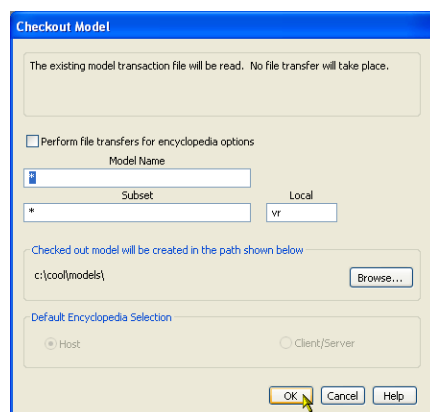
```

Verify that the download was successful. You should now download the IEF.TRN file from the z/OS Server in the normal way to your workstation (as the checkout.trn file) – most sites use FTP these days to complete this task.

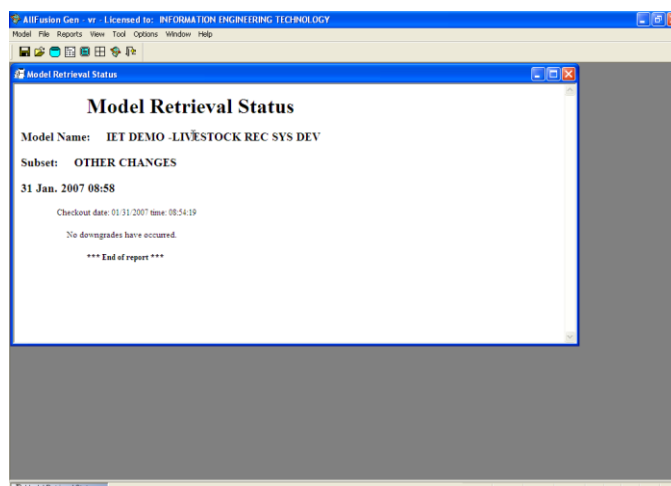
Toolset Checkout

Verify that you can use the checkout.trn file by checking it out in the Gen toolset on your workstation.

Click the **Model** drop-down menu and the **Encyclopaedia** sub-menu. Create a new model called VR with local name VR. When created, copy the checkout.trn file just downloaded from the MVS system into the VR.IEF subdirectory that should now exist in your models directory. Now return to the Gen toolset and select the option **Check Out A Model**. The **Checkout Model** dialog will appear. Ensure the 'Perform file transfers for encyclopaedia options' checkbox is not ticked.



Press **OK** when you are done. Press **OK** to the confirmation about overwriting the existing model contents and verify that the checkout completes successfully (a checkout report will be displayed as shown below).



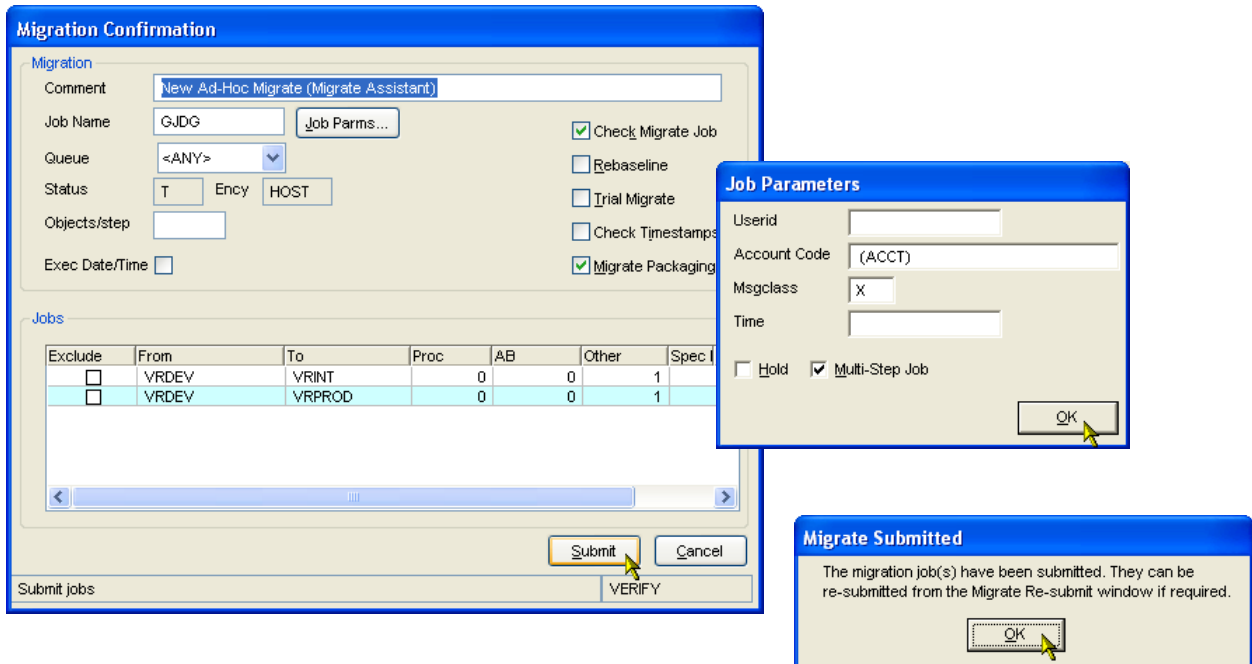
This completes Subsetting verification without the Task Assistant.

Appendix B: Migration submission without the Task Assistant

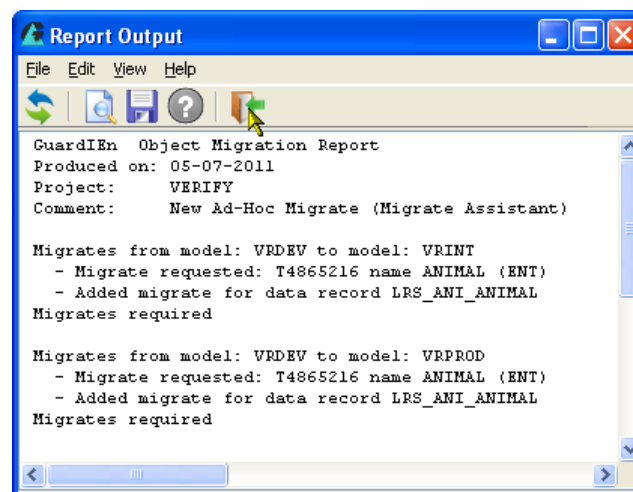
Submit Migration

On Migration Confirmation, check that the JCL parameters are correct (you may wish to check that the Job Parameters are correct by clicking **Job Params....** Verify that 2 rows are displayed in the main list. One should detail the migration from DEV to INT, and the other from DEV to PROD.

If all of the data is as expected, press the **Submit** toolbar button to submit the Migration job



A report will be produced detailing exactly what migrations have been submitted.



Verify Migration

You can use you site JES scheduler (SDSF or equivalent) to verify that the migration job is submitted and runs to completion successfully on the z/OS server...

```
Display Filter View Print Options Help
SDSF DA BAND BAND PAG 0 SIO 1324 CPU 59/ 57 LINE 1-2 121
COMMAND INPUT ==>
JOBNAME STEPNAME PROCSTEP JOBID C POS DP REAL PAGING SIO CPUX ASIO
W#N003GZ STEP0001 GDHIGEX JOB13879 B IN 01 854 0.00 6.75 4.23 53
W#N009 TS01 UTS00A9E TSU0S028 IN 65 1117 0.00 0.00 1.17 246

Display Filter View Print Options Help
SDSF OUTPUT DISPLAY W#N003GZ JOB13879 DSID 2 LINE 0 COLUMNS 02- 81
COMMAND INPUT ==>
***** TOP OF DATA *****
JES 2 JOB LOG -- SYSTEM BAND -- NOD

18.15.56 JOB13879 ---- WEDNESDAY, 20 OCT 1999 ----
18.15.58 JOB13879 ICH700011 W#N003 LAST ACCESS AT 18:09:54 ON WEDNESDAY, OCTO
18.15.56 JOB13879 $HASP373 W#N003GZ STARTED - INIT 5 - CLASS 0 - SYS BAND
18.15.56 JOB13879 IEF4031 W#N003GZ - STARTED - TIME=18.15.56
18.15.58 JOB13879
18.15.59 JOB13879 JOBNAME STEPNAME PROCSTEP RC EXCP TCB SDB ELAPS
18.15.59 JOB13879 W#N003GZ STEP0001 PREPARE 00 135 0.28 0.01 0.0
18.16.08 JOB13879 W#N003GZ STEP0001 GDHIGEX 00 295 1.62 0.03 0.1
18.16.08 JOB13879 W#N003GZ STEP0001 PREPARE 00 142 0.32 0.01 0.0
GDHIGEX 00 300 1.69 0.03 0.1
18.16.08 JOB13879 W#N003GZ STEP0001 PREPARE 00 101 0.21 0.01 0.0
GDHIGEX 00 37 0.05 0.00 0.0
GDHIGCHK 00 245 0.92 0.02 0.0
ENDED - TIME=18.16.25
NAME=GDW CPU TIME (SEC)=
ATION DATE=99203,TIME=181625,ACCT=$15P01T
INDED

*** MIGRATION COMPLETED SUCCESSFULLY ***

OBJECT TYPE AND NAME ACTION
Data Table LRS_ANI_ANIMAL REPLACED
Data Column LRS_ANI_ANIMAL LRS_ANI_TAG_NUMBER REPLACED
Data Column LRS_ANI_ANIMAL LRS_ANI_DOB REPLACED
Data Column LRS_ANI_ANIMAL LRS_ANI_NAME REPLACED
Foreign Key Column LRS_ANI_ANIMAL LRS_FK_FAM_NAME REPLACED
Foreign Key Column LRS_ANI_ANIMAL LRS_FK_FAM_POSTCOD REPLACED
Foreign Key Column LRS_ANI_ANIMAL LRS_FK_ATY_BASICITY REPLACED
Foreign Key Column LRS_ANI_ANIMAL LRS_FK_ATY_BREED REPLACED
Index LRSXANI2 on LRSDB REPLACED
Index LRSXANI3 on LRSDB REPLACED
Index LRSXANI1 on LRSDB REPLACED
Entity Type ANIMAL REPLACED
Attribute ANIMAL_TAG_NUMBER REPLACED
Attribute ANIMAL_DATE_OF_BIRTH REPLACED
```

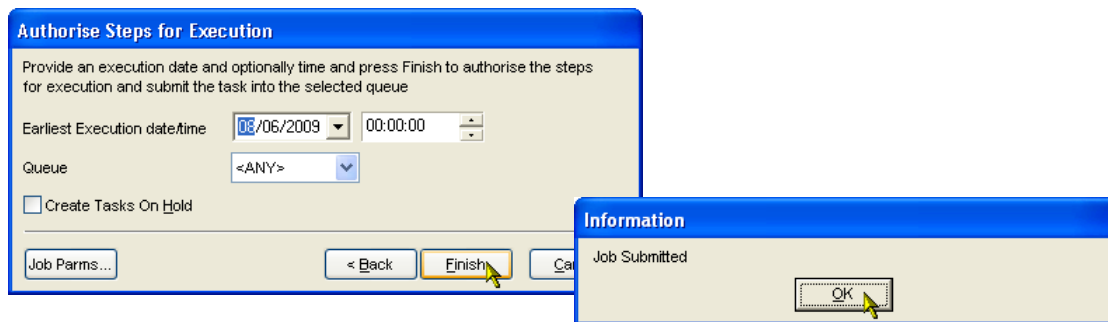
If the jobs completed successfully (migrations completed and the post-migration check job) then you have completed this section.

This completes Migration verification without the Task Assistant.

Appendix C: System Update submission without the Task Assistant

Submit System Update

The Authorise Steps for Execution dialog appears next. Verify that the JCL parameters are correct and press the **Finish** button. Finally, a confirmation dialog will appear to tell you that a job has been submitted to process these steps.



You are returned to the Execution tab for this system update. Pressing the **Refresh** toolbar button will report the current status of each step as it progresses (or not!).

When the steps have all completed you should be able to view the output on TSO using your JES job viewer (SDSF or equivalent)

```
Display Filter View Print Options Help
-----
SDSF OUTPUT DISPLAY WNNQ03GU JOB14416 DSID 113 LINE 8 COLUMNS 02- 81
COMMAND INPUT ==> SCROLL ==> CSR
** ----- BACKGROUND UTILITY BEGIN ----- **
**                                     **
**      MODEL: IET DEMO -LIVESTOCK REC SYS DEV      **
**      SYSTEM: LIVESTOCK_RECORDING_SYSTEM          **
**      LOAD MODULE: LRSSVR01                      **
**                                     **
*****
**      DATE: 10/20/99 TIME: 16:39: Display Filter View Print Options Help
*****
*****
ITEM      SDFS OUTPUT DISPLAY WNNQ03GU JOB14427 DSID 113 LINE 20 COLUMNS 02- 81
*****      COMMAND INPUT ==> SCROLL ==> CSR
*****
Server Manager      General LASSVR01      FORD USER EXIT -LIBAUDIT- COMPLETE
Server Manager      Member LASSVR01      COMPILATION IN PROGRESS
ANIMAL_TYPE_SVR     General LASSVR01      COMPILATION COMPLETE, RC=0
CREATE_ANIMAL_TYPE  Member LASSVR01S     FORD USER EXIT -LIBAUDIT- COMPLETE
CREATE_ANIMAL_TYPE  General LASSVR01S     COMPILATION IN PROGRESS
CREATE_ANIMAL_TYPE  Member LASSVR01S     COMPILATION COMPLETE, RC=0
***** LASATYCR      FORD USER EXIT -LIBAUDIT- COMPLETE
LASATYCR             COMPILATION IN PROGRESS
LASATYCR             COMPILATION COMPLETE, RC=0
LASATYCR             Generating installation control.
LASATYCR             Installation control generated.
LASATYCR             READING INSTALL CONTROL
LASATYCR             ALLOCATING LINK-EDIT FILES
LASATYCR             LINK-EDIT IN PROGRESS
LASATYCR             LINK-EDIT COMPLETED, RC=0
*****
**                                     **
**      BACKGROUND UTILITY ENDED      **
```

This test verifies that Server generation and installation batch jobs were submitted correctly (including RI Triggers) and completes the verification process.