IBM TRIRIGA
Version 10 Release 3.2

Implementation of Space Management User Guide

IBM

Contents

Chapter 1. Space management implementation

The implementation of space management involves installing the required software, applying user roles and classifications, and importing portfolio data into business object records, including space records. After the portfolio data is imported, you can associate spaces with organizations and allocate people to spaces.

By following the implementation process, you can use the space management feature to maintain space plans and track space utilization data in buildings and structures.

The space management feature helps you lower occupancy costs and automate space charge backs based on billing and reporting requirements. You can link architectural drawings with facilities and infrastructure data to ensure that the information is accurate. You can allocate space usage and report charge backs with accuracy and determine the adequacy of building or structure services, furnishings, and fixtures. You can also manage people and assets that are in the space and coordinate property transactions.

Implementation process

The implementation process for space management starts with installing the necessary software. You also must plan your implementation to apply the correct user roles and space classifications, and you also import portfolio data.

Importing your portfolio data into IBM® TRIRIGA® in batches reduces the time that is required for creating records and applying data dependencies. You then associate spaces with organizations and allocate people to spaces.

Install IBM TRIRIGA Application Platform on IBM WebSphere® Application Server

For this implementation, you install the IBM TRIRIGA Application Platform on IBM WebSphere Application Server with either Oracle Database or Microsoft SQL Server.

Before you begin the TRIRIGA Application Platform installation, IBM WebSphere Application Server must be installed locally or on a server.

Install IBM TRIRIGA CAD Integrator/Publisher

Install IBM TRIRIGA CAD Integrator/Publisher to integrate your computer-aided design (CAD) applications with the TRIRIGA environment.

You can attach and upload CAD drawing data to TRIRIGA records and view real-time information for that drawing data in your CAD application reporting. The publication process uploads a .dxf file representation of CAD drawings to the TRIRIGA server, where the .dxf files are processed to appear as web graphics in the TRIRIGA environment.

For more information about TRIRIGA CAD Integrator/Publisher, see *Integrating, publishing, and reporting on CAD drawing information* on the IBM TRIRIGA Portfolio

Data Manager information center (pic.dhe.ibm.com/infocenter/tivihelp/v49r1/
topic/com.ibm.tri.doc_10.3.2/ci_cadint/t_ctr_int_pub_rep_cad.html)

Plan your space management implementation

Review and prepare user roles, classifications, and portfolio data that is required to
set up your space management environment.

Complete the following tasks to configure the correct information for your
implementation:

- Verify the space manager and space planner user roles that are delivered with
  TRIRIGA and modify as necessary to reflect your business needs. Default
  security groups are provided with the roles of space manager and space planner.
- Verify the space classifications that are delivered with TRIRIGA and modify the
  classifications as necessary to reflect your business needs. TRIRIGA uses the
  space classification standards that are established by the International Facility
  Management Association (IFMA) and Building Owners and Managers
  Association (BOMA) to define different types of spaces.
- You can use configured integration objects and template files to import your
  geography, organization, location, and people portfolio data into TRIRIGA
  DataConnect staging tables. The integration objects and template files are
  provided in a data migration package.

  You can download the data migration package from Service Management
  Connect (www.ibm.com/developerworks/community/wikis/home/wiki/IBM
  TRIRIGA1/page/Portfolio data migration).

Import portfolio data into business object records

DataConnect is configured to automate the import of geography, organization,
location, and people portfolio data from the staging tables into business object
records. To begin the import process from DataConnect, you must create the
staging table for each business object.

For general information about DataConnect, see the *Application Building for the IBM
TRIRIGA Application Platform 3: Data Management User Guide*.

Associate and allocate spaces

After you create the business object records, including space records, you associate
spaces with organizations and allocate people to spaces. You can also generate
space audit reports and space utilization records.

Chapter 2. Installing IBM TRIRIGA Application Platform

You install IBM TRIRIGA Application Platform to run, build, and manage the IBM TRIRIGA applications.

Installing the TRIRIGA Application Platform involves first preparing the application and database servers, and then installing the TRIRIGA application and database instance on the servers.

About this task

For this implementation, you install the TRIRIGA Application Platform on IBM WebSphere Application Server with either Oracle Database or Microsoft SQL Server.

For information about other types of installations of TRIRIGA Application Platform, see *Installing the Platform* on the IBM TRIRIGA Application Platform information center (pic.dhe.ibm.com/infocenter/tivihelp/v49r1/topic/ com.ibm.tap.doc_3.3.2/ins_install/t_ctr_ist_install_platform.html).

System requirements

Before you install the IBM TRIRIGA Application Platform on IBM WebSphere Application Server, you must verify the hardware and software product requirements that apply to your particular implementation.

The IBM TRIRIGA Application Platform Compatibility Matrix (www.ibm.com/developerworks/community/wikis/home/wiki/IBM+TRIRIGA1/ page/Support+Matrix) provides information about the IBM TRIRIGA supported software products. It lists the application servers, database servers, web servers, third-party servers, third-party components, and client options with which the IBM TRIRIGA Application Platform is certified.

For information about hardware configuration and platform installation, see *Installing IBM TRIRIGA Application Platform* on the IBM TRIRIGA Application Platform information center (pic.dhe.ibm.com/infocenter/tivihelp/v49r1/topic/ com.ibm.tap.doc_3.3.2/ins_overview/t_ctr_install_ibm_tap.html).

Review the existing release notes for this product in the IBM TRIRIGA Release Notes for 10.3.2 and 3.3.2 (www.ibm.com/developerworks/community/wikis/ home/wiki/IBM+TRIRIGA1/page/Release+Notes). The release notes contain the latest information that is relevant to the installation of this product.

Furthermore, the following list outlines the hardware requirements and other software considerations:

Memory
> The database server must have at least 3 GB of physical dedicated memory.

Disk space
> You must prepare the following disk space requirements:
> - If you download all components of an installation, you need at least 1.8 GB of disk space.

- In addition, the installation occupies approximately 300 MB of disk space.
- For the installer to run, you need at least 160 MB in temporary space on the hard disk.
- For a new installation, you need at least 5 GB within the database.

Application server and database server

The application server and database server must be in the same physical location, such as a room or building. Minimize the number of segments or "hops" along the path between the application server and the database server. The minimum network speed that is required is fast Ethernet (100 Mbps), switched.

Display server

For UNIX or Linux, use of the Java™ Abstract Window Toolkit (AWT) requires an X Window System display server to take full advantage of IBM TRIRIGA features. This server can be either a real X or virtual X buffer, depending on the following considerations:

- X virtual frame buffer (Xvfb) is an X server that can run on computers with no display hardware and no physical input devices. It emulates a dumb frame buffer by using virtual memory. Xvfb must be installed and configured. If you need more information, consult your operating system vendor.
- If the server computer has a video card, a program such as X.Org, XFree86, or Xsun must be configured and started.
- To enable the X display, the following commands must be run before you start an IBM TRIRIGA application server. These commands can be added to the ~/.bash_profile startup script so the system is ready to go before you start application servers or process servers:

```
Xvfb :1 &
export DISPLAY=:1
```

- If you are using Xvfb and your graphs do not display as expected, use X instead of Xvfb.

Application server software

The WebSphere Application Server software must be installed before you run the IBM TRIRIGA Application Platform installer.

Database server software

Oracle Database or Microsoft SQL Server must be installed before you run the IBM TRIRIGA Application Platform installer. During the installation process, you are required to provide the database administrator (DBA) user ID and password.

Oracle Database installations

Table spaces for new Oracle Database installations must be created before you run the installer. Analyze your base data. This data includes documents, leases, and portfolio data, such as people, organizations, assets, and locations. Set the sizes for the TRIDATA_DATA table space and TRIDATA_INDX table space to support at least this base data. The minimum size for the TRIDATA_DATA table space and TRIDATA_INDX table space is 2.5 GB each. If you use existing IBM TRIRIGA table spaces, verify that the autoextend option is enabled.

Java Development Kit

The Java Development Kit (JDK) must be installed before you run the IBM

TRIRIGA Application Platform installer. The JDK must be installed before you run the IBM TRIRIGA application. Java must be running during an IBM TRIRIGA installation.

Security privileges and directory access

The administrator or user who runs the IBM TRIRIGA Application Platform installation must have create access and write access to the installation root directory.

IBM TRIRIGA licenses (keys)

Starting with IBM TRIRIGA Application Platform version 3.2, IBM TRIRIGA distributes software licenses in a separate license file for each product. The license file names are in the format `LICENSE_IBM_TRIRIGA_[productname].properties` (for example, `LICENSE_IBM_TRIRIGA_Application_Platform.properties`). You can continue to use an existing `TRIRIGALICENSE.properties` file if you have one until it expires or you use a new product. For more information, see the topic about license files.

Installing IBM TRIRIGA Application Platform on IBM WebSphere Application Server

Depending on your database environment, you can install the IBM TRIRIGA Application Platform on IBM WebSphere Application Server with Oracle Database or Microsoft SQL Server.

Before you begin

Before you begin the IBM TRIRIGA Application Platform installation, IBM WebSphere Application Server must be installed locally or on a server. Test the IBM WebSphere Application Server connection to verify that IBM WebSphere Application Server can connect to the databases.

About this task

For detailed installation information, see *Installing on IBM WebSphere Application Server* on the IBM TRIRIGA Application Platform information center (pic.dhe.ibm.com/infocenter/tivihelp/v49r1/topic/com.ibm.tap.doc_3.3.2/ins_install/t_ctr_ist_install_on_websphere.html)

Procedure

1. Configure the WebSphere Application Server property files.
2. Install IBM TRIRIGA Application Platform on IBM WebSphere Application Server with Oracle Database or Microsoft SQL Server.
3. Copy your license files into the `[tririga_root]\config\licenses` directory.
4. Verify your installation.

License files

IBM TRIRIGA controls the usage of its various products with license files. Starting with IBM TRIRIGA Application Platform 3.2, IBM TRIRIGA distributes a separate license for each product.

Each license file grants access to its respective functions when it is assigned to a user. The license files by themselves do not enforce license count restrictions. Each

license is governed by its respective software license agreement. The license file names are in the format LICENSE_IBM_TRIRIGA_*[productname]*.properties; for example, LICENSE_IBM_TRIRIGA_Application_Platform.properties.

Before IBM TRIRIGA Application Platform 3.2

Before IBM TRIRIGA Application Platform 3.2, IBM TRIRIGA distributed one license file named TRIRIGALICENSE.properties. If you have an existing TRIRIGALICENSE.properties file, you can continue to use it until it expires or until you use a new product.

License types

This single-file method managed three distinct types of licenses: (1) Concurrent User, (2) Named User, and (3) Enterprise.

License type	Description
Concurrent User	The Concurrent User license offered a pool of licenses to limit the number of users who signed into the application at any one time. Although there might be hundreds of unique user accounts in the application, the number of concurrent users was restricted by the Concurrent User license.
Named User	The Named User license assigned each seat in the license to a uniquely named user. Users did not share licenses. If a customer needed extra user accounts, the customer was required to upgrade the license.
Enterprise	The Enterprise license did not restrict the number of users in a company by allowing an unlimited number of users.

IBM TRIRIGA Application Platform 3.2 and later

After the IBM TRIRIGA Application Platform installation, your *[tririga_root]*\config\licenses directory must contain either your LICENSE_IBM_TRIRIGA_*[productname]*.properties files or your TRIRIGALICENSE.properties file, but not both.

After a new installation, copy your license files into the *[tririga_root]*\config\ licenses directory. After an upgrade installation, verify that your license files were automatically copied into the *[tririga_root]*\config\licenses directory.

If you use the LICENSE_IBM_TRIRIGA files, do not use the TRIRIGALICENSE file. If you use the TRIRIGALICENSE file, do not use the LICENSE_IBM_TRIRIGA files. If you are using WebSphere Application Server and LICENSE_IBM_TRIRIGA files, set up valid resource URLs for all of your licenses. If you are using WebSphere Application Server and the TRIRIGALICENSE file, verify that the resource URL points to the correct location.

After you upgrade to the LICENSE_IBM_TRIRIGA files, you cannot return to the previous TRIRIGALICENSE file. When you start the application server for the first time after you upgrade to the LICENSE_IBM_TRIRIGA files, the application attempts to swap user licenses to the LICENSE_IBM_TRIRIGA license set. For this process to be successful, it is important that all of your LICENSE_IBM_TRIRIGA files exist in the *[tririga_root]*\config\licenses directory and that all user changes are complete. Verify that all asynchronous workflows are completed before you restart the application server with the LICENSE_IBM_TRIRIGA files.

All application servers that access a database must have the same set of licenses. The only exception is the license file for the IBM TRIRIGA Connector for Business Applications. This product is licensed for a limited number of servers and the license file must be placed on that number of servers to stay in compliance.

Deprecated licenses

Several licenses that were contained in the `TRIRIGALICENSE` file were deprecated with the `LICENSE_IBM_TRIRIGA` files. The Enterprise licenses are no longer bundled, but IBM TRIRIGA distributes their equivalent licenses for individual products.

Former Enterprise license	Equivalent IBM TRIRIGA licenses
Workplace Enterprise Management	(1) Capital Projects Manager, (2) Real Estate Manager, (3) Facilities Manager, and (4) Workplace Operations Manager
Facility Management Enterprise	(1) Real Estate Manager, (2) Facilities Manager, and (3) Workplace Operations Manager

Available licenses

IBM TRIRIGA distributes the following `LICENSE_IBM_TRIRIGA` files for individual products.

License files
`LICENSE_IBM_TRIRIGA_Application_Builder.properties`
`LICENSE_IBM_TRIRIGA_Application_Platform.properties`
`LICENSE_IBM_TRIRIGA_CAD_Integrator_Publisher.properties`
`LICENSE_IBM_TRIRIGA_Capital_Projects_Manager.properties`
`LICENSE_IBM_TRIRIGA_Connector_for_Business_Applications.properties`
`LICENSE_IBM_TRIRIGA_Connector_for_Offline_Forms.properties`
`LICENSE_IBM_TRIRIGA_Facilities_Manager.properties`
`LICENSE_IBM_TRIRIGA_Facility_Assessment.properties`
`LICENSE_IBM_TRIRIGA_Integrated_Workplace_Manager.properties`
`LICENSE_IBM_TRIRIGA_Mobile.properties`
`LICENSE_IBM_TRIRIGA_Portfolio_Data_Manager.properties`
`LICENSE_IBM_TRIRIGA_Real_Estate_Environmental_Sustainability_Impact_Manager.properties`
`LICENSE_IBM_TRIRIGA_Real_Estate_Environmental_Sustainability_Manager.properties`
`LICENSE_IBM_TRIRIGA_Real_Estate_Manager.properties`
`LICENSE_IBM_TRIRIGA_Request_Central.properties`
`LICENSE_IBM_TRIRIGA_Strategic_Facility_Planning.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Operations_Manager.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Performance_Management_Enterprise.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Performance_Management_Facilities.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Performance_Management_Operations.properties`

License files
`LICENSE_IBM_TRIRIGA_Workplace_Performance_Management_Projects.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Performance_Management_Real_Estate.properties`
`LICENSE_IBM_TRIRIGA_Workplace_Reservation_Manager.properties`

Verification checklist

After the IBM TRIRIGA Application Platform installation is complete, verify that your installation is running properly. This verification checklist is not intended to replace your company testing and validation procedures.

Item	Description

Inspecting the installation log	Read the `ant.log` file. This file contains information about that steps that were taken during the installation. The file is written to the IBM TRIRIGA root installation directory. For example, on Windows, `C:\Tririga\ant.log` is the typical location.
	
	A line toward the end of the file indicates whether the installation succeeded or failed, such as the following examples:
	• The installation succeeded:
	`BUILD SUCCESSFUL`
	`Total time: 25 minutes 51 seconds`
	• The installation failed:
	`BUILD FAILED`
	`C:\Tririga\build.xml:2586: The following error`
	`occurred while executing this line:`
	`C:\Tririga\build.xml:2141: Java returned: -1`
	
	`Total time: 8 minutes 44 seconds`

Starting the application	Start IBM TRIRIGA by locating the application server directory with the appropriate method.
Accessing the application	Verify your access to the IBM TRIRIGA application as the system user as follows: • Specify the URL address in your browser address field. The URL looks something like `http://[hostname:port][/context_path]`, where `[hostname:port]` and `[/context_path]` are the specific values for your environment. If you see the error message "Unable to launch the application", then you must set the **FRONT_END_SERVER** property. • Sign in with your user name and password. The default user name is "system" and the default password is "admin".

Item	Description
Accessing the administrator console	Verify your access to the IBM TRIRIGA administrator console as follows. • Specify the URL address in your browser address field. The URL looks something like `http://[hostname:port][/context_path]/html/en/default/admin`, where `[hostname:port]` and `[/context_path]` are the specific values for your environment. • Sign in with your user name and password. The default user name is "system" and the default password is "admin". • In the Agent Manager, start the following agents in the process server: Cleanup Agent, Extended Formula Agent, Formula Recalc Agent, Scheduler Agent, Workflow (WF) Agent, and Workflow (WF) Notification Agent. • Sign out of the administrator console.
Creating users and records	As the system user, create and verify an IBM TRIRIGA employee who is not an administrator as follows: • Assign the user to several user groups, but not all of them. • Assign the user with several user licenses, but not all of them. • Sign in as the user that you created. • Verify that the user can access everything that the employee is meant to access, according to the assigned groups and licenses. • Verify that the user can create and revise records, such as people records and location records. • Verify that the association tree loads in the **Associations** tab of an opened record.
Using the builder tools	As the system user, open and verify the builder tools under **Tools** > **Builder Tools** as follows: • In the workflow builder, verify that workflows load completely by opening and revising existing workflows. • In the data modeler, verify that the state transitions load completely. • In the data modeler, verify that the simple mail transfer protocol (SMTP) email notification works by publishing a test business object.
Using the Document Manager	As either the system user or a user with rights, open and verify the Document Manager under **Tools** > **Document Manager** as follows: • Verify that the user can upload new documents, such as `.txt`, `.html`, and `.jpg` files. • Verify that the user can upload new documents with the multifile applet. • Verify that the user can view documents by clicking the icon in the V column. • Verify that the user can check in and check out documents. • If Brava is installed, verify that the user can upload computer-aided design (CAD) documents in `.dxf` format and view the CAD documents by clicking the icon in the V column.

Item	Description
Editing project tasks	As either the system user or a user with rights, verify the functions that are dependent on the X Window System as follows: • Create or open a new capital project. • In the **Schedule** tab, add or open a task in the Project Tasks section. • In the task, edit the planned start date, planned end date, or planned working hours. • Verify that when one field is edited, the other two fields are adjusted automatically.
Syncing CAD drawings	If IBM TRIRIGA CAD Integrator/Publisher is being used, verify your access to IBM TRIRIGA as follows: • Start TRIRIGA CAD Integrator/Publisher. • Sign in as a user with a TRIRIGA CAD Integrator/Publisher license. • Verify that the user can sync a CAD drawing with TRIRIGA CAD Integrator/Publisher.
Inspecting the server log	Verify that the `server.log` file exists for each application server and process server. This file is written to the `log` directory of the IBM TRIRIGA installation. For example, on Windows, `C:\Tririga\log\server.log` is the typical location. In addition: • Verify that the application server is writing to its `server.log` file. Inspect the file for any major exceptions on first startup. • Verify that the process server is writing to its `server.log` file. One day after the installation and on a regular basis, verify that the process server completed the cleanup process successfully.
Inspecting the properties file	If you installed the IBM TRIRIGA Application Platform in a performance or production environment, open the `TRIRIGAWEB.properties` file to verify that the **ProductionMode** property is set to the value of Y (yes) instead of the default value of N (no). This file is in the `config` directory of the IBM TRIRIGA installation. For example, on Windows, `C:\Tririga\config` is the typical location.

Chapter 3. Installing IBM TRIRIGA CAD Integrator/Publisher

The installation process loads the current version of IBM TRIRIGA CAD Integrator/Publisher to the workstation of an Autodesk AutoCAD or a Bentley MicroStation user.

Installing the product

The installation process loads version 12 of TRIRIGA CAD Integrator/Publisher as a plug-in for CAD applications and adds the **IBM TRIRIGA** menu to the CAD application menu bar. The installation process also adds a desktop shortcut that you use to access your CAD application.

Before you begin

The following prerequisites must be met:

- A user who installs version 12 must have administrator rights.
- The installation workstation must have a supported version of CAD software installed.
- The installation workstation does not have a version of TRIRIGA CAD Integrator/Publisher already installed. If a previous version exists, do not uninstall the previous version or run the installation process; run the upgrade process.

About this task

An administrator runs the installation process on the workstation of each CAD application user. An administrator can install version 12 for administrator and non-administrator users.

The language list that is displyed in the installation process is based on the system locale. The language that you select sets the language for TRIRIGA CAD Integrator/Publisher. If a workstation has more than one type of CAD application, all the CAD application types use the same language.

Procedure

1. Open the installation folder and double-click the `install_ci_v12.0.2.0.exe` file.
2. Follow the prompts in the installation program, and select **Install** in the Choose Install Set window.
3. Verify the installation.
4. Optional: Uninstall the previous version.

Chapter 4. Planning space management implementation

Planning for space management implementation involves verifying user roles and space classifications and preparing portfolio data for import. User roles for space management and classifications for spaces are delivered with IBM TRIRIGA.

User roles for space management

During planning and setup of your space management environment, you can verify the default settings of the space planner and space manager roles and customize or add security group or licenses. As an alternative, you can create template records for your people portfolio to define the standard security groups and licenses for your business needs.

Space manager and planner

The space manager and space planner have similar roles and depending on the company there might be one or the other or both. This role traditionally comes from an architectural, interior design, or engineering background and therefore is visually oriented and expects floor plan graphics.

The IBM TRIRIGA space manager/planner role provides a single user interface that applies to both of the individual roles. The differences are derived from the licenses; IBM TRIRIGA Facilities Manager provides access to traditional space management functionality while IBM TRIRIGA Strategic Facility Planning (SFP) provides access to advanced planning.

The space manager/planner:
- Is responsible for optimizing space utilization.
- Plans space to meet business objectives.
- Manages day-to-day organizational space assignments and chargebacks.
- Advises internal customers on utilization improvements and planning options.
- Assigns and manages task assignments.
- Reviews both tactical (day-to-day) and longer-term (monthly and yearly) metrics for the team and acts as required to handle performance outside defined thresholds.

Technically this role:
- Has some specific training on IBM TRIRIGA (1-3 days).
- Uses Microsoft Outlook or IBM Lotus Notes® for day-to-day email and calendar.
- Prefers to work with simpler browser-based floor plans specific to their needs, even though a small segment of space managers/planners might also be CAD users.

Portal details:

The portal for this role would be based on the following details (selected in this role's people record):
- **Home Page**: Home – Space Manager Planner Portal
- **Group Details**: (1) TRIRIGA Space Manager and (2) TRIRIGA Space Planner

- **License Details**: (1) IBM TRIRIGA Facilities Manager, (2) IBM TRIRIGA Workplace Performance Management Facilities, and (3) IBM TRIRIGA Strategic Facility Planning (SFP)

Creating people template records

You can create template records for your people portfolio to apply predefined portal, security group, and license information to your people business object records.

When you import the portfolio data for your people records, you can associate the template record with the import information to apply the predefined information to the people business object records.

Procedure

1. Select **Portfolio** > **People** > **People** and click **Add**.
2. On the **General** tab, specify the name of the template.
3. On the **Profile** tab, select **Active TRIRIGA User** to enable the person to sign in to and use IBM TRIRIGA applications
4. Specify the default portal details to configure the applications that your people portfolio can see.
5. Specify the group details to define the security access for your people portfolio.
6. Specify the license details to define the applications that your people portfolio can use.
7. Create the people template record.

Related concepts:

"Data migration package for import into staging tables" on page 17
Integration objects and template files are provided in a data migration package and are designed to import data into IBM TRIRIGA DataConnect staging tables.

Defining security settings

Default security groups and licenses are provided with the roles of space manager and space planner. However, you can define security and add further licenses to allow users access to applications that reflect your business needs.

Creating security groups

You can define security access at the module, business object, tab, or section level for all objects in the system. You use the Security Manager application to define the security settings for users and groups. Security settings are based on organization, geography, business object, and reports.

Procedure

1. Go to **Tools** > **Administration** > **Security Manager**, and click **Add**.
2. Name the security group and specify any other capabilities for the security group.
3. On the **Members** tab, add users and groups to the security group. Alternatively, you can also add users to the members group in the People Manager application.
4. Define the level of access for the security group on the **Access** tab. If a user is in more than one group, the user is granted the most permissive level. For example, if one security group grants the user no access while another security group grants update access, the user has update access.
   a. Select an object.

b. In the Data Access section, select the permission level to grant the object.

c. In the Application Access section, select the permission level to grant the security group.

d. Save the granted permission levels.

5. Create and save the security group.

User licenses

You must add users to licenses for purchased products. You add users to licenses in **Tools** > **Administration** > **License Manager**. A user can be assigned to more than one license. Each user requires a valid license to access each application.

You save licenses after the application is installed but before the application server is started. You can save the license in the `config` folder of the installation root directory, for example, `C:\Tririga\config\licenses`. Each license is a record and the file name corresponds with the licensed product.

In the License Manager, you select the license that you want to add users to, and then select the users to add to the license.

You can customize the License Manager query for the **Add User** action. To run your customized query instead of the default query, in the Report Manager application you can name your query Security License List. You can see a list of all users in the People Manager application.

The licenses that are shown in the License Manager are synchronized with the licenses shown in user profiles. Any changes that are made in one location are automatically updated in the other location.

Classifying spaces

You classify a space to define how the space is used in a building, such as an office, warehouse, or workstation. The default space classifications use the standards that are defined by the International Facility Management Association (IFMA) and Building Owners and Managers Association (BOMA).

During planning and setup of your space management environment, review the default space classifications and modify as necessary to reflect your business needs. If required, you can create space class current records.

Space classifications

Space classifications define the standards that are used to calculate the area measurements for spaces, such as gross area, rentable areas, and usable areas.

These standards are established by the International Facility Management Association (IFMA) and Building Owners and Managers Association (BOMA).

You can use the classification hierarchy to create a space class current record to define the utility of the space. In the space class current record, you can also provide a logical grouping of the available space. After you specify the space classifications, you can assign them to the space records.

You can integrate computer-aided design (CAD) software with IBM TRIRIGA to create accurate space measurements and to view spaces in graphical format. You can also use the web-based interface to assign and review space classifications.

You can classify spaces into three different types to help you manage your spaces.

Space class current

> The primary space classification where you can specify how the space is used, such as warehouse or storeroom. This classification defines the current use of space to calculate area measurements and allocate available spaces.

Space class designed

> Defines the designed use of a specific space. You can apply this classification when a space is intended to be used for a specific purpose but is used for a different occupation. For example, when a space is designed as a workstation or office but is used as a storage area.

Space class planned

> Defines the planned utilization of a space. For example, an office space that is currently used as a storage area, but the master plan shows the planned usage as a special purpose space.

Standards for space classifications

IBM TRIRIGA uses the standards for space classifications that are established by the International Facility Management Association (IFMA) and Building Owners and Managers Association (BOMA).

These standards are used to calculate the area measurements of buildings and spaces.

Space classification standards	Description
Exterior gross	The total floor space of a building, including unusable space or excluded areas, which is measured from the outside walls.
Interior gross	The total measured area that is calculated from the inner surface of the walls, including rentable areas, interior parking, vertical penetration, and void areas.
Building rentable	The area within the interior gross that includes the usable area and a prorated portion of the common areas on the entire office floor. This area does not include vertical penetration regions, such as elevators, stairs, or mechanical risers.
Usable area	The total area that can be occupied. The usable area on a specific floor of a building depends on the corridor configurations and whether the floor has single or multiple occupants.
Assignable area	The space that is assigned for a specific purpose, for example, cafeteria.
Exterior wall	The outer wall that surrounds the total interior gross.
Interior parking	The area within the interior gross that is available for parking. This area is allotted by dividing the total rentable square footage area of a building by the total parking space.

Space classification standards	Description
Vertical penetration	The vertical penetration regions within the interior gross include the elevators, stairs, atrium, and the other common areas.
Core building services	The regions within the building rentable area that are dedicated to providing maintenance and core services for the building or structure.

Creating space class current records

A space class current record defines how a space is used in a building and the standards that calculate the area measurements for spaces. After you create space class current records, you can associate them with space records to apply the classification standard to your portfolio.

Procedure

1. Select **Tools** > **Administration** > **Classifications**.
2. In the hierarchy panel, click **New** and select **Space Class Current**.
3. Specify the details of the space class current record.
4. Click **Create**.

Migrating portfolio data

You can use configured integration objects and associated template files to import geography, organization, location, and people portfolio data into IBM TRIRIGA DataConnect staging tables. The integration objects and template files are provided in a data migration package.

Related concepts:

"Portfolio data overview" on page 33
Portfolio data is the core information that you use to manage workplaces. Your portfolio includes information about the geographies, organizations, locations, and people that are associated with the space that you manage.

"Portfolio data import process" on page 19
IBM TRIRIGA portfolio data records are organized in a hierarchical structure and can be associated with other records. During the import process, geography, organization, location, and people portfolio data is created and organized into corresponding business objects records. You can use IBM TRIRIGA DataConnect to create multiple portfolio data records and associate those records.

Data migration package for import into staging tables

Integration objects and template files are provided in a data migration package and are designed to import data into IBM TRIRIGA DataConnect staging tables.

The integration objects are available in an object migration package and the template files are available in a compressed file.

You use integration objects to import information from an external source into IBM TRIRIGA. An integration object is available for each business object that is associated with geography, organizations, locations, and people portfolio data.

The template files are worksheets that represent each of the business objects for which you can import data. After you enter the data into the worksheet for the

business object, you save the file as a tab-delimited text file. When you are ready to import the data, you upload the file to the corresponding integration object.

If you created a people template record for your people portfolio data, you can enter the name of the template record into the **triPeopleTemplateTX** column of the people template, `DataKit_Portfolio_People.xls`. The information that is defined in the people template record is imported with the people portfolio data.

Complete the following steps to prepare your data for importing:

1. Download the data migration package from Service Management Connect (www.ibm.com/developerworks/community/wikis/home/wiki/ IBM+TRIRIGA1/page/Portfolio+data+migration).
2. Extract the object migration package and the template files.
3. Install the object migration package.
4. Enter the data into the corresponding worksheets for each business object.
5. If you created people template records, enter the name of the template record into the **triPeopleTemplateTX** column of the `DataKit_Portfolio_People.xls` template.
6. Save each worksheet as a tab-delimited text file.

Related tasks:

"Creating people template records" on page 14
You can create template records for your people portfolio to apply predefined portal, security group, and license information to your people business object records.

Installing the object migration package

The object migration (OM) package is a compressed file that contains integration objects. If you want to use integration objects to import your geography, organization, location, and people portfolio data into DataConnect staging tables, you can install the OM package.

Procedure

1. Select **Tools** > **Administration** > **Object Migration**.
2. From the menu bar, click **New Import Package**.
3. In the **File** field, navigate to the `DataKits_DC_Portfolio_IntegrationObjects.zip` file, select the file, and click **OK**.
4. In the Object Migration window, select the **Validate** action.
5. After the validation is complete, click **Import** on the action bar.

Chapter 5. Importing portfolio data into business object records

The implementation of space management involves importing geography, organization, location, and people portfolio data into IBM TRIRIGA, creating portfolio data records, and then associating the records. You use TRIRIGA DataConnect to create and associate the records. You can use integration objects and template files to import your portfolio data into TRIRIGA.

Portfolio data import process

IBM TRIRIGA portfolio data records are organized in a hierarchical structure and can be associated with other records. During the import process, geography, organization, location, and people portfolio data is created and organized into corresponding business objects records. You can use IBM TRIRIGA DataConnect to create multiple portfolio data records and associate those records.

DataConnect is a tool that imports large amounts of data into TRIRIGA business objects by using staging tables, job control business objects, and workflows.

For the implementation of space management, staging table fields, job control business objects, and workflows are configured to automate the creation of each portfolio business object record.

To create multiple records for your portfolio data, you can import the data from an external source into DataConnect for each portfolio business object. You can use integration objects and template files to import the portfolio data into DataConnect.

When you import data into DataConnect, the data is added to a staging table that is linked to the business object. A corresponding job control business object identifies the staging table from which to retrieve the data. The workflow transfers the data from the staging table into the business object record. The business object record is created in an active state.

If you use the integration objects and template files, DataConnect automatically creates the records after the integration object imports the data into the staging tables.

You must create and publish a staging table for each business object before you can import the portfolio data into business object records.

To import portfolio data into TRIRIGA and create portfolio data records, complete the following process for each portfolio business object.

1. Create a staging table for each business object.
2. Import the portfolio data from the external source into DataConnect. You can use integration objects and portfolio data template files.
3. Run the integration object.
4. Validate that the business object records are created.

To associate the records and implement data dependencies, you must add the initial data in a specific order. The following table describes the business objects and the forms of the business objects that you can import data for. The table also describes the order that you must follow to import the data.

Module	Portfolio business objects	Business object forms
Geography	• triWorldRegion • triCountry • triState • triCounty • triCity	• triWorldRegion • triCountry • triState • triCounty • triCity
Organization	Organization	• triOrganizationCategory • triMyCompany • triDivision • triDepartment • triExternalCompany • triWorkGroup
Location	• triLocation • triProperty • triBuilding • triFloor • triSpace	• triLocationCategory • triProperty • triBuilding • triFloor • triSpace
People	triPeople	• triEmployee • triConsultant • triExternalContact

For more information about DataConnect, see the *Application Building for the IBM TRIRIGA Application Platform 3: Data Management User Guide*.

Related tasks:

"Migrating portfolio data" on page 17
You can use configured integration objects and associated template files to import geography, organization, location, and people portfolio data into IBM TRIRIGA DataConnect staging tables. The integration objects and template files are provided in a data migration package.

Related reference:

"DataConnect staging table fields" on page 39
The properties for staging table fields identify the fields in business object records that you can import data into. When you create the staging tables for geography, organization, location, and people business objects, the configured staging table fields are included in the staging tables.

"DataConnect job control business objects and workflows" on page 45
For every business object record that you import data into, a job control business object and workflow must exist. The job control business object manages the process that moves the data from DataConnect staging tables into business object records. The workflows transfer the data from the staging tables into the appropriate business object record. DataConnect job control business objects and workflows are configured and provided for geography, organization, location, and people portfolio data.

Creating staging tables for business objects

When you import data into DataConnect, the data is imported into a staging table. Before you can import data into DataConnect staging tables, you must create and publish a staging table for each business object.

About this task

You can create staging tables for business objects in the following modules:
- Geography
- Organization
- Location
- People

For information about the business objects that you can import data for, see "Portfolio data import process" on page 19.

Procedure

1. Select **Tools** > **Builder Tools** > **Data Modeler**.
2. In the Object Browser section, expand the module folder and select the business object. For example, expand the **Geography** folder and select the triWorldRegion business object.
3. In the module folder, click **Revise BO**.
4. In the Business Object Properties window, select the **Has Staging Table** check box.
5. Publish the business object.

Results

The staging table is created for the business object. You can validate that the staging tables are created in the IBM TRIRIGA administrator console.

Related reference:

"DataConnect staging table fields" on page 39
The properties for staging table fields identify the fields in business object records that you can import data into. When you create the staging tables for geography, organization, location, and people business objects, the configured staging table fields are included in the staging tables.

Importing portfolio data by using integration objects

You can use the integration object tool to import your portfolio data into your IBM TRIRIGA environment. The configured integration objects and template files that are provided in the data migration package are designed to import data into the DataConnect staging tables.

Before you begin

Install the integration objects from the object migration package. Enter the portfolio data into the corresponding worksheets in the template files and save each worksheet as a tab-delimited text file.

Create the staging table for each business object.

About this task

Each worksheet in the template files corresponds with the staging table of the business object that you want to import portfolio data into. For every integration object, you upload a corresponding worksheet as a tab-delimited text file.

For a list of the integration objects and corresponding template files, see "Integration objects for portfolio data import" on page 44.

If you add or remove any fields in the template files, you must apply these changes to the data map in the **Data Map** tab of the integration object. The data map connects the data from the fields in the template files to the fields in the staging table. The fields in the template files must match the fields in the data map.

Note: Before you can update the fields in the **Data Map** tab, you must verify the database connection and save the integration object record.

For more information about data maps, see the *IBM TRIRIGA Application Platform 3: Connector User Guide*.

Procedure

1. Select **Tools** > **System Setup** > **Integration** > **Integration Object**.
2. Select the integration object for the data that you are importing.
3. Connect to the database.
   a. In the **Datasource Name** field, specify the database that you want to connect to.
   b. Specify the table name that is associated with the business object.
   c. Test the database connection to verify that the server can connect to the database.
4. In the File section, upload the tab-delimited file.
5. Click **Execute**.

Results

The data from the worksheet is imported into the corresponding staging table.

When the portfolio data is in the staging table, DataConnect automatically creates the business object records by using the configured job control and workflow. The business object records are created in an active state.

Portfolio data import validation

When you import the portfolio data by using integration objects and DataConnect, you must validate that the integration object imported the data into the staging table. Then, you must validate that DataConnect created the business object from the data in the staging tables.

You can validate the success of the integration into the staging tables in the Execute History section of the integration object form. If the integration is not successful, the integration summary reports the errors that occurred.

For more information, see the *IBM TRIRIGA Application Platform 3: Connector User Guide*.

After the integration object imports the portfolio data into the staging tables, DataConnect automatically creates the business object records by using the configured job control and workflow. You can validate the creation of the business object records from the DataConnect staging table in the DataConnect Manager of the IBM TRIRIGA Administrator Console.

For more information about DataConnect, see the *Application Building for the IBM TRIRIGA Application Platform 3: Data Management User Guide*.

Creating spaces by using IBM TRIRIGA CAD Integrator/Publisher

You can use TRIRIGA CAD Integrator/Publisher to upload computer-aided design (CAD) drawings of floor plans and import the data from the floor plans to create space records. When you upload CAD drawings, the square footage of each space and space classifications are automatically assigned to each space.

For more information about TRIRIGA CAD Integrator/Publisher, see *Integrating, publishing, and reporting on CAD drawing information* on the IBM TRIRIGA Portfolio Data Manager information center (pic.dhe.ibm.com/infocenter/tivihelp/v49r1/topic/com.ibm.tri.doc_10.3.2/ci_cadint/t_ctr_int_pub_rep_cad.html)

Chapter 6. Managing spaces

After space records are created by using the portfolio data import process, you can associate spaces to organizations and allocate people to spaces. Associating and allocating spaces monitors the occupancy and the cost to your organization. You can also generate space audit reports and space utilization records to evaluate the quality and efficiency of floor plans and building layouts, and to track the usage of the spaces in your organization.

Overview of space management

In the IBM TRIRIGA application, the management of spaces includes associating spaces to other records, auditing spaces, tracking the use of spaces, and maintaining space use agreements.

Space management roles
> The space manager is responsible for tracking the allocations, assignments, and utilization of the spaces within a facility as determined by space use agreements. Meanwhile, the space planner is responsible for monitoring the costs and utilization of the spaces at the strategic portfolio level across multiple facilities. Depending on the organization, these roles might be held by the same person or by many people.

Space associations
> A space association is a type of relationship between the space record and the associated record. Space associations include space allocations and space assignments.

Space audits
> A space audit is a snapshot or capture of the space details in a building or structure to evaluate the accuracy, efficiency, and utility of spaces. You can conduct space audits regularly to track and compare space allocations, space usage, and space costs over time.

Space utilization
> Space utilization is the efficient use of a space. You can track the use of a space by attaching space utilization records, and by conducting space audits regularly.

Space use agreements
> A space use agreement (SUA) is an agreement between two parties, such as a landlord and tenant organization, about the use and cost of the space. In real estate leases and owned property agreements, you can use SUAs to define the internal arrangements with the organizations that are assigned to the space.

Space associations

A space association is a type of relationship between the space record and the associated record. Space associations include space allocations and space assignments. A space allocation is an association between a space record and one or more organization records. A space assignment is an association between a person or asset record and one or more space records.

In the IBM TRIRIGA application, an association is a link that provides a particular relationship between two business objects. Business objects represent resources

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such as people, assets, locations, organizations, and geography. When the application generates records from these associated business objects, the corresponding records inherit the same association. Location business objects include many types such as building, floor, and space business objects. A space association is a type of relationship between the space business object or record and the associated business object or record.

Space associations include the following examples:
- A person or asset might be associated with only one primary location or space, but might be associated with many secondary locations or spaces.
- An organization might have several different associations to the same location or space as Primary Organization, Charge To Organization, and Uses Organization.
- A location or space might have only one association to a geography.

The following figure shows the associations between the different business objects in IBM TRIRIGA.
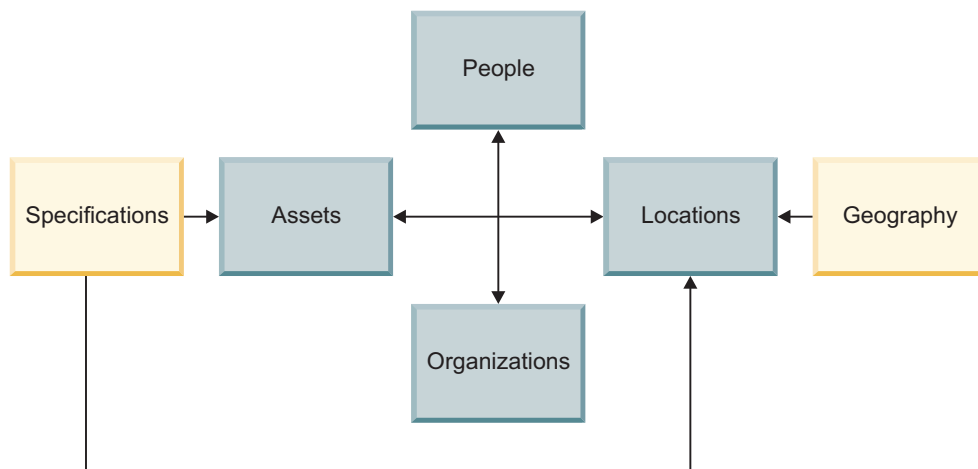
Figure 1. Associations between the different business objects in IBM TRIRIGA

Space allocations

A space allocation is a type of space association between a space record and one or more organization records. You can use space allocations to track the prorated arrangement of organizations that are financially responsible for the space or area. The IBM TRIRIGA application supports both room-level and floor-level space allocations to organizations. In other words, you can allocate an entire floor to a single department, or you can allocate specific spaces within the floor to many different departments. The space allocation process involves associating or de-associating an organization from the space or area.

Space-level allocations

A space-level allocation is a room-level association to one or more organizations. Adding or removing an association triggers the application to archive any currently active allocation records and to generate a new space level allocation record for each associated organization. With this process, the application reallocates 100% of the space in the space record evenly across all of the associated organizations.

Sometimes, the actual or human resource organization that is occupying the space is not the same as the chargeback or financial organization that is responsible for the space. The space occupancy allocation gives companies the flexibility to set different organizations for occupancy and financial responsibility for the space.

The following figure shows the difference between space occupancy allocations and space chargeback allocations.

−·−· Optional sync based on application-wide or building-level business rule

1 Space occupancy allocations - adds flexibility for companies which do not always set chargeback organizations (financial orgs) equal to the actual organizations occupying the space (HR orgs).
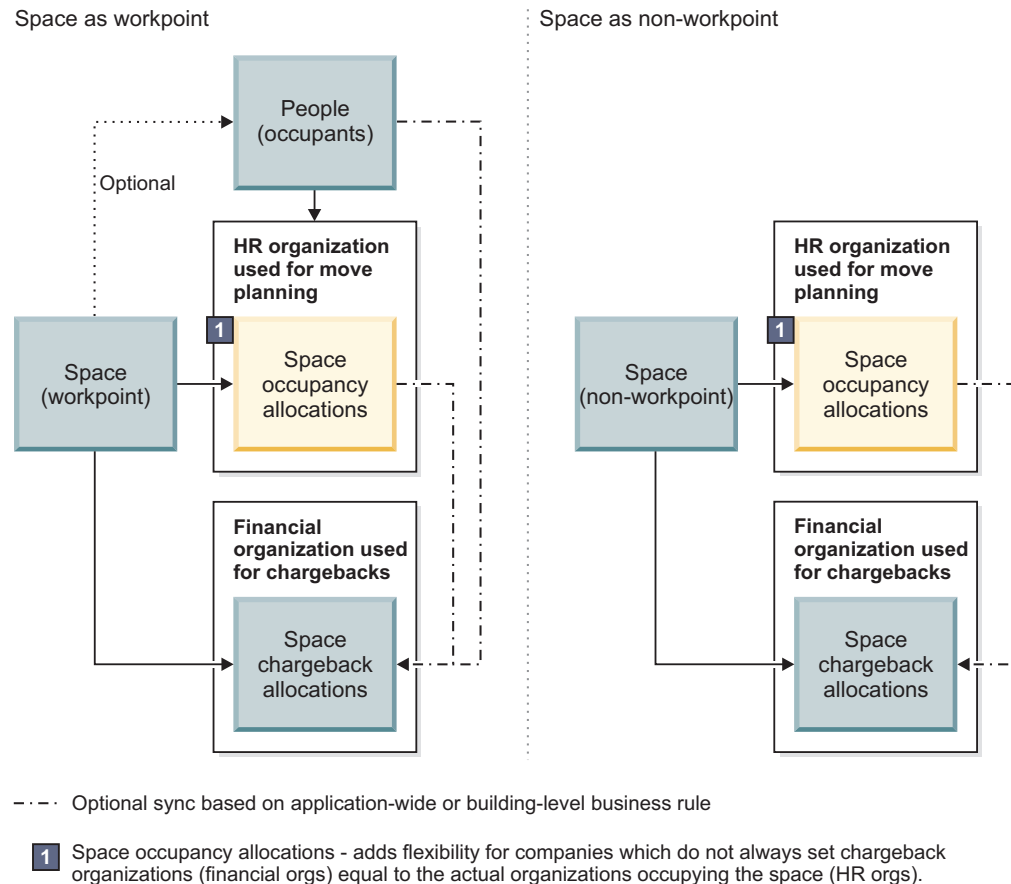
Figure 2. Space occupancy allocations versus space chargeback allocations

Area-level allocations

An area-level allocation is a floor-level association to one or more organizations. Adding or removing an association triggers the application to archive any currently active allocation records and to generate a new area level allocation record for each associated organization. With this process, the application reallocates 100% of the area in the area overlay record evenly across all of the associated organizations.

Space assignments

A space assignment is a type of space association between a person or asset record and one or more space records. A person can be associated to only one primary location or space, but can be associated with many secondary locations or spaces. In addition, multiple people can share one space, and each person can define the same space as the primary or secondary space. The space assignment can be

defined from the person record, space record, or computer-aided design drawing with IBM TRIRIGA CAD Integrator/Publisher.

Similarly, an asset can be associated to only one primary location or space and to only one person. The space assignment can be defined from the asset record, space record, or computer-aided design drawing with IBM TRIRIGA CAD Integrator/Publisher. Meanwhile, the person assignment can be defined from the asset record only.

Space audits

A space audit is a snapshot or capture of the space details in a building or structure to evaluate the accuracy, efficiency, and utility of spaces. You can conduct space audits regularly to track and compare space allocations, space usage, and space costs over time.

Space audits can be used for the following evaluations:
- Estimating the accuracy of the building layout and floor plans.
- Improving the utility area of the space to reduce leasing or renting costs.
- Enhancing the utility of extra space as storage areas or parking lots.
- Organizing the arrangement of furniture and equipment in the space.
- Tracking the prorated space allocations and costs to organizations over time.

Space allocation process and space audit process

The space allocation process involves associating or de-associating an organization from the space. Adding or removing an association triggers the application to archive any currently active allocation records and to generate a new space level allocation record for each associated organization. With this process, the application reallocates 100% of the space in the space record evenly across all of the associated organizations.

Following the space allocation process, the space audit process captures the details of the allocated space and records the details of the space audit. The following figure shows how the space allocation process flows into the space audit process.
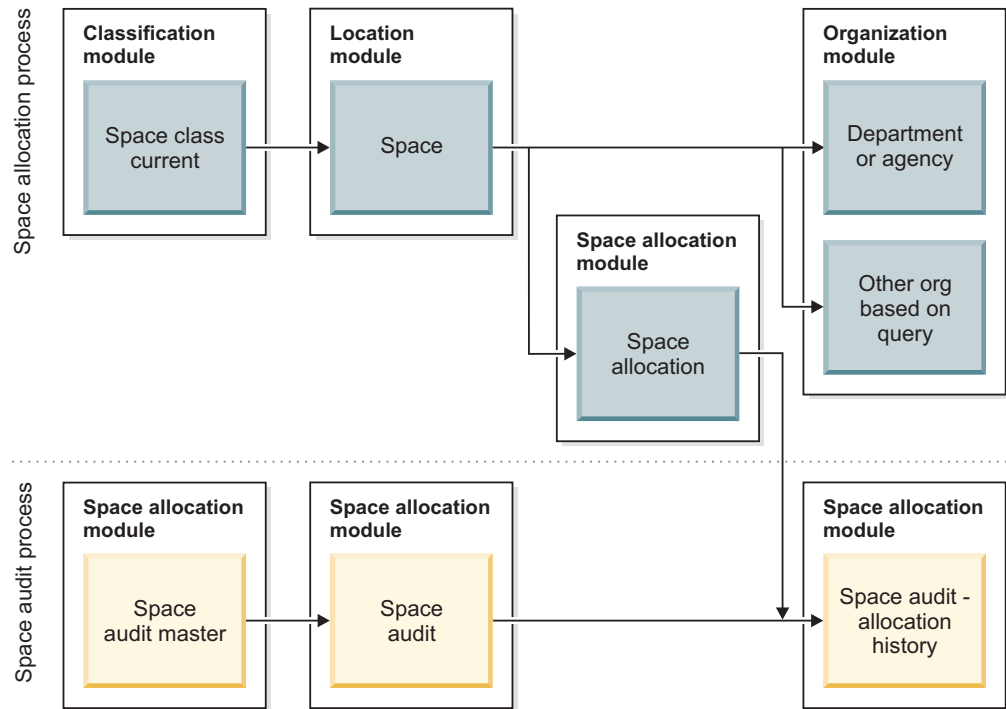
Figure 3. Space allocation process and space audit process

Space audit process

The space audit process consists of five steps. The application does not support area-level audits.

1. Pre-audit review: When the process begins, you must verify that all affected floor and space records are in the Active state, and not in Draft or Revision in Progress state. You can validate that all space allocations to organizations are correct before the audit, or wait to validate until step 4, or do both.

2. Select the building and floors: To select the building and floors for the audit, you must create the space audit master record. This information includes the space audit period, space audit process to be used, buildings to be audited, and floors to be audited within each building. When your information is ready to be submitted, activate the record.

3. Audit is processed: After the space audit master record is activated, the application processes the information. Only Active floors in Active spaces are processed. Any records in the Draft or Revision in Progress state are not processed.

   - If you selected active space allocation, the space audit process evaluates allocated spaces only, calculates chargeback amounts only, and generates the space allocation history records. As a result, this method is faster.

   - If you did not select active space allocation, the space audit process evaluates all spaces, calculates chargeback amounts, and calculates prorated areas. The process also generates the space audit records and space allocation history records. As a result, this method takes longer.

4. Review the audit: After the space audit process ends, you can review the generated records from the space audit master record. You can also validate that all space allocations to organizations are correct.

5. Close or remove the audit: After your review ends, you can close the audit period or remove the space audit master record.

- If you close the audit period, the space audit master, space audit, and space allocation history records are moved to a read-only History state.
- If you remove the space audit master record, the space audit master, space audit, and space allocation history records are deleted.

The following figure shows the space audit process from the pre-audit review to the close or removal of the space audit records.
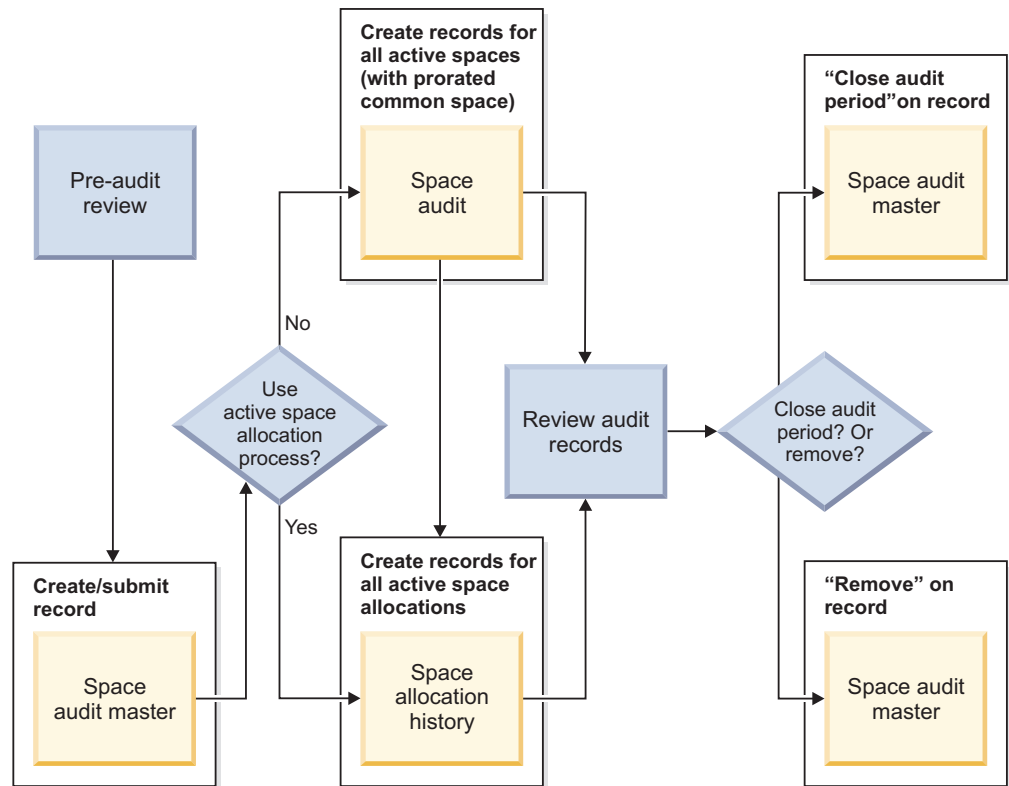
Figure 4. Space audit process

Active versus non-active space allocation

If you selected active space allocation in the space audit master record, the space audit process evaluates allocated spaces only. For each space level allocation record that is in the Active state, a space audit allocation history record is created. Finally, each new space audit allocation history record is associated to, and listed in, the space audit master record that activated the audit process.

If you did not select active space allocation in the space audit master record, the space audit process evaluates all spaces. For each space within the floor, a space audit record is created. For each new space audit record, a list of space allocations is retrieved for the related space. Next, for each space allocation, a space audit allocation history record is created and associated to the new space audit record. Finally, the new space audit records are listed in the space audit master record that activated the audit process.

The following figure shows the difference between active and non-active space allocation.

Space audit process - when using active space allocation

| Space audit master | → | Space allocation history (For allocated spaces) |

Space audit process - when not using active space allocation

| Space audit master | → | Space audit record (for all spaces) | → | Space allocation history (For allocated spaces) |
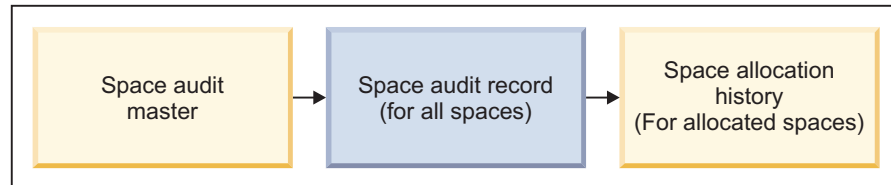
Figure 5. Active versus non-active space allocation

Associating spaces

You can allocate a space or area to one or more organizations. You can also assign a person or asset to one or more spaces.

Allocating spaces to organizations

You can track the prorated arrangement of organizations that are financially responsible for the space by using space-level allocations.

Procedure

1. Open a space record. If its status is Active, select the **Revise** action.
2. On the **Allocation** tab, in the Chargeback Allocations section, find and select one or more organizations that are financially responsible for the space.
3. In the Occupancy Allocations section, if the organizations are different from the chargeback organizations, find and select one or more organizations that are occupying the space.
4. Save or activate the record. The application generates a new space level allocation record for each associated organization.

Allocating areas to organizations

You can track the prorated arrangement of organizations that are financially responsible for the area by using area-level allocations.

Procedure

1. Open a floor record. If its status is Active, select the **Revise** action.
2. On the **Allocation** tab, in the Area Overlays section, add or open an area overlay record.
3. In the Organization Charged section, find and select one or more organizations that are financially responsible for the area.
4. Save or activate the record. The application generates a new area level allocation record for each associated organization.

Assigning people to spaces from the people record

You can track the locations of people and the occupancy of the space by using space assignments.

Procedure

1. Open a people record such as an employee. If its status is Active, select the **Revise** action.
2. On the **Locations & Assets** tab, in the Primary Location section, find and select one space.
3. In the Other Assigned Locations section, find and select one or more secondary spaces.
4. Save or activate the record.

Assigning assets to spaces

You can track the locations of assets such as furniture and equipment by using space assignments.

Procedure

1. Open an asset record such as furniture. If its status is Active, select the **Revise** action.
2. In the Details section, select a primary location.
3. In the Asset Status section, select the **Assign** action.
4. Specify the details, find and select one person, and select the **Continue** action.
5. Save or activate the record.

Chapter 7. Reference information

Reference information includes information about DataConnect staging table fields, job control business objects, and workflows that are configured for geography, organization, location, and people portfolio data.

Portfolio data overview

Portfolio data is the core information that you use to manage workplaces. Your portfolio includes information about the geographies, organizations, locations, and people that are associated with the space that you manage.

Related tasks:

"Migrating portfolio data" on page 17
You can use configured integration objects and associated template files to import geography, organization, location, and people portfolio data into IBM TRIRIGA DataConnect staging tables. The integration objects and template files are provided in a data migration package.

Geography overview

You use geographic information to represent the places where you manage organizations. Geography records represent a place on a map.

Generally, organizations are spread across multiple geographic areas or around the globe. To effectively manage these organizations, you must also manage the geographical areas. With the geography feature in IBM TRIRIGA, you can track and manage the various geographic areas where your company, facilities, and resources are located. You can enter information to link the geography record to a geographic information system (GIS).

You can build a hierarchical structure of geographic areas. Your hierarchy can include a combination of world region, country, state, region, metropolitan area, county, and city. You can build a hierarchy with as many layers or levels as you need.
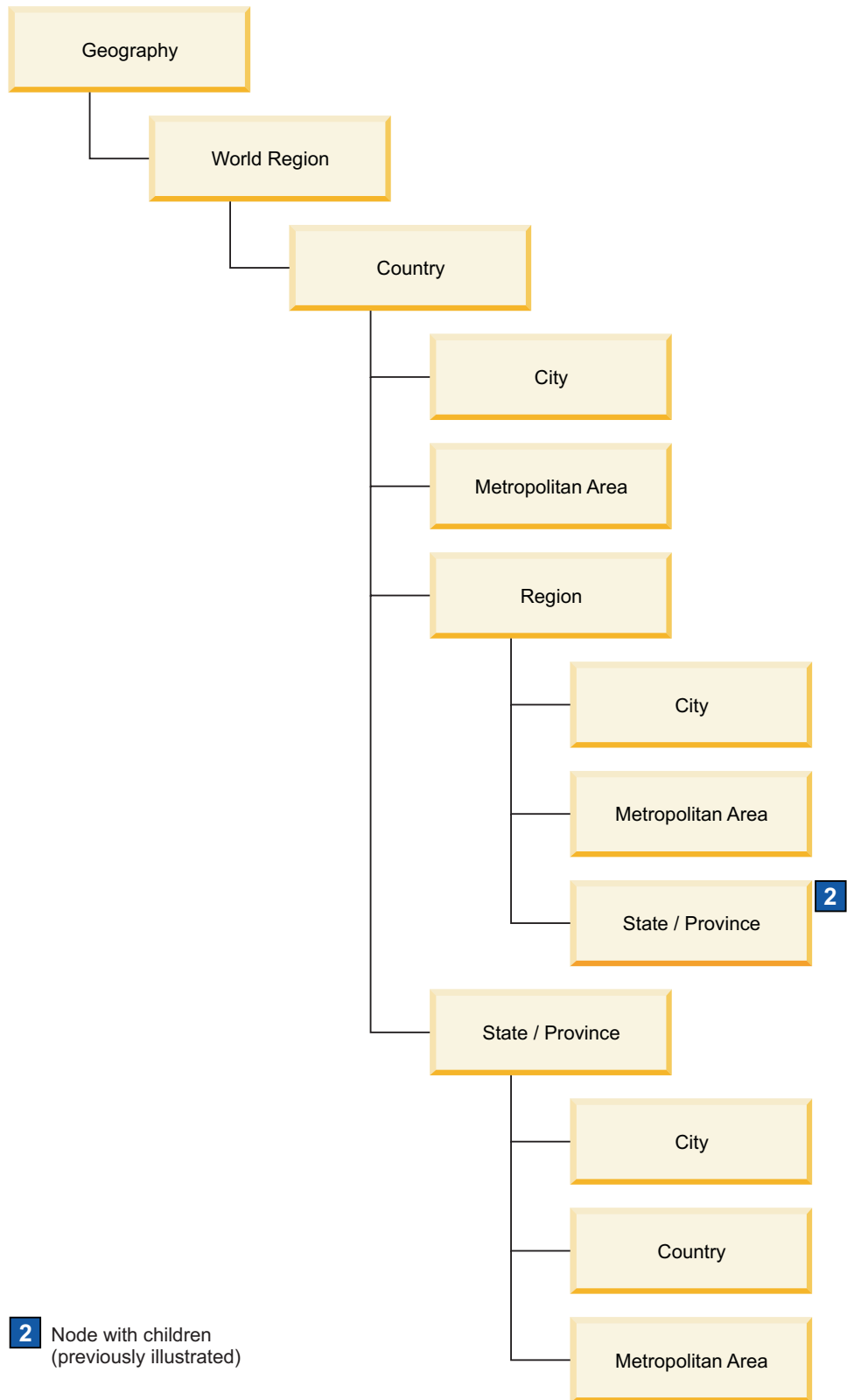
Figure 6. Geography hierarchy example

Organizations overview

Organizations are used to define the hierarchical structure of your company. Organizations can also represent external companies that you do business with, such as vendors, co-tenants, partners, and customers.

Organizations are parents to locations, which have people who use the assets that you manage. You use the organization data when you complete various processes in IBM TRIRIGA, such as allocating space, managing moves, and managing leases and contracts.

The organization structure is hierarchical. You set up your organizations based on their relationships with each other. You can add as many divisions and departments as necessary to represent the structure of the organization. For example, you can model your organization tree after your corporate human resources system.

Hierarchical relationships can be recursive. For example, divisions can have child divisions and departments can have child departments. You can build a hierarchy with as many layers or levels as you need.

Figure 7. Organization hierarchy example
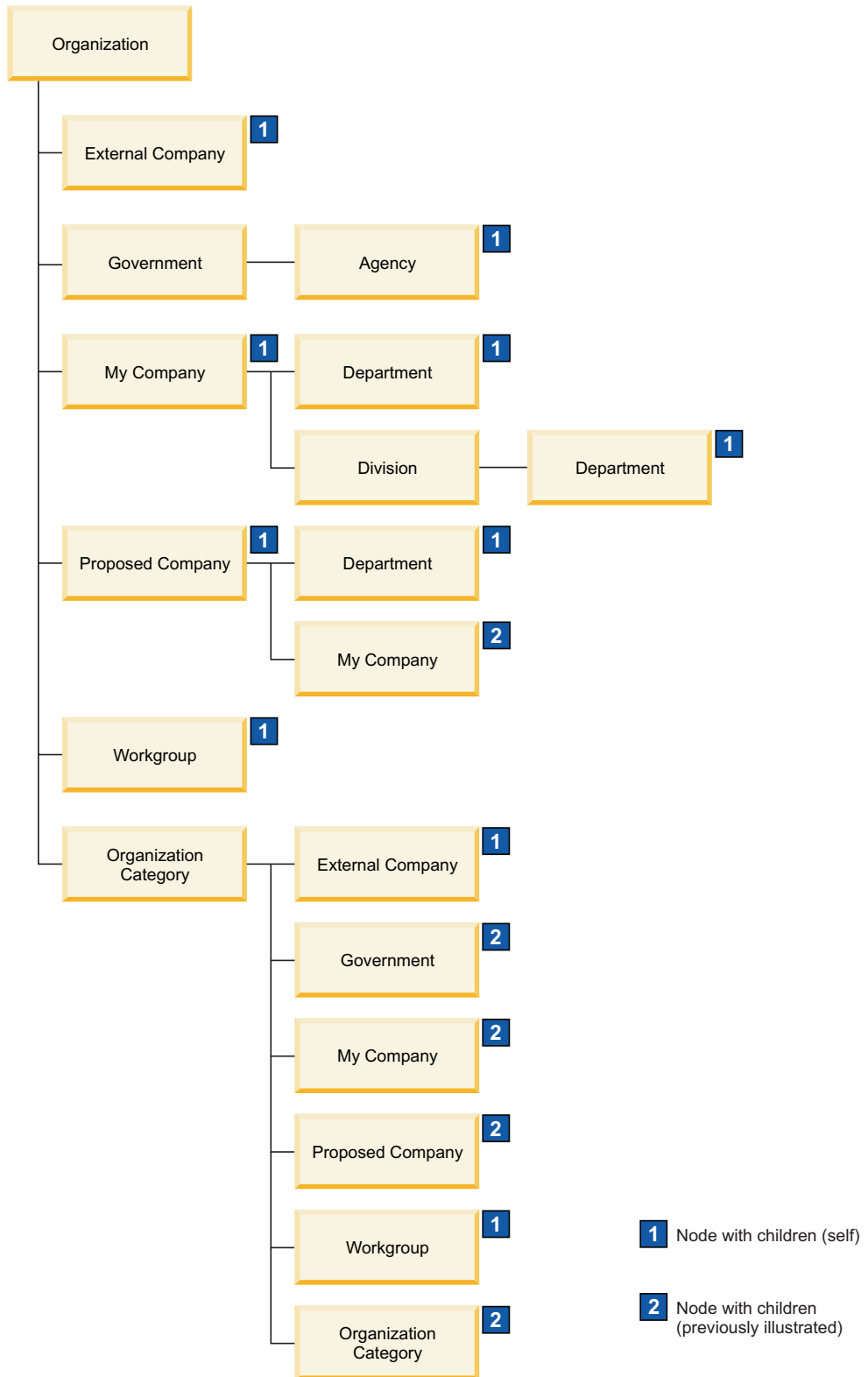
Contact roles

A role-based system is used for managing contacts. You can designate the role of
the contact, such as Manager, Primary Contact, or Human Resources, and select the

person who is filling that role. Approvals and notifications can be based on the contact role for a record. If the person who is filling the role changes, the replacement person receives the notifications. For example, when the status of an organization changes, you might want to notify the Human Resources contact. Whoever is filling that role at the time of the change is sent the notification.

Space details

Adjacency requirements enable you to define the space planning relationship between two organizations.

With space level allocations, you can define the areas or spaces that organizations use or manage, for use analysis and charge back purposes. When an organization is associated to a space with a type of Charged To, an active Space Level Allocation record is created. When you remove the association, the system maintains the record for historical and reporting purposes but moves it to a retired status.

Environmental details

You can record environmental data at the organization level or at the location level. The environmental information is used by the application.

Locations overview

Locations are the places of business that belong to or are managed by your organization or your customer's organizations.

Locations include properties, land, buildings, structures, floors, spaces, retail centers, and retail locations that your organization uses or manages.

You use the location information when you complete various processes in IBM TRIRIGA, such as allocating space, managing moves, and managing leases and contracts. Any location can be made available to be reserved by selecting the **Reservable** field on the **General** tab for the location. Use the **Reserve** tab to set the reservation availability calendar and the cost and usage units details.

The location structure is hierarchical. You set up your locations based on their relationships with each other. You can build a hierarchy with as many layers or levels as you need in order to reflect the structure of your organization. For example, your organization might own property with multiple buildings. Those buildings might have multiple floors, and each of the floors might have multiple spaces.

Location

Building
Floor
Space [1]
Vertical Shaft

External Retail Location
Floor
Vertical Shaft [2]

Land

Property
Building [2]
Land
Structure [2]

Proposed Retail Location

Proposed Site

Retail Center
Building [2]
External Retail Location [2]
Land
Retail Location [2]
Structure [2]

Retail Location
Floor [2]
Vertical Shaft

Structure
Floor [2]
Vertical Shaft

Location Category
Building [2]
External Retail Location [2]
Land
Location Category [2]
Property [2]
Proposed Retail Location
Proposed Site
Retail Center [2]
Retail Location [2]
Structure [2]

[1] Node with children (self)

[2] Node with children (previously illustrated)

Figure 8. Location hierarchy example

Environmental details

You can record environmental data at the organization level or at the location level. The environmental information is used by the IBM TRIRIGA Real Estate Environmental Sustainability application.

Contact roles

A role-based system is used for managing contacts. You can designate the role of the contact, such as Manager, Primary Contact, or Human Resources, and select the person who is filling that role. Approvals and notifications can be based on the contact role for a record. If the person who is filling the role changes, the replacement person receives the notifications. For example, when the status of a

location changes, you might want to notify the facilities contact. Whoever is filling that role at the time of the change is sent the notification.

Facility assessment

The facility assessment process provides analysis of the existing and projected future condition of facilities and building systems and assets within those facilities. This process determines the immediate and long-term cost liabilities for the assessed building systems. It enables an organization to address operational requirements along with required funding requirements. As a result, buildings, structures, systems, and assets are maintained in a proactive manner. Property, land, building, structure, and asset records hold the primary Facility Assessment data.

For more information, see the *IBM TRIRIGA 10 Facility Assessment User Guide.*

People overview

People are resources that are managed in relation to their space and asset allocations. People can include employees, consultants, and external contacts such as vendors and suppliers.

With people records, you can track and monitor resources. You assign people to organizations and spaces and you can associate assets with the people. You use the information about people when you complete processes such as managing spaces and moves. You might, for example, have a list of all of the employees in a particular building. You can track details about work location, project allocation, and assets that are assigned to employees. As well, you can manage a person's work schedule or availability.

In order for a person to gain access to the IBM TRIRIGA applications, that person must also be a valid user in the system. You define the person as an IBM TRIRIGA user in their Employee, Consultant, or External Contact record. All active users have a **My Profile** record that can be accessed from the user's portal home page. The **My Profile** record allows each user to personalize aspects of the system such as the formatting of date and time fields, the default time zone and currency, display colors for graphs, notification preferences, and reservation preferences. Changes to fields that are common between a user's My Profile record and the user's Employee, Consultant, or External Contact record become synchronized.

DataConnect staging table fields

The properties for staging table fields identify the fields in business object records that you can import data into. When you create the staging tables for geography, organization, location, and people business objects, the configured staging table fields are included in the staging tables.

Geography business object staging table fields

When you create the staging tables for geography business objects, the associated staging table fields are included in the staging tables.

triWorldRegion business object

The following table lists the fields that are included in the staging table for the triWorldRegion business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triGisLinkNameTX	GIS Link Name

triCountry business object

The following table lists the fields that are included in the staging table for the triCountry business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triFedGLCTX	Geography Location Code
triGisLinkNameTX	GIS Link Name
triCountryCodeTX	Country Code

triState business object

The following table lists the fields that are included in the staging table for the triState business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triFedGLCTX	Geography Location Code
triGisLinkNameTX	GIS Link Name
triCountryCodeTX	Country Code

triCounty business object

The following table lists the fields that are included in the staging table for the triCounty business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triFedGLCTX	Geography Location Code
triGisLinkNameTX	GIS Link Name
triCountryCodeTX	Country Code

triCity business object

The following table lists the fields that are included in the staging table for the
triCity business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triFedGLCTX	Geography Location Code
triGisLinkNameTX	GIS Link Name
triCountryCodeTX	Country Code

Organization business object staging table fields

When you create the staging tables for organization business objects, the associated
staging table fields are included in the staging tables.

Organization business object

The following table lists the fields that are included in the staging table for the
organization business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triOrgTypeCL	Organization Type
triAddressTX	Address
triZipPostalTX	Zip/Postal Code
triGeographyLookupTX	Geography Lookup
triMaintenanceCenterCL	Maintenance Center
triWorkGroupClassCL	Work Group Class

Location business object staging table fields

When you create the staging tables for location business objects, the associated
staging table fields are included in the staging tables.

Location business object

The following table lists the fields that are included in the staging table for the
location business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name

triProperty business object

The following table lists the fields that are included in the staging table for the triProperty business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triPropertyClassCL	Property Class
triCurrencyUO	Currency
triAreaUO	Area Units
triLengthUO	Length Units
triAddressTX	Address
triZipPostalTX	Zip/Postal Code
triGeographyLookupTX	Geography

triBuilding business object

The following table lists the fields that are included in the staging table for the triBuilding business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triBuildingClassCL	Building Class
triPrimaryUseCL	Primary Use
triActiveStartDA	In Service Date
triAddressTX	Address
triZipPostalTX	Zip/Postal Code
triGeographyLookupTX	Geography
triMainPhoneTX	Main Phone
triMainFaxTX	Main Fax

triFloor business object

The following table lists the fields that are included in the staging table for the triFloor business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triLevelNU	Floor Level
triAreaUO	Area Units

Field name	Field label
triGrossAreaNumNU	Gross Area
triGrossMAreaNU	Gross Measured Area

triSpace business object

The following table lists the fields that are included in the staging table for the triSpace business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triNameTX	Name
triAreaNU	Area
triAreaUO	Area Units
triNameTX	Current Use Space Class
triCapacityNU	Capacity

People business object staging table fields

When you create the staging tables for people business objects, the associated staging table fields are included in the staging tables.

triPeople business object

The following table lists the fields that are included in the staging table for the triPeople business object.

Field name	Field label
triIdTX	ID
triStatusCL	Status
triLastNameTX	Last Name
triFirstNameTX	First Name
triPrefixLI	Prefix
triFunctionalRoleCL	Functional Role
triPathTX	Organization path
triWorkPhoneTX	Work Phone
triMobileTX	Mobile
triEmailTX	Email
triPathTX	Location path
triUserNameTX	User Name
triCreateUserBL	Active TRIRIGA User?
triPeopleTemplateTX	Name of People Template
triAddressTX	Address
triZipPostalTX	Zip/Postal Code
triGeographyLookupTX	Geography Lookup

Field name	Field label
triCityTX	**City**
triStateProvTX	**State/Province**
triCountryTX	**Country**

Integration objects for portfolio data import

You can import geography, organization, location, and people portfolio data from an external source into DataConnect staging tables by using configured integration objects and template files.

When the portfolio data is in the staging table, DataConnect automatically creates the business object records by using the configured job control and workflow. For more information about integration objects, see the *IBM TRIRIGA Application Platform 3: Connector User Guide*.

Integration objects for geography portfolio data

The following table describes the integration objects and the template files that you can use to import geography portfolio data into DataConnect staging tables.

Integration objects	Template
DC - Portfolio - Geography - World Region	DataKit_Portfolio_Geo.xls
DC - Portfolio - Geography - Country	DataKit_Portfolio_Geo.xls
DC - Portfolio - Geography - State	DataKit_Portfolio_Geo.xls
DC - Portfolio - Geography - County	DataKit_Portfolio_Geo.xls
DC - Portfolio - Geography - City	DataKit_Portfolio_Geo.xls

Integration objects for organization portfolio data

The following table describes the integration objects and the template files that you can use to import organization portfolio data into DataConnect staging tables.

Integration objects	Template
DC - Portfolio - Organization - Organization Category	DataKit_Portfolio_Organization.xls
DC - Portfolio - Organization - My Company	DataKit_Portfolio_Organization.xls
DC - Portfolio - Organization - Division	DataKit_Portfolio_Organization.xls
DC - Portfolio - Organization - Department	DataKit_Portfolio_Organization.xls
DC - Portfolio - Organization - External Company	DataKit_Portfolio_Organization.xls
DC - Portfolio - Organization - Workgroup	DataKit_Portfolio_Organization.xls

Integration objects for location portfolio data

The following table describes the integration objects and the template files that you can use to import location portfolio data into DataConnect staging tables.

Integration objects	Template
DC - Portfolio - Location - Location Category	DataKit_Portfolio_Location.xls
DC - Portfolio - Location - Property	DataKit_Portfolio_Location.xls
DC - Portfolio - Location - Building	DataKit_Portfolio_Location.xls
DC - Portfolio - Location - Floor	DataKit_Portfolio_Location.xls
DC - Portfolio - Location - Space	DataKit_Portfolio_Location.xls

Integration objects for people portfolio data

The following table describes the integration objects and the template files that you can use to import people portfolio data into DataConnect staging tables.

To create the relationships between people, such as a manager and employee, use the DC - Portfolio - People - Reports To DTO integration object after the business object records are created from the people portfolio data.

Integration objects	Template
DC - Portfolio - People - Employee	DataKit_Portfolio_People.xls
DC - Portfolio - People - Consultant	DataKit_Portfolio_People.xls
DC - Portfolio - People - External Contact	DataKit_Portfolio_People.xls
DC - Portfolio - People - Reports To DTO	DataKit_Portfolio_People.xls

DataConnect job control business objects and workflows

For every business object record that you import data into, a job control business object and workflow must exist. The job control business object manages the process that moves the data from DataConnect staging tables into business object records. The workflows transfer the data from the staging tables into the appropriate business object record. DataConnect job control business objects and workflows are configured and provided for geography, organization, location, and people portfolio data.

Geography module

The job control business object for each portfolio business object is available in the triDataConnectJob module in the Data Modeler application.

The following table describes the job control business objects and workflows for geography business objects.

Business object	Job control business object	Workflows
triWorldRegion	triDCGeoWorldRegionJob	triDCGeoWorldRegionJob - SYSTEM DC PROCESS JOB
triCountry	triDCGeoCountryJob	triDCGeoCountryJob - SYSTEM DC PROCESS JOB
triState	triDCGeoStateJob	triDCGeoStateJob - SYSTEM DC PROCESS JOB
triCounty	triDCGeoCountyJob	triDCGeoCountyJob - SYSTEM DC PROCESS JOB

Business object	Job control business object	Workflows
triCity	triDCGeoCityJob	triDCGeoCityJob - SYSTEM DC PROCESS JOB

Organization module

The following table describes the job control business object and workflow for organization business objects.

Business object	Job control business object	Workflows
Organization	triDCOrgOrganizationJob	triDCOrgOrganizationJob - SYSTEM DC PROCESS JOB

Location module

The following table describes the job control business objects and workflows for location business objects.

Business object	Job control business object	Workflows
Location	triDCLocLocationJob	triDCLocLocationJob - SYSTEM DC PROCESS JOB
triProperty	triDCLocPropertyJob	triDCLocPropertyJob - SYSTEM DC PROCESS JOB
triBuilding	triDCLocBuildingJob	triDCLocBuildingJob - SYSTEM DC PROCESS JOB
triFloor	triDCLocFloorJob	triDCLocFloorJob - SYSTEM DC PROCESS JOB
triSpace	triDCLocSpaceJob	triDCLocSpaceJob - SYSTEM DC PROCESS JOB

People module

The following table describes the job control business object and workflow for people business objects.

Business object	Job control business object	Workflow
triPeople	triDCPeopPeopleJob	triDCPeopPeopleJob - SYSTEM DC PROCESS JOB

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