

Aras Corporation

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Login to Innovator

1. Open Internet Explorer and type in the URL configured for your system.

The Login dialog box appears.



Figure 1

2. Enter User Name:
3. Password:
4. Select a database:

Navigating around the Innovator Window

TOC Tree

The TOC (Table of Contents) tree, the Innovator section on the left window pane of the management console, is the main tree for navigating within Innovator. It is used to view, create and modify information. It consists of Categories (Folders) that provide access to the Items within Innovator. The default Categories includes all Innovators' Product Solutions:

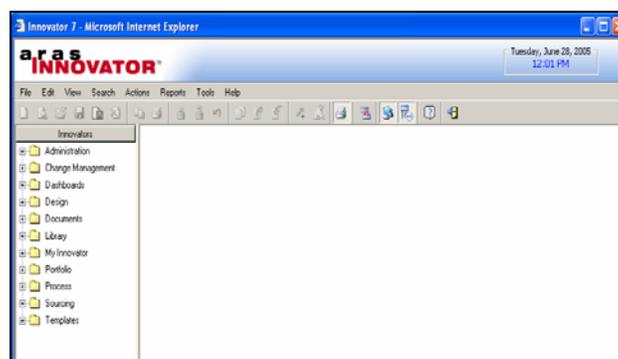


Figure 2

- Admin Core
- Quality Planning
- Product Engineering
- Program Management

To view and access items under a category expand the branch by clicking the “+” to the left of the category name. Typically, the right-most pane displays the search grid listing all selected Items for the selected category.

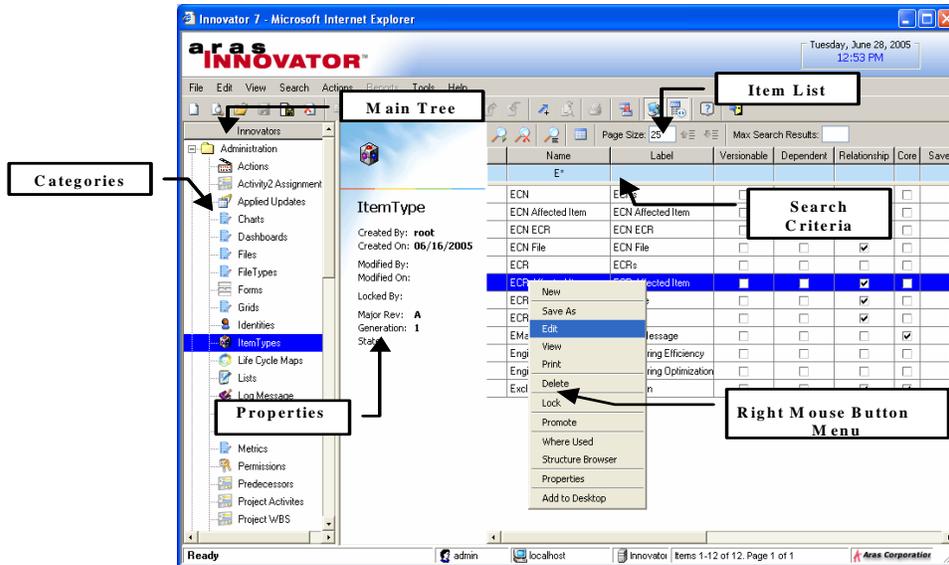


Figure 3

The Administration folder contains items used by the administrator to configure the system.

The Menu Bar

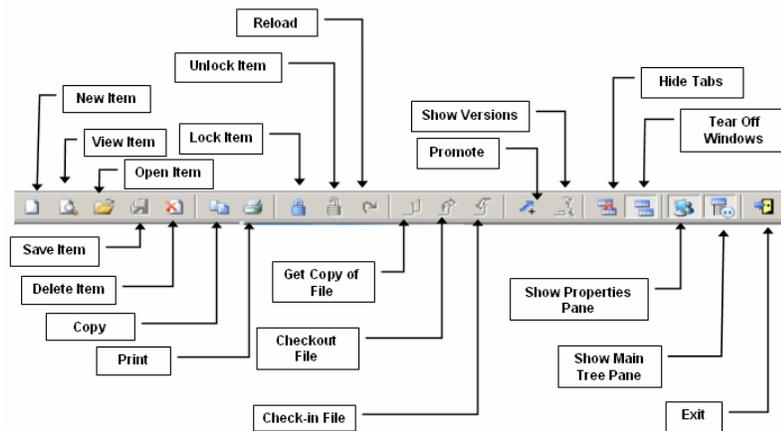


Figure 4

View Properties

You can customize the TOC tree and Main Innovator window by showing or hiding the properties.

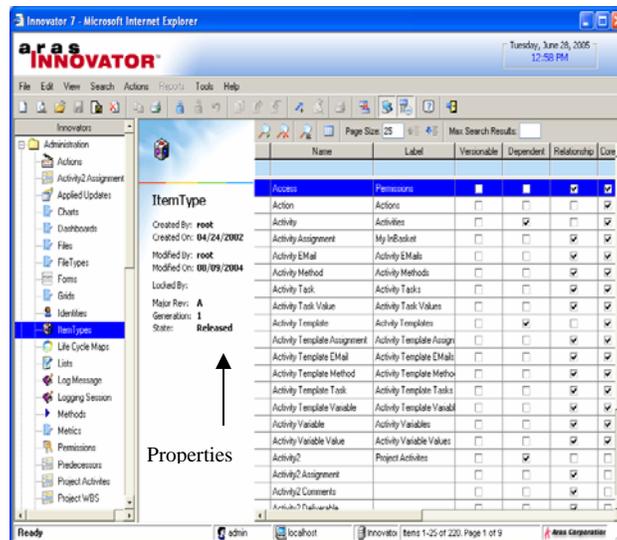


Figure 5

The properties for a particular Item are displayed on left side of the Main Innovator window. The creator and date of the object, who modified it and when, whether it's locked and by whom, are examples of the Item properties displayed. Major_Rev and Generation are used to keep track of the revisions of an Item when Versioning is enabled. State displays the state of the Life Cycle Map set in the ItemType.

Hide the properties:

1. Click on the Show Properties  icon on the toolbar. This will deactivate the icon and hide the properties.
2. Click on the Hide Tree  icon on the toolbar. The TOC tree will no longer be visible.

Searching/Filtering

When you expand a Category or select an Item in the tree, what gets displayed in the right-hand pane will depend upon how your version of Innovator has been configured. If no changes have been made to the standard configuration, Innovator defaults to a search grid displaying the data for that item.

For most ItemTypes, clicking on a category, defaults to a search display grid for the ItemType. To retrieve a limited amount of results per page, enter a 'Page Size' value to specify the maximum number of lines per page and select the Run Search  icon, use the Next Page  icon to display the next page of search results. Entering a value for Max search results will return only the number of search results specified.

The search grid can be filtered using the Search criteria line above the grid. Highlighting an Item enables selection of applicable actions (i.e., View, Edit, Lock, Unlock, etc) through the main menu, toolbar icons, or right mouse button menus.

There are several search options available to help define and refine searches. The search options are available by selecting Search from the main menu.

- Simple Mode
- Advanced Mode
- Form Mode

Simple Mode

Simple Mode is the default mode in Innovator. Simple Mode is used when searching for data by name or using one or more inexact character matches. One or more property labels can be used to define the search criteria. Property labels that have a Boolean data type can also be used to search for data by entering a 1 or 0 in the search criteria line.

There are three search icons available:



Run Search



Clear Search Criteria



Lookup

Run Search will display a list of all items where the search criteria are found to be true. Clear Search Criteria will remove all previous criteria from the blue criteria line. Lookup would be used to search for linked information such as a source ItemType for a relationship.

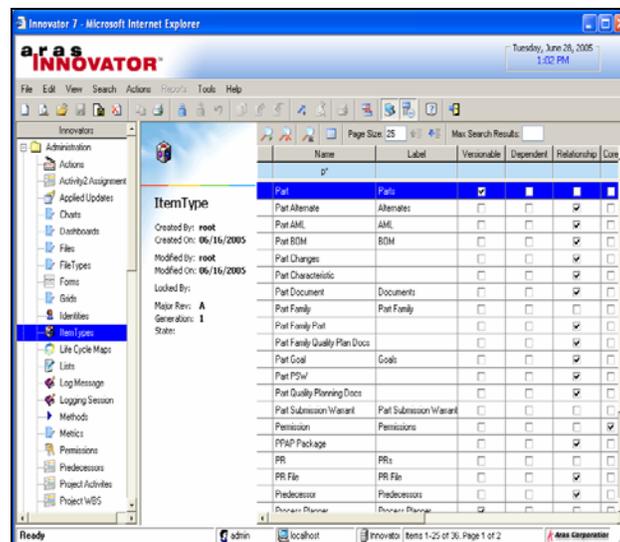


Figure 6

Exercise 1

Run a search in Simple Mode

1. In the TOC tree click on the “+” to the left of Administration to expand the folder.

There are a number of different ways to perform a search in the Innovator window.

2. From the category list, click on ItemTypes and do one of the following:
 - From the menu bar click Search/Run Search.
 - In the main Innovator window click on the Run Search  icon.
 - Right click on the category and choose List All.

To run a customized search, for example, to search for a particular ItemType by name:

3. Click into the blue line below the Name property label, and type the name you wish to search for.

Alternatively, you can search using a wildcard to replace (n) characters in the search string. The wildcards are the * (asterisk) or % (percent) in front or behind the string of characters, for example, if you enter a P* or P%, then the result will return any item where the name begins with a P. Upper or lower case can be used in the criteria line as it is not case sensitive. Using a wildcard in front and after the letter will return results where the character, or character sting, is found anywhere in the name.

Note: To use wildcard characters in your search, make sure that Search/Use Wildcards from the menu bar is checked.

To clear the search criteria for a new search:

4. Click on the Clear Search  icon on the toolbar.

Append Results

When setting your search criteria, whether it be Simple, Advanced or Form mode, the logical operator AND takes effect. This means all search criteria entered must be true or the data will not be displayed. However, sometimes you wish to search for data using the logical operator OR.

To do this from the menu bar select Append Results. This allows for multiple search criteria to be entered and data to be displayed if any one criterion is met.

View a search using Append Results

1. From the menu bar Select Simple Mode and make sure Append Results is checked.

Note: Append Results will work with all search modes.

2. Enter the M* or M% in the blue criteria line below the Name and click the Run Search  icon on the toolbar.

The results should display all ItemTypes with the name beginning with “M”.

3. Enter the F* or F% in the blue criteria line below the Name and click the Run Search  icon on the toolbar.

Now the displayed results should list all ItemTypes where the name begins with an “M” or an “F”.

Note: Remember to unselect the Append Results if you are searching for data using the AND operator.

The Part ItemType

The definitions, rules and behavior required over all the created items are setup in an ItemType. Innovator Solutions comes with a number of predefined ItemTypes. One of those ItemTypes is called Part. To view the Part the ItemType:

1. From the TOC tree click on the “+” next to the Administration folder to expand the contents.
2. From the TOC tree, select ItemTypes.
3. Type P* in the search criteria line and click on the Run Search  icon on the toolbar

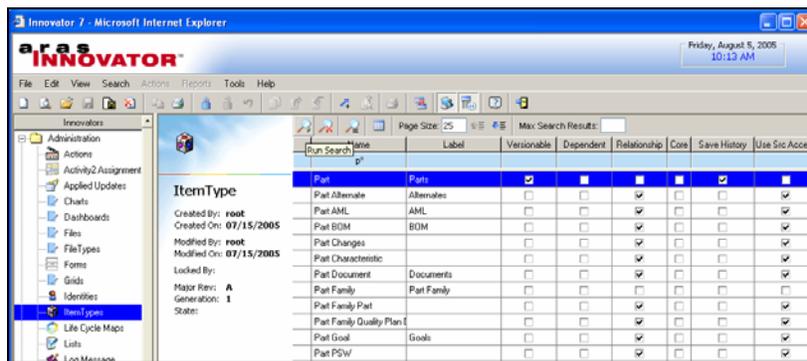


Figure 7

4. Select Part from the list, right click and choose View.

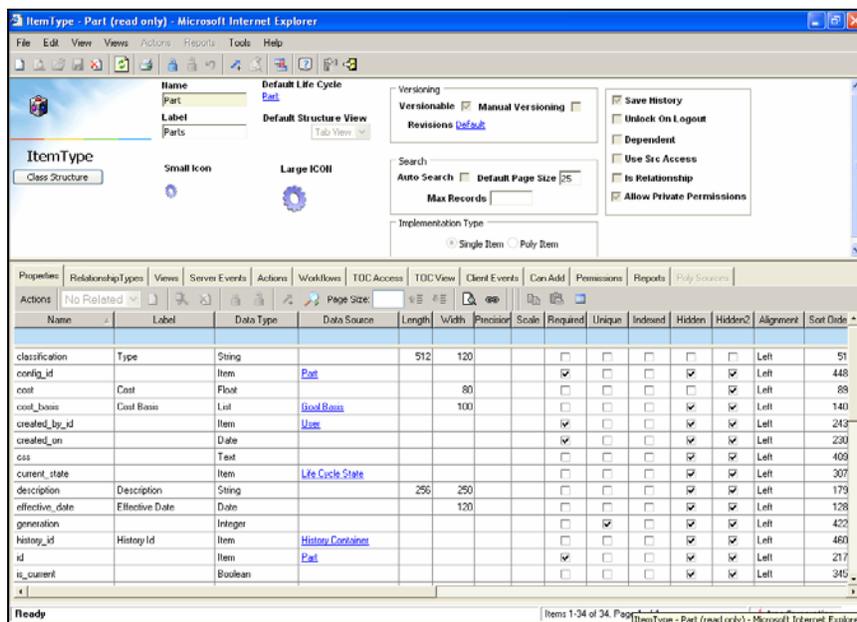


Figure 8

The Part ItemType contains all the property and id information necessary to create a part.

The following table defines the properties in the upper form area of an ItemType definition window.

| Label | Description |
|---------------------------|---|
| Versionable | Enable revision tracking of items with generation and major changes |
| Manual Versioning | Enable manual revision tracking of items with generation and major changes. |
| Revisions | Default format for showing Major Revision i.e., A B C etc. |
| Auto Search | The browser client will automatically perform a search when the ItemType is selected |
| Default Page Size | Sets the default page size for the search grid for the ItemType |
| Max Records | Maximum number of records returned for a search |
| Implementation Type | Single Item or Poly Item. A Poly Item is an ItemType that has Deliverables attached |
| Save History | Saves the history of an Item instance for this ItemType |
| Unlock on Logout | Automatically unlocks the Item instances when the user logs out |
| Dependant | ItemTypes that are dependent on other ItemTypes and would no longer be meaningful if the parent ItemType was deleted e.g., documentation for a particular part. |
| Use Src Access | Relationship ItemType, related items will use permissions controlled from the source ItemType |
| Is Relationship | Is checked if it is a Relationship ItemType |
| Allow Private Permissions | Allows users to assign private permissions to an Item instance of given Can Change Access in the permission tab |

Setting the Structure View to Tab will allow the user to see the relationship section of the Item instance Form.

ItemType Lower Toolbar

The lower toolbar of an ItemType Form is used to populate, search and edit the lower grid of the ItemType.

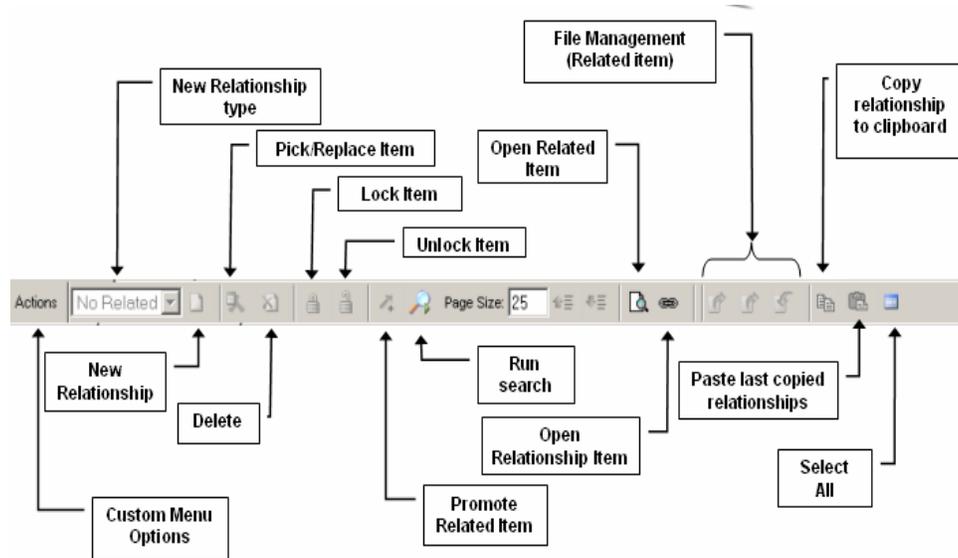


Figure 9

The following table defines the properties in the lower form area of the ItemType definition window.

| Tab Heading | Description |
|--------------------|---|
| Properties | List of core and custom field properties that describe the ItemType |
| Relationship Types | Assign the related ItemType and name the Relationship ItemType |
| Views | Assigns specific Forms to specific Identities, e.g., to view, edit, etc. |
| Server Events | Events that are executed on the server based on specified actions |
| Actions | Methods that are bound to an ItemType and appear in the 'Actions' menu for the Item instance |
| Workflows | Defines the Workflow Map that can be started on Item instances |
| TOC Access | Enables control of the Item displayed within TOC tree under selected categories for unique Identities |
| TOC View | Assigns a customized HTML page to appear when the Item is |

| Tab Heading | Description |
|--------------------|--|
| | selected in the TOC tree |
| Can Add | Assigns Identities Add privileges to create an Item instance |
| Permissions | Assigns Permissions to Get, Update, Delete and Can change access privileges when creating an Item instance |
| Reports | Assigns Reports that can be run from Item instances of this ItemType |

Property Tab Field Headings

| Tab Heading | Description |
|--------------------|--|
| Name | Unique internal name of the property field |
| Label | Name (string) of the property field displayed in Item |
| Data Type | Determines the Data Type for a particular property, examples:- Date, String, Integer etc. |
| DataSource | Binds the property to an existing ItemType as the source |
| Length | Sets the maximum number of characters for value of a string Data Type |
| Precision | For properties of Data Type= "Decimal", Precision sets the total number of digits both left and right of the decimal point. When Data Type = "Float" Precision sets the number of digits to the right of the decimal point |
| Scale | Sets the number of digits to the right of the decimal point in the Data Type="Decimal" |
| Required | Property value of Item instance cannot be NULL. |
| Unique | Property value of Item instance must be unique |
| Hidden | Controls the column visibility of the property in the search grid area of the Item instance |
| Hidden2 | Controls the column visibility of relationship tab in the source item search grid |
| Alignment | Determine word alignment of property column in search grid |

| Tab Heading | Description |
|------------------|---|
| Width | The default column size of property (in pixels) |
| Sort Order | Integer values that controls the relative position of columns in search grid display with lower values left to right. |
| Keyed Name Order | Assigns the order and field name used when referencing an Item instance. For example, Keyed Name Order value of 1 in the Firstname field and 2 in the Lastname field would generate a keyed name in the form "John Jones". The keyed name is the name that will be used in system messages to refer to the Item. If no keyed name for an ItemType is specified, a randomly generated internal name will be used |
| Order By | Integer value that controls the sort order of the Items displayed in the grid. Example, sort by Date. |
| Default Value | Sets the initial value of property. Blank represents a NULL value |
| Default Search | Sets the initial search value as displayed in the header row of the search grid |
| Pattern | Pattern is used to validate the data for the property on the server to a regular expression, e.g., define patterns like phone numbers, social security numbers, email addresses, etc., define Filter List property to the source list that is used to control the filter value, define the formats to display date and time. Examples of date and time formats are listed below |
| Class Path | Specifies the class path within the ItemType Class Structure to which this property belongs |
| Foreign Property | Include a property from another ItemType for a field with Data Type= "Item". |
| Tooltip | Assign a Tooltip to a button |
| Help Text | Assign help text when creating an Item instance from this ItemType |
| Item Behavior | Defines the behavior of an Item in its Life Cycle. |

Data Type Property Values

| Data Type | Description | Data Source |
|----------------|---|--------------------------------|
| Boolean | Value can only be True or False | N/A |
| Color | Value is hex value selectable from color chart widget | N/A |
| Color List | Value is limited to hex value defined in the DataSource 'Color List' | List defined with color values |
| Date | Value is date (month/day/year) selectable from calendar widget | N/A |
| Decimal | Value is numeric for which precision and scale values can be specified | N/A |
| Float | Value is floating-point arithmetic value; uses a precision value for the number of decimal places | N/A |
| Formatted Text | Value is defined by rich text using HTML tags | N/A |
| Image | Value is a path to a image file | Image ItemType |
| Integer | Value is integer arithmetic value. Integer fields cannot contain decimal points | N/A |
| Item | Value return is the property value from the selected source ItemType | ItemType |
| List | Value is from a list defined in the Data Source List item | List ItemType |
| Filter List | Value is subset list from determined by "filter value" string property defined in source ItemType Filter List | Filter List ItemType |
| Sequence | Value is determined by next available value defined by the data source 'Sequence' item | Sequence ItemType |
| String | Value is a text string with maximum character length determined by length property | N/A |
| Text | Value is a text area with maximum character length governed on the database | N/A |

| Data Type | Description | Data Source |
|------------------|---|----------------------------|
| MD5 | Value is hashed by MD5 algorithm | N/A |
| Federated | Properties that do not result in columns in the Item instance table but do create fields of type text in the form for the properties | N/A |
| Formatted Text | Will display as text in the search grid, but will display as formatted in Form view and can be edited using the Innovator Formatted Text editor | |
| Foreign | Show additional properties of an ItemType, which lives on another ItemType as a property of Data Type= "Item" | Foreign Property Selection |

Date/Time Formatting

Listed below are the correct formats for date and time input into the Pattern field.

Note: Date/Time symbols ARE case sensitive

| Date Format | Return |
|--------------------|-----------------------|
| M/dd/yy | 3/06/05 |
| MM/dd/yyyy | 03/04/2005 |
| MM/dd/yyyy h:m:s a | 03/30/2005 5:27:32 PM |
| MM/dd/yy H:m | 03/30/2005 17:27 |
| M/dd/yy h:m a | 3/30/05 10:30 AM |

Access Control

Locking an ItemType

To edit an Item in Innovator, the Item must be locked. Locking Items prevents multiple users from modifying the same Item at the same time. If a user modifies an Item and closes without saving, the yellow lock  icon will appear to the left of the Item, if the Item is saved the lock  icon will appear in white. To edit or make any changes to this ItemType it must remain locked.

Users may search for Items using the 'Lock' column on the Simple Search screen. Just click in the search line above the lock column, a pop-up list will appear.

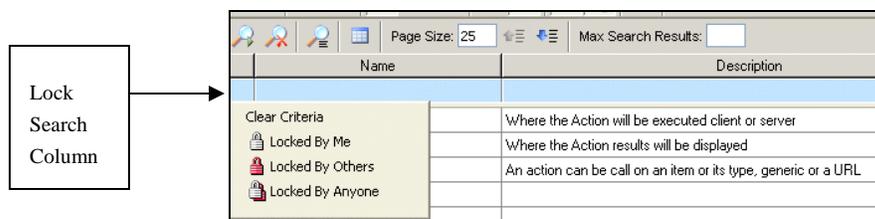


Figure 10

-  Red - Locked by others
-  Yellow - Locked by you, but not saved
-  White - Locked by you and saved
-  White & Red - Locked by anyone

The user can then select the particular lock type they wish filter by.

1. Click the Lock  icon on the toolbar.
2. Click on the Close  icon on the toolbar.

Clicking the close  icon will close the ItemType, but not unlock it. The Show Properties section of the main Innovator window will display the name of the logon user that has the ItemType locked for editing. To unlock it, right click and choose Unlock from the context menu. A locked Item can only be unlocked by the user who initiated the lock originally or Admin.

When editing an ItemType, if you double click on the ItemType instead of right clicking and choosing Edit, the ItemType will open but will remain Unlocked. To make any changes to this ItemType you must lock it by clicking on the Lock  icon.

3. To close an ItemType and save it at the same time, click the Save, Unlock & Close  icon on the toolbar.

TOC Access

TOC Access is used to determine which Identities can view the Item in the TOC tree and which category, if required, to assign it to. If an Item is not assigned to a category it will be displayed directly on the TOC tree below the Administration folder. When an ItemType has TOC access, the assigned Identities only have rights to view the Item, they cannot create a new Item unless given Can Add access.

Can Add

Identities must be assigned Can Add access in the ItemType to be able to create a new Item instance. However, although they can create new Item instances and save the Item they cannot unlock it for editing unless they have permission to do so.

Users

Users

Access to Innovator is initiated with a logon authentication process. A Logon User is defined by a User Login name, a Password, a User Identity association, and optional profile information. All Logon User names must be unique within an Innovator installation.

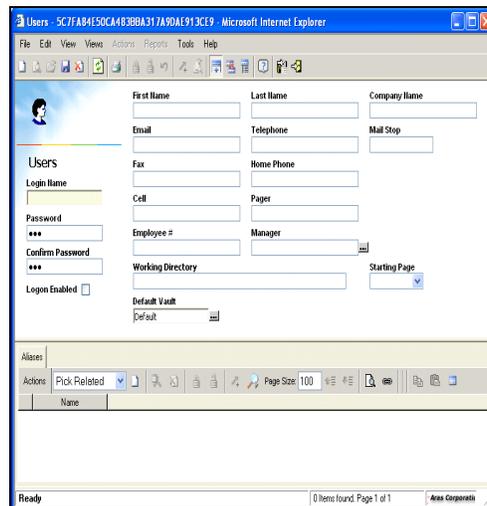


Figure 11

Exercise 2

Create a new user:

1. In the TOC Tree select Users, New Users
2. Enter the First Name NICK, Last Name PIERCE.
3. Enter NPIERCE for the Logon Name
4. Enter 1 for the Password.
5. Enter a check mark for Enable Logon.

Note: If Check Logon Enabled is left unchecked the user will not be able to login to Innovator

6. Click on the Save  icon on the toolbar.

When creating a new user, either a first or last name is required. Upon the initial save, a User Identity is created using the first and last name fields as available. The new User Identity will appear in the Alias tab. If you cannot see the tab section in the dialog box it means the Hide Tabs icon is in effect, click on the Hide Tab icon so the Alias tab appears.

The Alias tab represents the relationship between the user logon name and the User Identity. Throughout Innovator, the user will be represented by their assigned User Identity via the Alias property. Logon names and passwords are case sensitive.

7. Click Save, Unlock & Close  icon on the toolbar.
8. Repeat steps 1-5 to create two more users JANICE SWEENEY Logon JSWEENEY & Password – 1 and HENRY VOGUE Logon HVOGUE & Password – 1.

Identities

There are two types of Identities in Innovator. One is a User Identity as explained above, and the other is a Group Identity. Group identities can contain multiple User and or Group identities. Before creating your group identities it is good practice to plan out the structure of the project and decide what each engineer or specialist is responsible for. Users may be members of multiple groups.

The User Identity is used by Innovator instead of the User ID, to define and manage access assignments. This makes it easier to reassign access privileges from one user to another. Creator is pre-defined to be whoever the logged in user was when the Item was created. World is pre-defined to be everyone. Owner & Manager are not pre-defined, but are “assignable”. They can be used in cases where a variable identity is needed.

Assign a Creator and Designated User to an Item:

1. Select Parts in the TOC tree.
2. Click on the Run Search  icon on the toolbar.
3. Select a Part in the search grid, right click and choose Edit.
4. Click on the ellipse next to Assigned Creator.
5. Click on the Run Search  icon and select Nick Pierce.
6. Repeat the above steps to assign Janice Sweeney as the Designated User.
7. Click on the Save, Unlock & Close  icon.

User Identities can be stored in Group Identities. All members of a Group Identity inherit all permissions assigned to that group. Group Identities can have other Group Identities as well as User Identities. It is good practice to use Group Identities rather than User

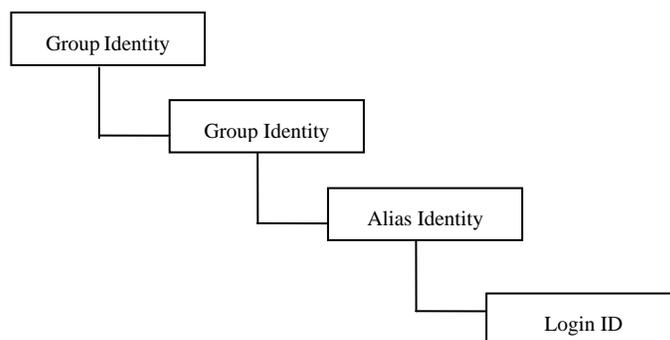


Figure 12

Creating a Group Identity

1. In the TOC Tree select Identities, right click and choose New Identities.
2. Name the Identity Engineering.

3. Click on the Member label and click on the New Relationship  icon.
4. Click the Run Search  icon. Select Nick Pierce and Henry Vogue using the CTRL key.
5. Click on the green checkmark  icon on the toolbar.

The two identities will appear as members.

6. Click Save, Unlock & Close  icon.

Innovator Solutions comes with certain identity groups already created. These identity groups are used for Project Engineering and Quality Planning. Some of these groups, such as CM, have member groups already assigned. Other groups have no members assigned; this must be done individually by each company.

Permissions

Permissions are the access rights assigned to a particular Item instance, and are created from the Permissions Item in the TOC tree. These permissions control privileges such as Get, Update, Delete and Can Change Access. Certain permissions are predefined and come with the application, one of those Permissions is called World Can Get. When a user is created they automatically become a member of an Identity called World, that World Identity is automatically included in the World Can Get permission. This Permission allows Get and Update access to World (everyone) and Get, Update, Delete and Can Change Access to Innovator Admin.

The permission called New Part is assigned to the Part ItemType. Below is the table listing the identities and rights assigned.

| Identity | Get | Update | Delete | Can Change Access |
|---------------|-----|--------|--------|-------------------|
| Aras PLM | ✓ | ✓ | ✓ | ✓ |
| Manager | ✓ | | | |
| Owner | ✓ | ✓ | ✓ | ✓ |
| Creator | ✓ | ✓ | ✓ | ✓ |
| All Employees | ✓ | | | |

Aras PLM is an identity setup to control Life Cycles. When the Workflow is at a certain point it triggers the Aras PLM identity to transition the life cycle to the next state.

Manager and Owner are assignable identities. Owner is the identity assigned as the Assigned Creator in the Part form, and the Creator is the identity who originally created the Part. Manager is the identity assigned as the Designated User.

In Innovator, each item carries its own set of permissions. These permissions control privileges as follows:

| Privileges | Definitions |
|-------------------|-------------------------------|
| Get | To view Item instances |
| Update | To edit or add Item instances |
| Delete | To Delete Item instances |
| Can Change Access | To edit or change Permissions |

When a new Item instance is created it automatically receives the permissions checked as Default under the Permissions tab for the ItemType. These are referred to as the Default Permissions.

Permissions can be changed at any time by a user who has Can Change Access. The user can:

- Change the Default Permission
- Create Private Permissions

As long as Allow Private Permissions is checked in the ItemType, the user can create a new permission that is valid for this Item only.

Permissions can be changed as the Item goes through the various state of a lifecycle. Each lifecycle state may optionally specify a new set of permissions that override the permission set in the ItemType. If no permissions are specified for a lifecycle state, then the Item keeps the permissions that it had coming into the lifecycle state.

Permissions are assigned to Identities not the User Logon, this allows for easier reassignment of privileges. Multiple Group Identities and User Identities can be assigned to the same Permissions with all having different access privileges.

Exercise 3

Creating Permissions

1. From the TOC tree select Permissions.
2. Right click or choose File/New Permissions.
3. Name the Permission Engineering Perm.
4. Click on the New Relationship  icon to the right of Pick Related.
5. In the Search criteria line enter E* or E% and click the Run Search  icon.
6. Select Engineering and click on the green  icon.
7. Enter a check mark for Get, permissions only.
8. Click on the New Relationship  icon to the right of Pick Related.
9. In the Search criteria line enter N* and click the Run Search  icon.
10. Select Nick Pierce and click on the green  icon.
11. Enter a check mark for Get, Update, Delete Can change access permissions.
12. Click on the New Relationship  icon to the right of Pick Related.
13. In the Search criteria line enter I* and click the Run Search  icon.
14. Select Innovator Admin and click on the green  icon.
15. Enter a check mark for Get, Update, Delete permissions.
16. Click Save, Unlock & Close  icon.
17. Repeat the above steps to create a new permission, one called MANUFACTURING PERM, for Manufacturing, giving Get and Update permissions only. Also include Janice Sweeney and Innovator Admin to this permission and assign Get, Update, Delete and Can change access.

Once the Permissions have been created they can then be assigned to the ItemType. Each ItemType can have multiple permissions assigned, but only one can be set as the default. When an Identity has been given Can Change Access, that User, when creating an Item, will have permission to create Private Permissions, or change the Default Permission, if multiple permissions have been assigned to the ItemType.

Edit the Part ItemType and assign the Engineering Perm.

1. In the TOC tree select ItemTypes.
2. In the Search criteria line enter P* or P% and click the Run Search  icon.
3. Right click Parts and choose Edit from the context menu.

4. Make sure the ItemType is locked for editing.
5. Make sure TOC Access and Can Add are set to World.
6. Click on the Permissions tab and click on the New Relationship  icon to the right of Pick Related.
7. In the Search criteria line enter E* or E% and click the Run Search  icon.
8. Select Engineering Perm and click the green checkmark  icon.
9. Enter a checkmark in the Is Default.
10. Click the Save, Unlock & Close  icon.
11. Logout of Innovator and Login using Specialist One or Specialist Two.
12. Create a new Item and Save, Unlock & Close.

Try to edit the Item. You will get an error message when you try to lock the Item. The permissions set in the ItemType, was GET permission only, to lock an Item, Update access must also be included in the permission.

13. Logout and log back in as Specialist Three.

Specialist Three gets no error as they have permission to create, save and unlock.

14. Repeat the above steps to edit the Parts ItemType and add the Permission to Manufacturing Perm.
15. Change to default from Engineering Perm to Manufacturing Perm.
16. Test out the access rights for each Specialist, depending on the permission set in the ItemType will depend on the access they will have. Specialist Three and Four can create, lock and save Items because they have Get, and Update permission.