Cognex Designer Advanced – User Control & Audit

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Objective

Cognex Designer Advanced – User Control & Audit

- Explore aspects of User Control
- Learn about the Inactivity Monitor
- Understand about the Audit Trail

❖ Lab: Create some users and control the access to the system

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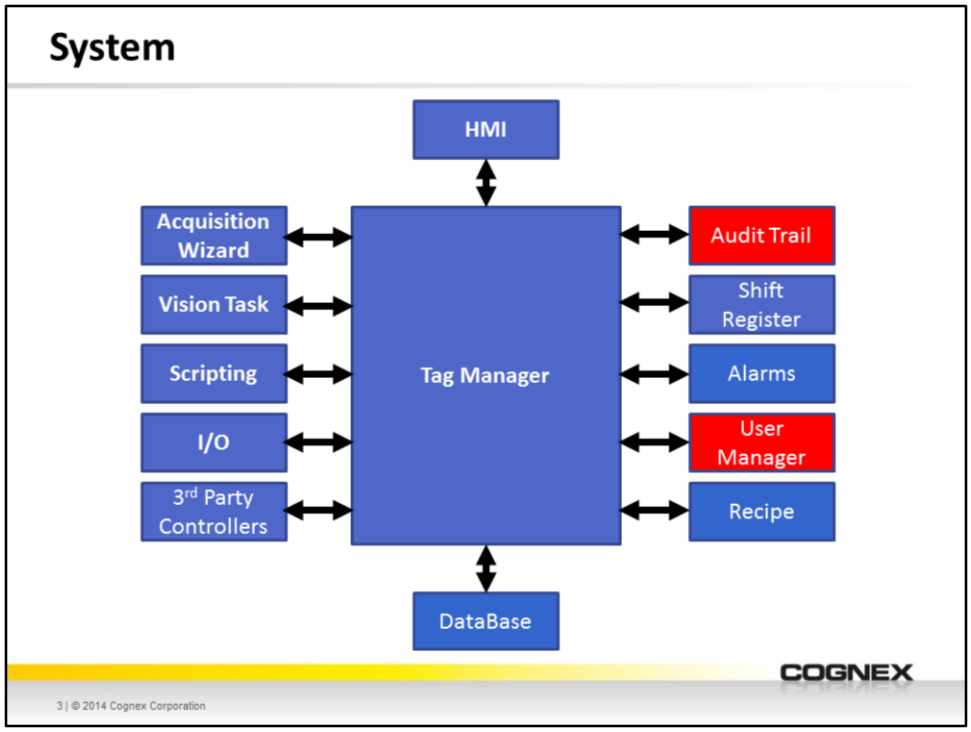
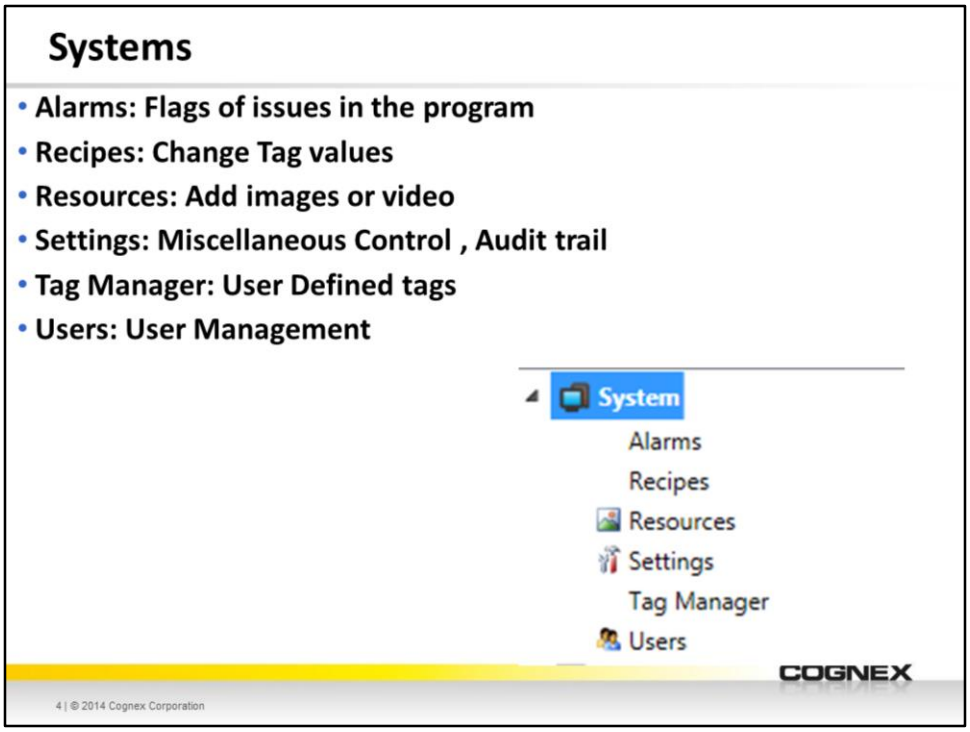
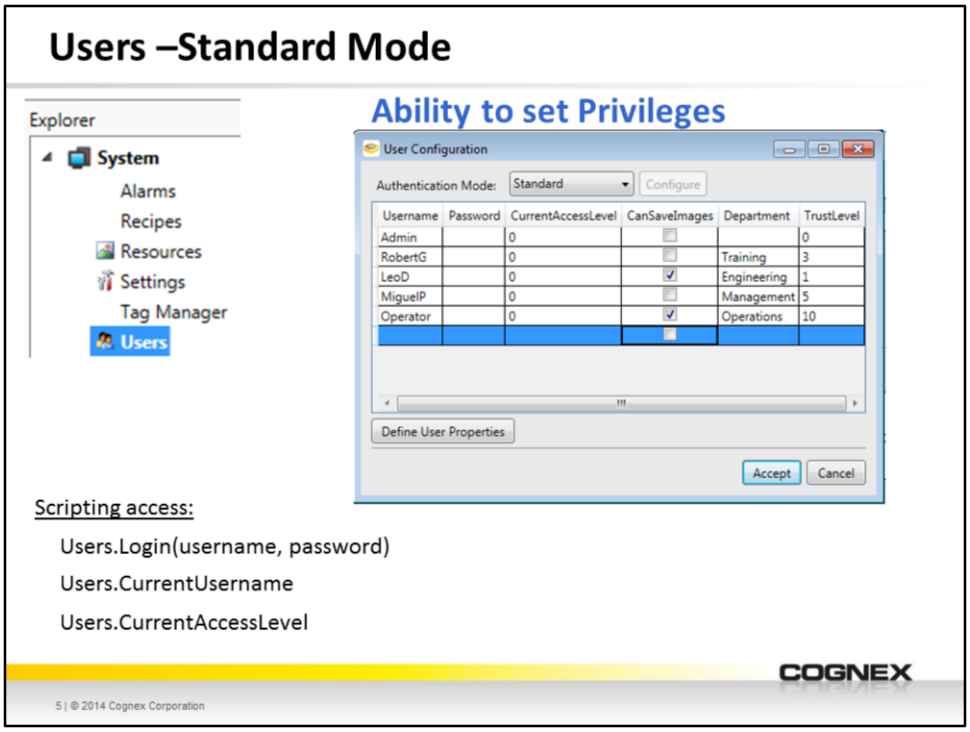


Cognex Designer gives you the ability to use alarms, user access lists, and recipes through the use of Systems.



System gives access to:

- Alarms: Flags of issues in the program
- Recipes: Different Tag values based off of a collection of saved values
- Resources: Ability to add images or video to the HMI
- Settings: Control over the program and audit trail
- Tag Manager: Access to the User Defined tags
- Users: Privileges based on set of given criteria



In Standard mode, the user can define any number of users and assign each an access level from (1 - Operator to 5 - Administrator).

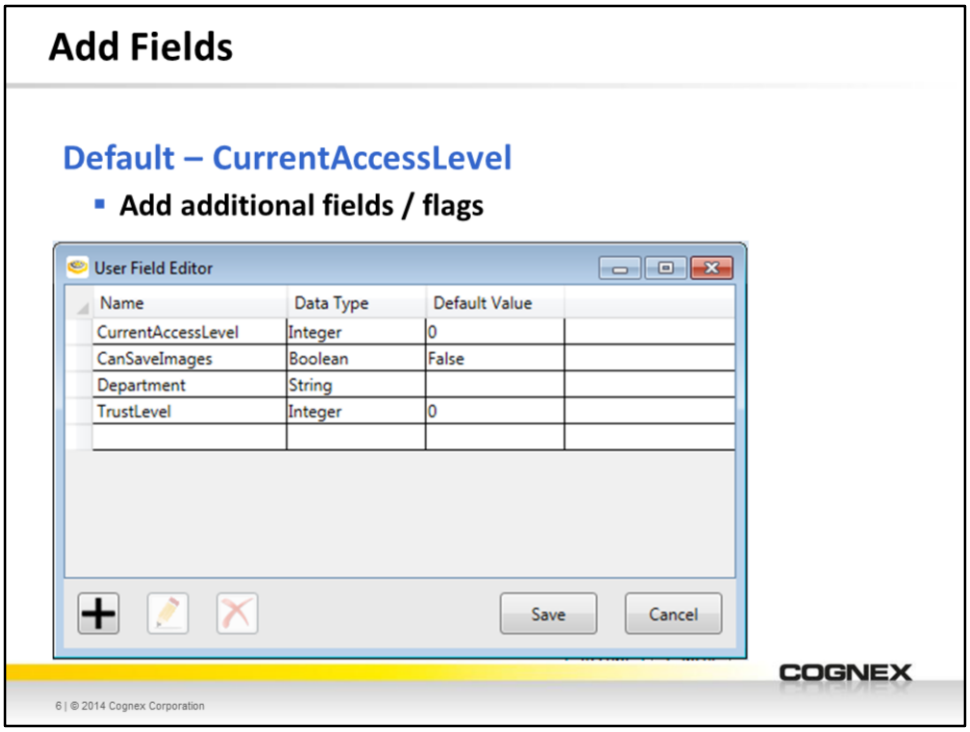
To log on, a User can use:

Users.Login(username, password): Attempt to log in with a specified user name/password.

Once a user is logged in, The Users.CurrentUsername and Users.CurrentAccessLevel tags are updated for the newly logged in user.

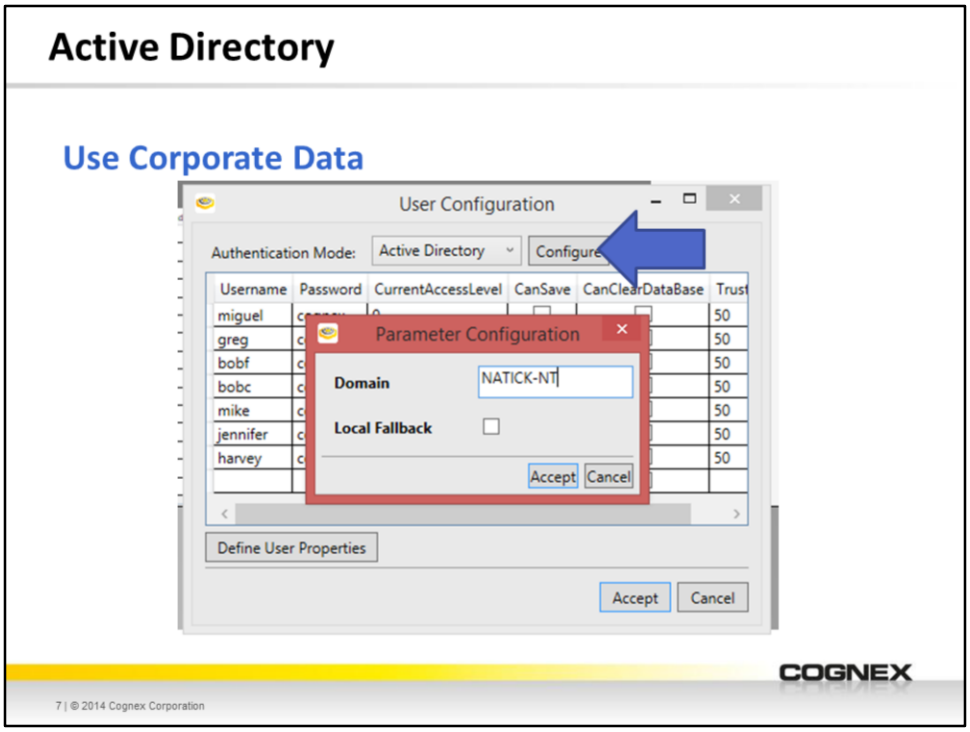
Users can be added and removed at runtime through the provided functions:

- Users.AddUser(username,password,accesslevel): Add a new user
- Users.DeleteUser(username): Remove a user
- Users.UserExists(username): Check if a user exists.



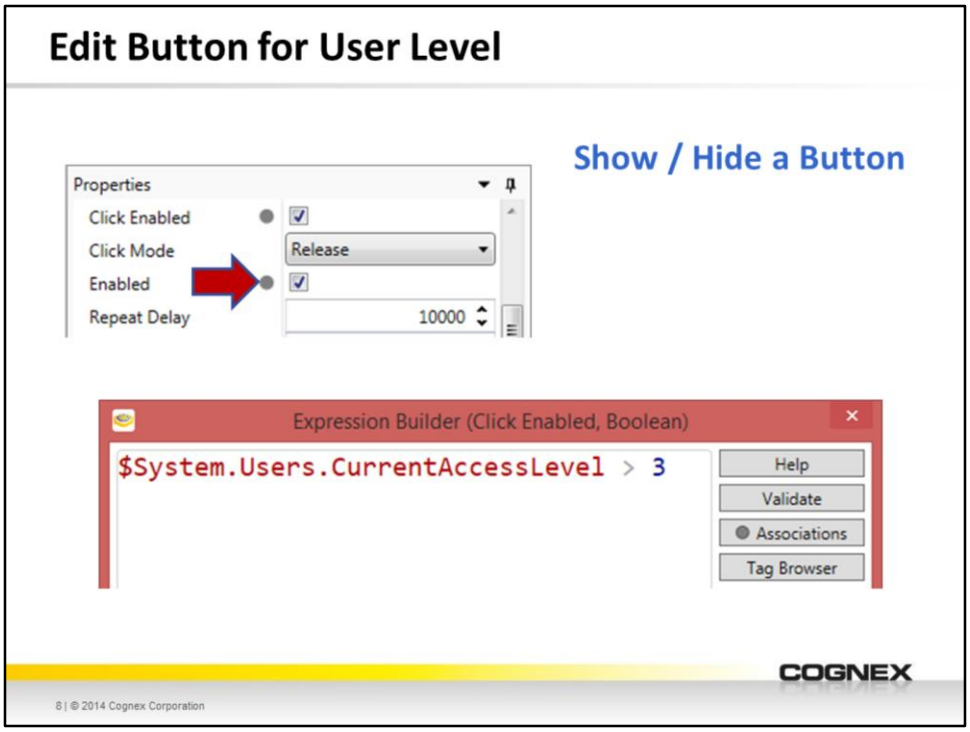
The default field added to the User Field Editor is the CurrentAccessLevel parameter. It runs from access level 1 - Operator to 5 – Administrator.

You can add additional fields that will allow flexibility to the application such as whether the user is able to save or load a file, or even have access to various pages.

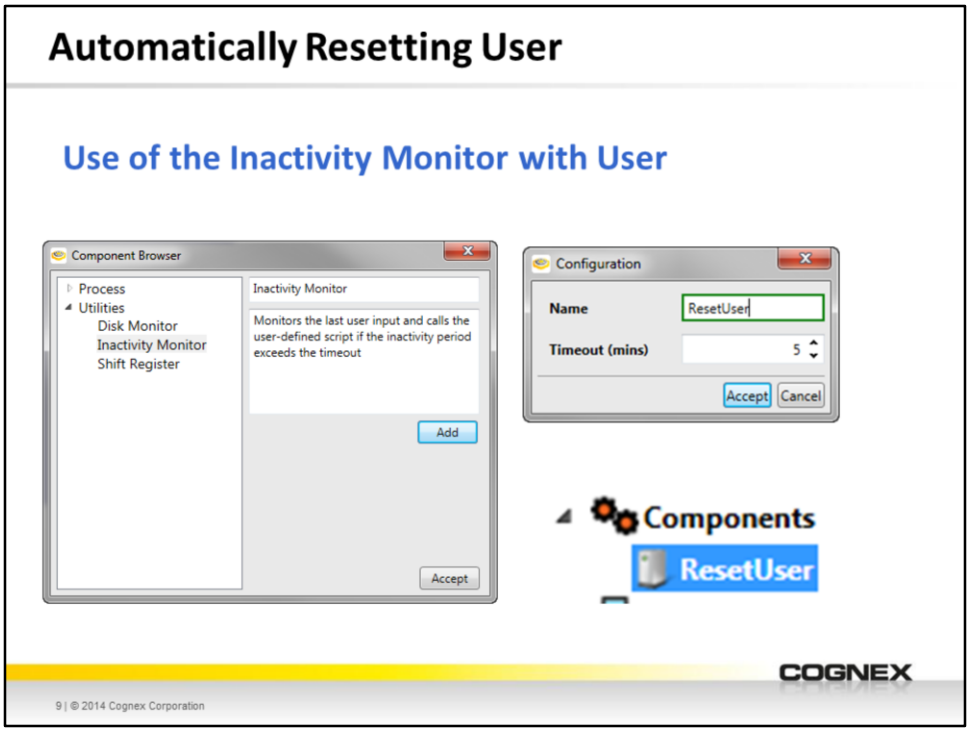


When using Active Directory as the security mode, the user name and password will be checked against the domain.

The custom user fields will now attempt to read their data from the user's profile on the Active Directory server. The Name field is actually a property of the user's profile, so it will be automatically populated. The IsMemberOf keyword will iterate through the Active Directory's list of groups and check if the user is a member.

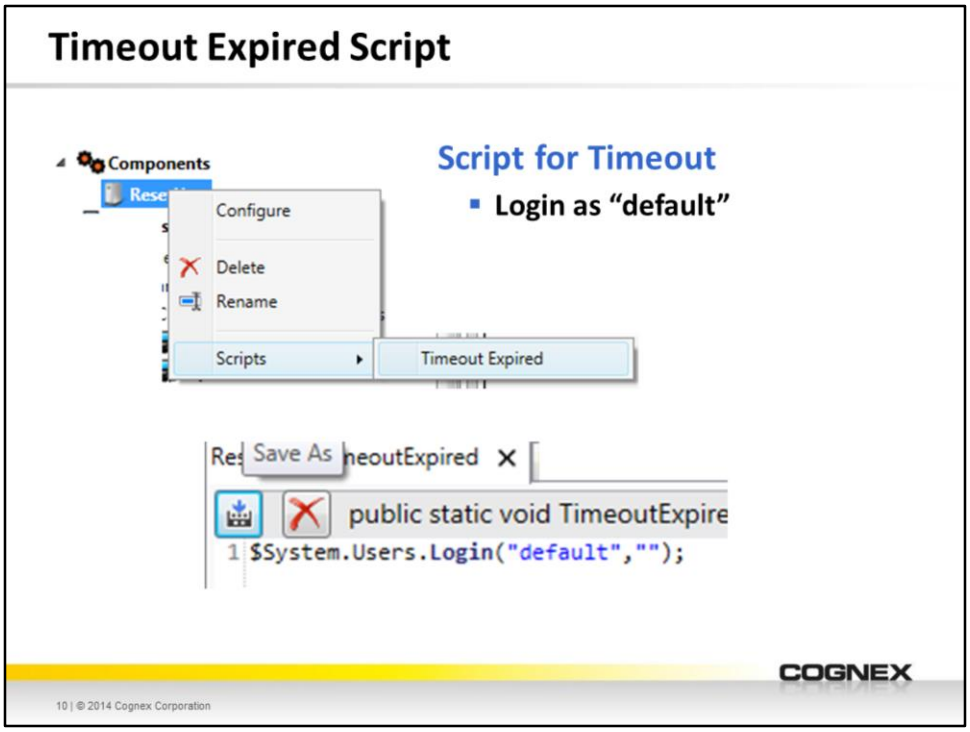


By referencing the CurrentAccessLevel to the enable property of a button, you can hide or show the button given the user level of the person logged in. This may be a way to limit access to parameter settings to higher leveled users as opposed to everyone.

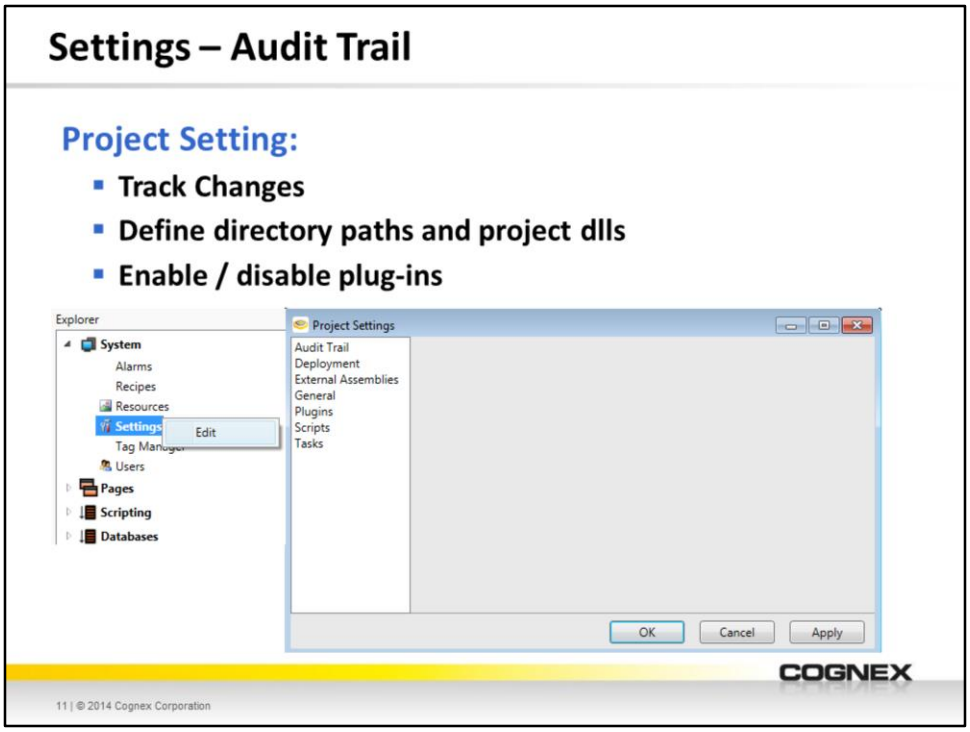


We can now use the Inactivity Monitor Component to reset the user if no action user input has taken place in the application.

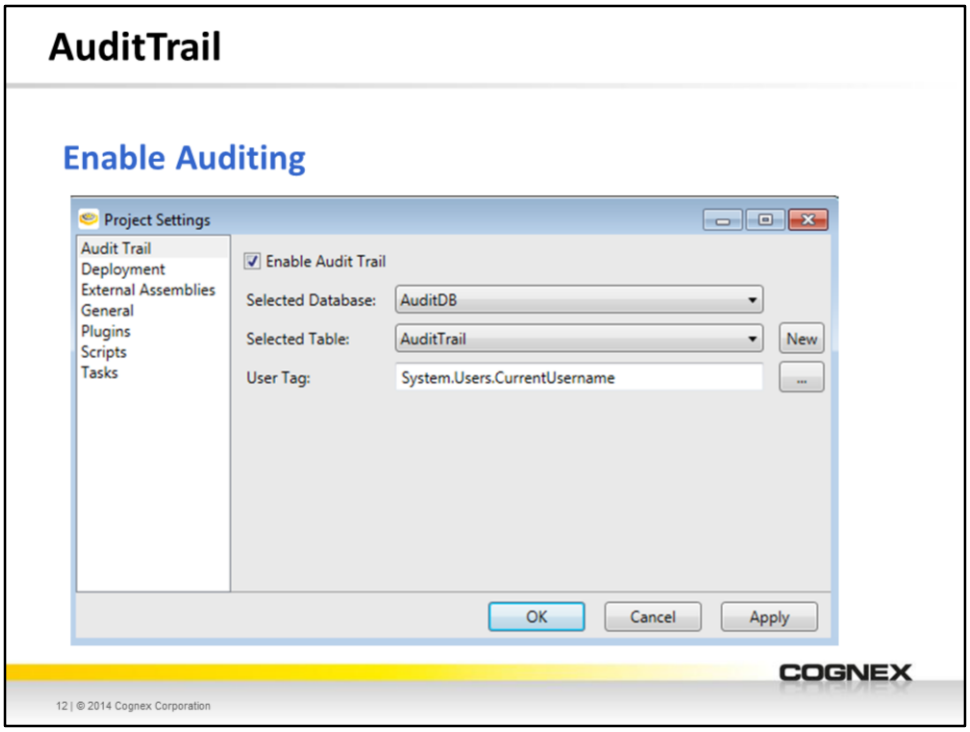
Create a new Inactivity Monitor by selecting Components in the Explorer list.
Select the desired inactivity period.



In the Script for the Timeout Expired, add code that logs in a user (“default” in this case with no password) so that the system cannot be accidently left in Admin mode if the administrator walks away and accidently forgets to log out.

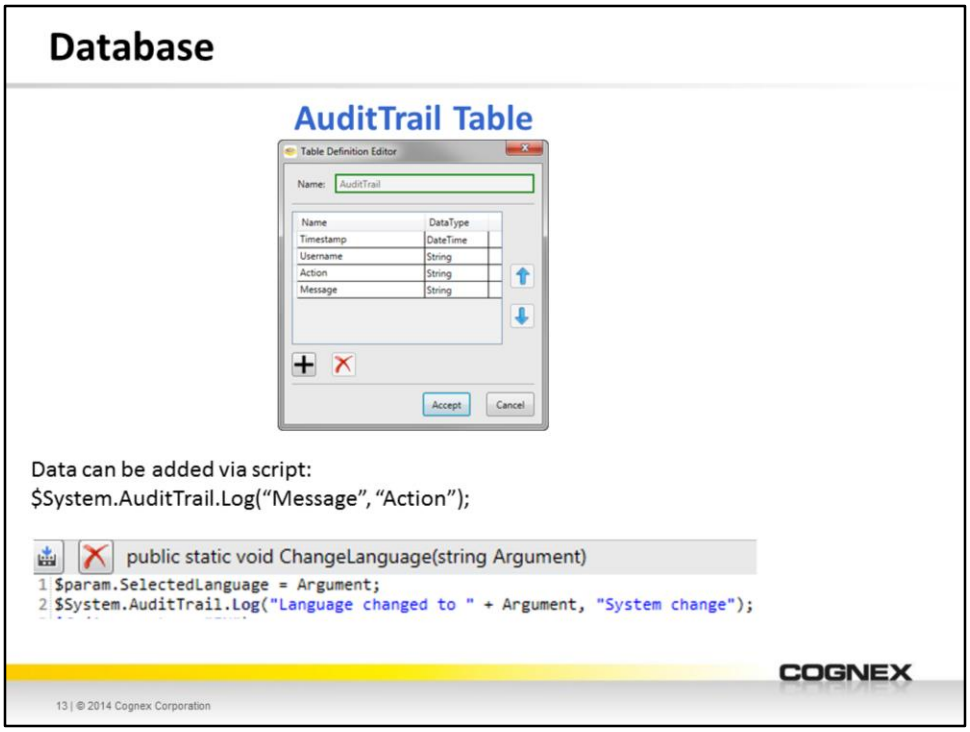


- Audit Trail can be used to monitor changes in the application and environment
- General allows user to user to define directory paths as well as passwords to the project
- Plugins shows which controls are available and being used. Is currently ReadOnly though I thick it will go back to being selectable.
- Scripts allows user to add other dlls to be used at the project level as opposed to just the individual script level
- Tasks allows you to state the garbage collecting (GC) frequency of the thread. It is set to 5 by default.



The Audit Trail is able to be enabled or disabled through the checkbox.

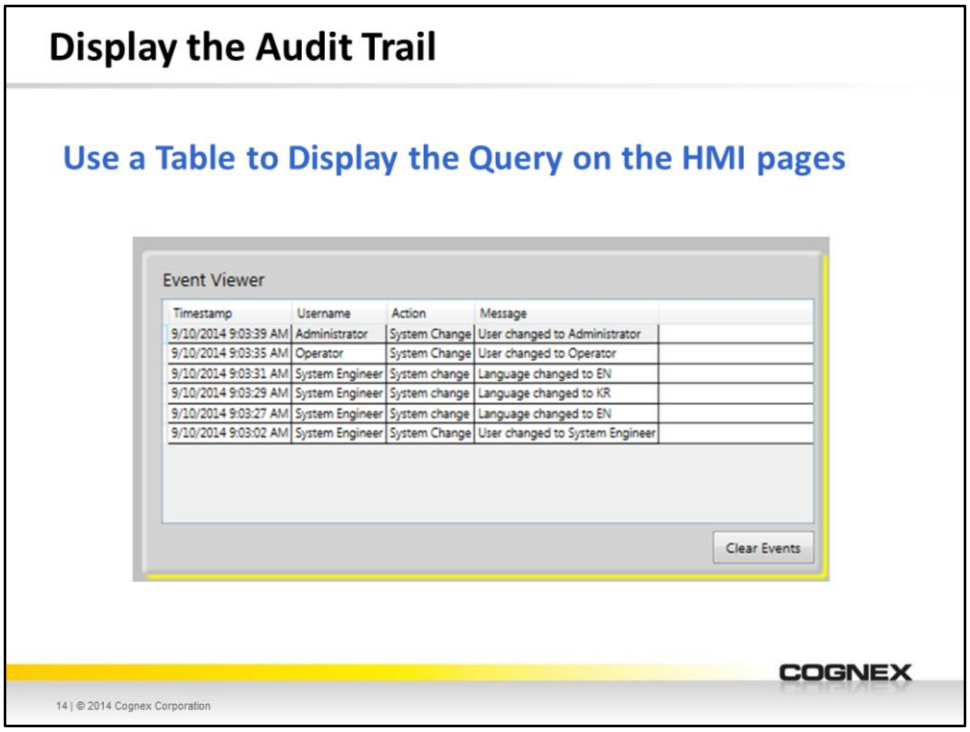
- Selected Database: Created to hold the information coming from the Audit Trail
- Selected Table: The particular table in the database to be used for the Audit Trail – New Table just for Audit can be created by selecting “New”
- User Tag: The base tag that it is monitoring



The box shows the different values being pulled into the database for the auditing.

Data can also be added programmatically by calling $System.AuditTrail.Log("Message", "Action").

When writing to the Audit Trail, time and user will always be captured. You need to add the message and action type.



Create a query for the AuditTrail table and the results can be viewed in the HMI using a table.

Summary

User Control & Audit

- Discovered aspects of User Control
- Explored the Inactivity Monitor
- Learned about the Audit Trail

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