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DIGITAL TRANSFORMS PHYSICAL

CWC WORK ORDER UTILITIES

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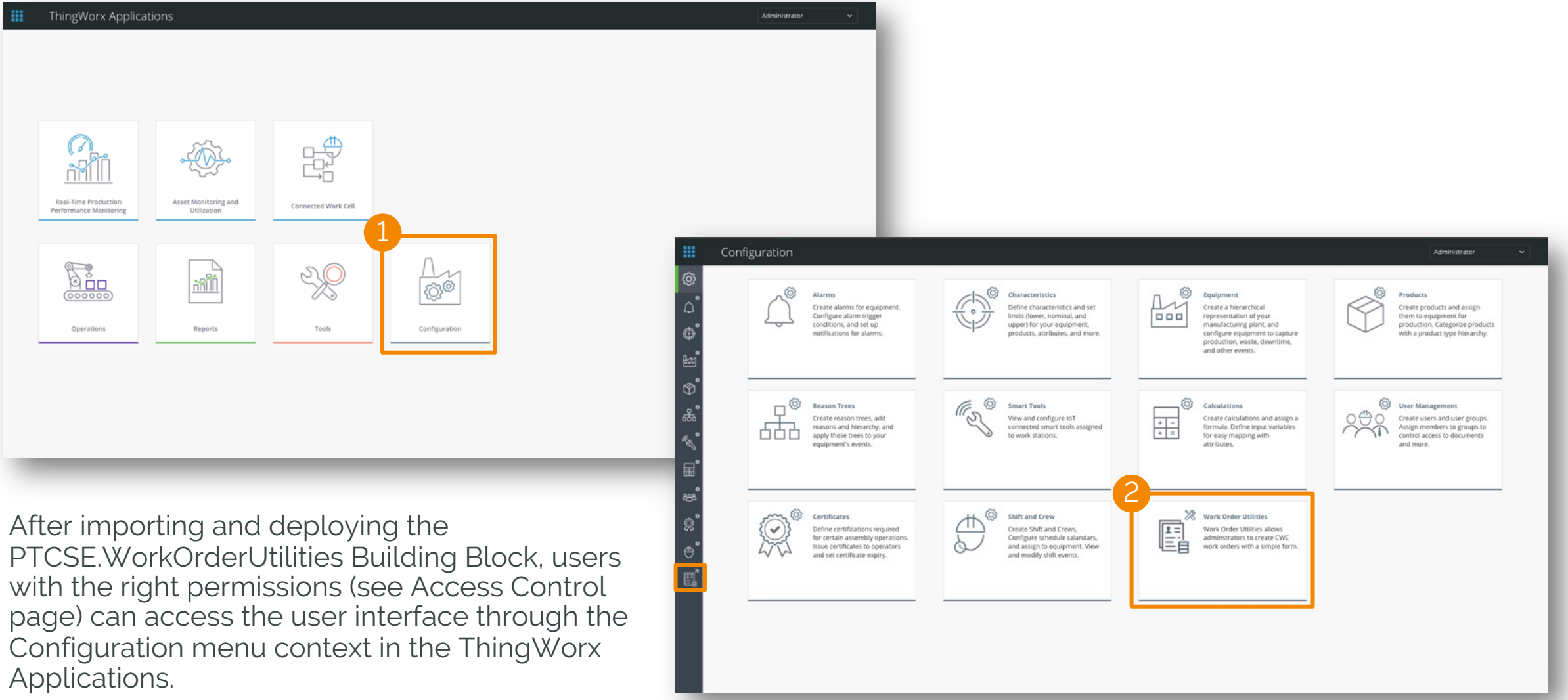
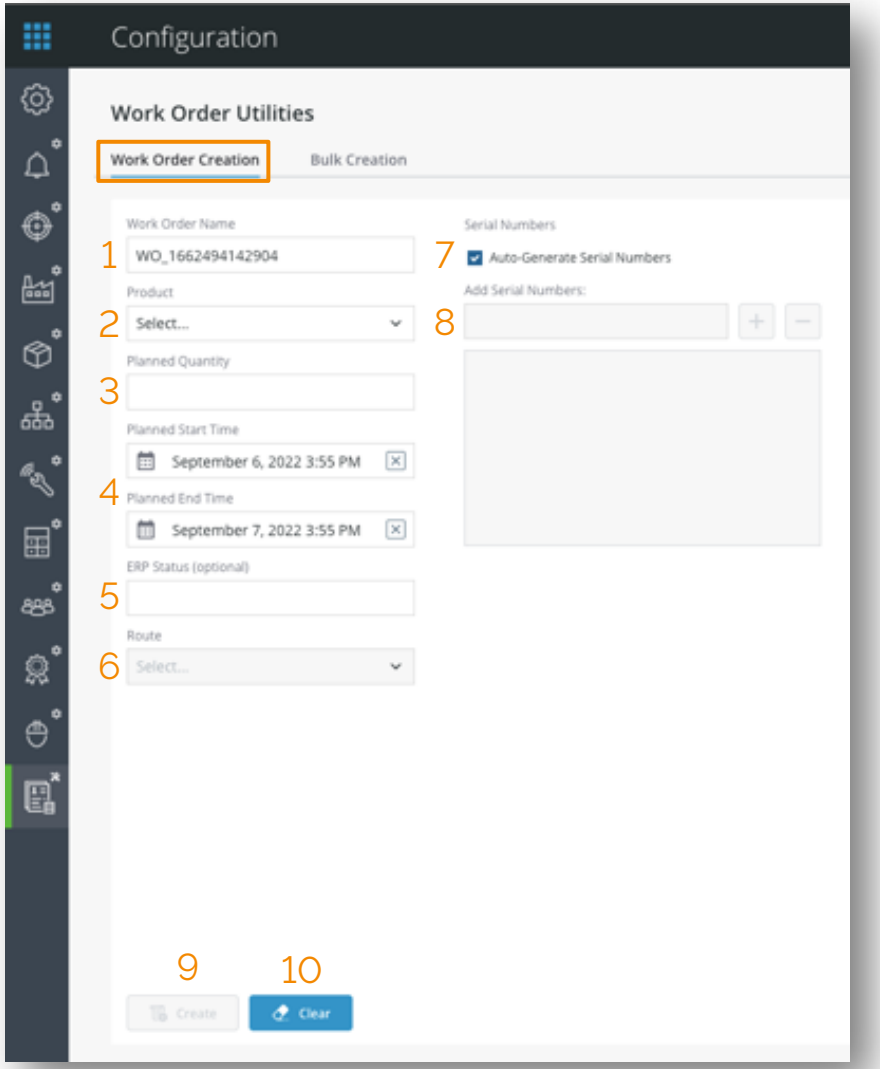
USER GUIDE

ACCESS WORK ORDER UTILITIES USER INTERFACE



After importing and deploying the PTCSE.WorkOrderUtilities Building Block, users with the right permissions (see Access Control page) can access the user interface through the Configuration menu context in the ThingWorx Applications.

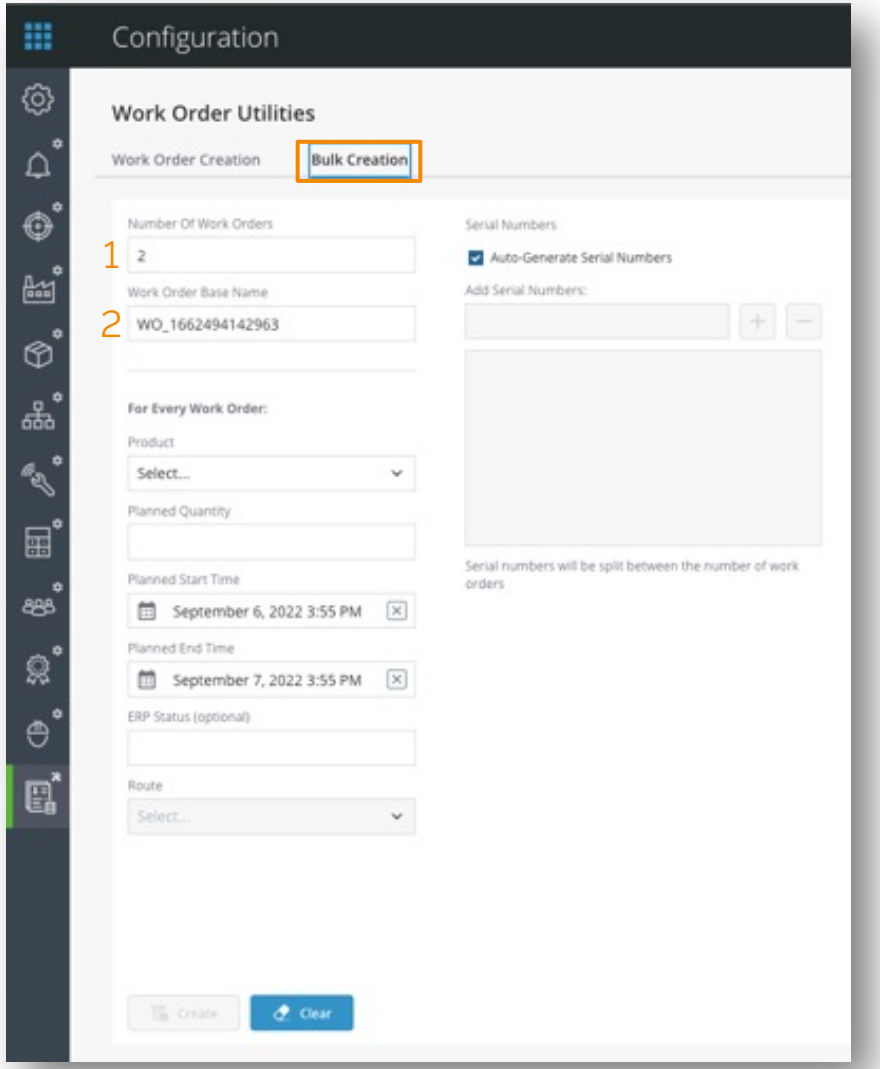
SINGLE WORK ORDER CREATION



The Single Work Order Creation user interface allows users to easily create single work orders with many options available.

1. **Work Order Name** is auto filled with a unique name and can be changed by the user. The Work Order Name will be displayed in CWC and is used as general identifier.
2. **Product** specifies the product instance that is planned to be produced. The dropdown list only shows products linked to equipment from type Workstation.
3. **Planned Quantity** is a number that defined how many instances of the product are planned to be produced. The entered number has to be an integer and needs to be 1 or greater.
4. **Planned Start/End Time** defines the planned time frame for the work order to be executed. However, a work order can be scheduled and executed before or after this time frame.
5. **ERP Status** is an optional field that allows to handover status information from a 3rd party system if existing.
6. **Route** specifies the production route that the work order will be using when executed. The dropdown list only shows routes related to the product selected above.
7. **Auto-Generate Serial Numbers** simplifies the work order creation. Each work order requires a list of serial numbers equal to the planned quantity. Using this option will generate (see Configuration Guide section) and add automatically the right number of unique serial numbers to the work order.
8. **Add Serial Numbers** is available if Auto-Generate Serial Number is disabled. The user can manually add serial numbers that will be added to the work order.
9. **Create** will submit the entered data to the Job Order Endpoint and will open the process result popup.
10. **Clear** resets all input fields.

BULK WORK ORDER CREATION

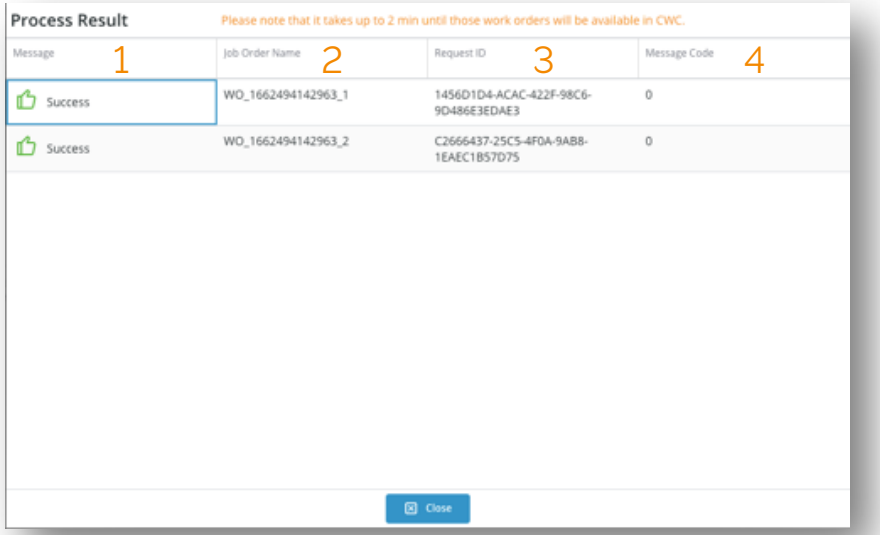


The Bulk Work Order Creation user interface allows users to easily create multiple work orders with the same configuration.

1. **Number Of Work Orders** specifies how many work orders the user wants to create
2. **Work Order Base Name** is auto filled with a unique name and can be changed by the user. The base name defines what the beginning of each work order name will be, in time of the creation the system will add an extension string (see Configuration Guide section) and a number at the end, to generate unique names.

All other input fields on the Bulk Creation user interface relate to each work order that will be created, for details for each field see Single Work Order Creation page.

PROCESS RESULT POPUP



After filling out all required input fields and clicking the Create button, the user is presented with the Process Result popup. This popup provides details if the work orders were created successfully or if an error appeared.

1. **Message** shows the status of the work order, if successfully created the message shows "Success', if an error appeared the message will show details why the work order could not be created.
2. **Job Order Name** will show the unique work order name.
3. **Request ID** is a unique identifier used by the Job Order Endpoint and can be used to troubleshoot failed requests to the endpoint.
4. **Message Code** is a number that indicates what type of error appeared during the creation request if any.

Please note that it takes up to 2 minutes until work orders created this way will be available in CWC.

CONFIGURATION GUIDE

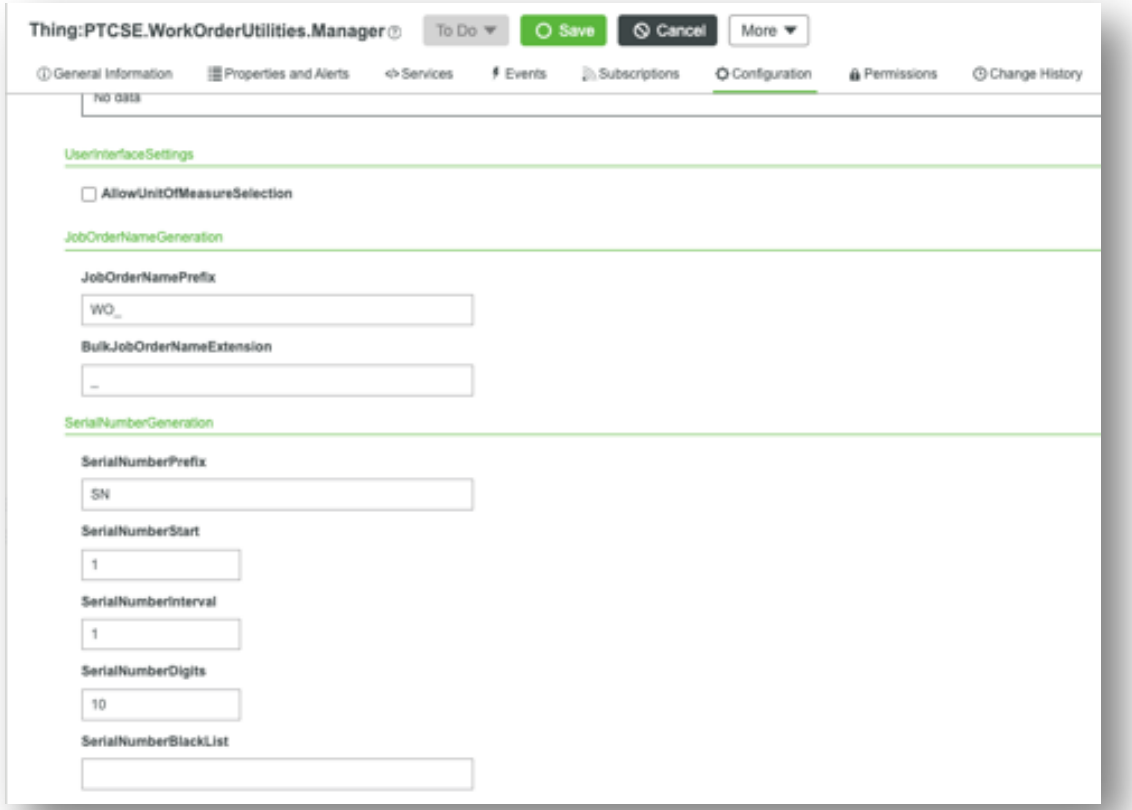
AVAILABLE CONFIGURATIONS

Available configurations can be changed on the Configuration tab of the PTCSE.WorkOrderUtilities.Manager Thing in ThingWorx Composer.

1. **User Interface Settings**
   - **AllowUniteOfMeasureSelection:** Enables the selection of unite of measure in the work order creation user interface. Not recommended in most cases, if wrong unite of measure is selected, work order creation will fail. By default, the right unite of measure will be chosen automatically.

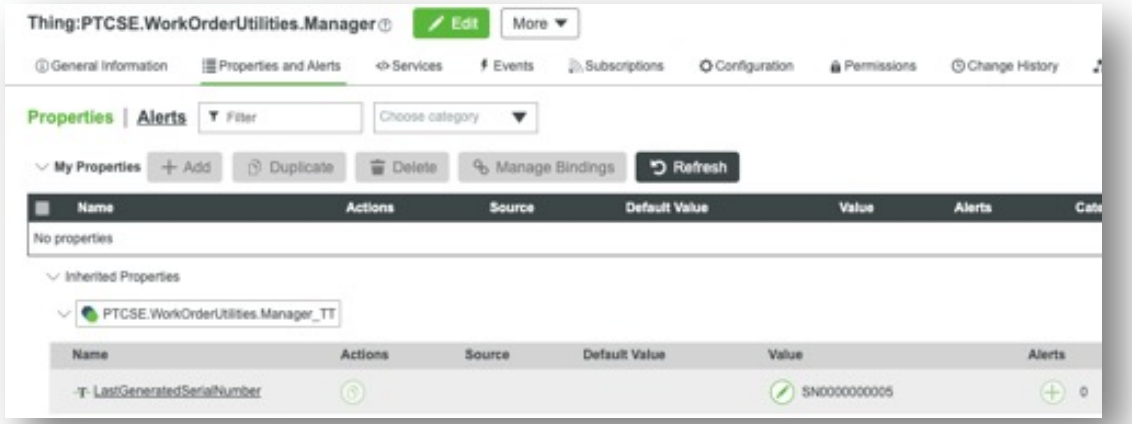
2. **Job Order Name Generation**
   - **JobOrderNamePrefix:** String that will be set at the beginning of each work order name when automatically generated.
   - **BulkJobOrderNameExtension:** String that will be add at the end of the work order base name before the numbering for work order bulk creation.

3. **Serial Number Generation**
   - **SerialNumberPrefix:** String that will be set at the beginning of each serial number when automatically generated.
   - **SerialNumberStart:** Frist serial number that will be generated.
   - **SerialNumberInterval**: The numeric interval between each generated serial number.
   - **SerialNumberDigits**: Number of digits of the generated serial numbers (not counting the prefix string), unassigned digits will be filled with zeros.
   - **SerialNumberBlackList**: Comma separated list of serial numbers that will be ignored during automatic generation.



AVAILABLE CONFIGURATIONS

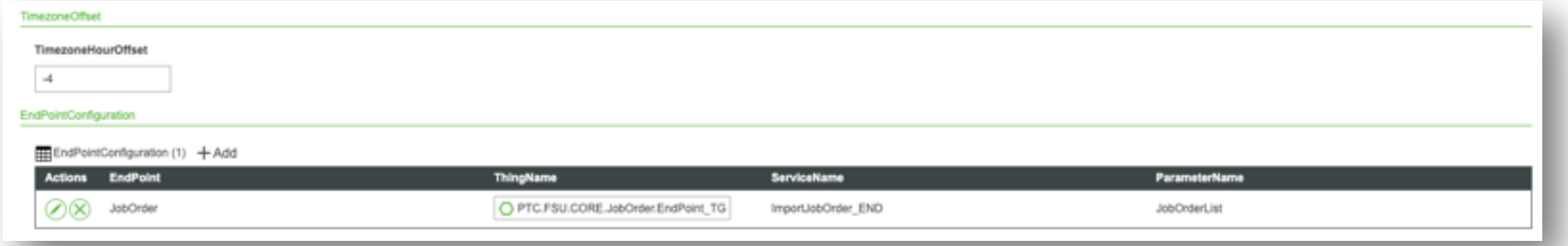
4. **Last Generated Serial Number:** Is a property on PTCSE.WorkOrderUtilities.Manager and is used to determine the next serial number during the generation process. It is not recommended to change this value.



5. **Time Zone Offset**
   - **TimezoneOffset:** Number of hours that will be added or subtracted from UTC time when translating datetime values for the Job Order Endpoint.

6. **End Point Configuration**
   - **EndPoint:** Endpoint name used as unique identifier.
   - **ThingName:** The Thing name of the related endpoint.
   - **ServiceName**: Service name of the endpoint used to submit requests.
   - **ParameterName**: Service input parameter name used to submit JSON object with data required for requests.

   It is not recommended to change this configuration table. Altering values in this table will affect the main functionality of this Building Block.

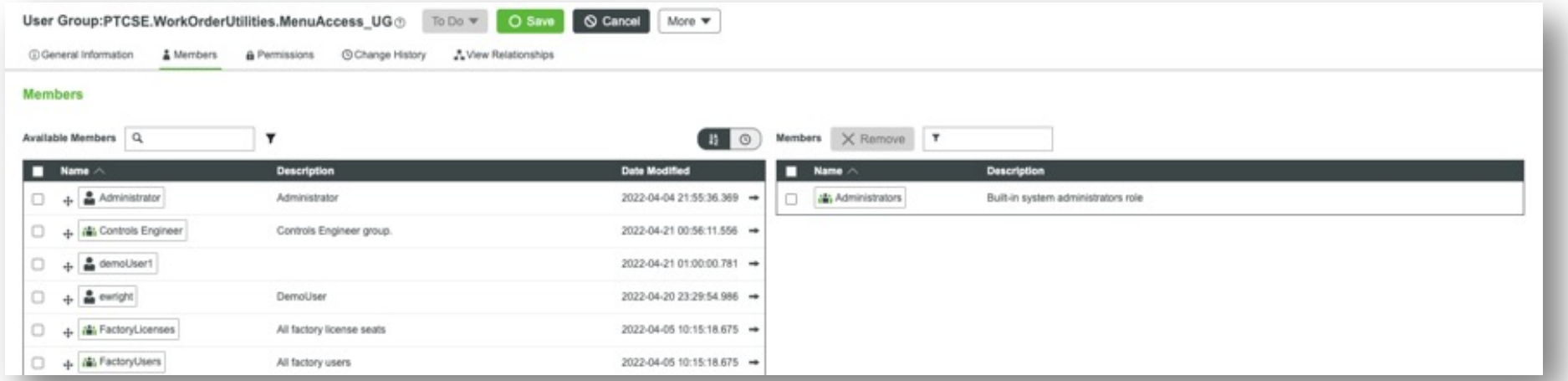


USER INTERFACE ACCESS CONTROL

The access to the PTCSE.WorkOrderUtilities can be controlled using the PTCSE.WorkOrderUtilities.MenuAccess_UG user group.

Users added to the user group get access to the user interface through the Configuration menu context of ThingWorx Applications.

By default, all users in the Administrator user group have access to the PTCSE.WorkOrderUtilities user interface.



KNOWN GAPS & ISSUES

KNOWN GAPS

1. **Missing Bill of Material (BOM) selection for work orders**
   - Description: The Job Order Endpoint allows linking of existing or the creation of new BOMs related to the specified product in a work order creation request. The Work Order Creation user interfaces do not support the selection of existing or the creation of new BOMs for the creation of work orders today.
   - Workaround: If the selected route for the work order is associated with an existing BOM, the BOM will be automatically linked to the work order. Work orders that use routes that do not have a BOM associated, will not be able to add the optional link to existing BOM's. New BOM's need to be created using the ThingWorx Application Configuration Import Tool

KNOWN ISSUES

No Known Issues

PLANNED ENHANCEMENTS

PLANNED ENHANCEMENTS

1. **BOM Selection and Creation in Work Order Creation user interfaces**
   - Allow the user to select existing BOM if required by the selected route or to create on the fly a new BOM with the need items for Part Validation steps.

2. **Full localization support**
   - Adding localization tokens for all labels and messages in all end user interfaces

3. **Work order bulk import via Excel file**
   - Adding a work order import feature, that will allow users to predefine all work order inputs in an Excel files table and create them directly through an import in the work order creation user interface.

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THANK YOU

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