

Auto-Numbering Manual

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Features

- String, date, parameter, and attribute patterns
- Run numbering on a condition
- Random strings, with number-to-letter ratios, and "start with a letter" flag
- Optional numbering sequence, with padding
- Reset interval -- periodic or one-time reset -- for numbering sequence
- Locking when busy to avoid duplicate indexes
- Option to use plugin instead of workflow step, which allows the generation of numbering for entities that lock after the operation
- Option to validate unique generated string
- Option to generate without updating a record (return the generated string only)
- Support for plugin step inline configuration
- Use a backlog to avoid long DB locks
 - The solution reserves an index, and if a rollback happens, the index is saved for future use by another run
 - This might cause out-of-order indices

Setup

Workflow

- Field name in the config record is optional, but if not set, then it won't update the target record automatically (use output param instead)
- Create a new sync workflow on an event in the entity
- Add the auto-numbering custom step
- Set the lookup parameter to the appropriate auto-numbering configuration
- Optionally, set the input parameters (semicolon separated) to be used if "{param#}" is used in the format string
- If the config record does not contain a field name, the WF won't update the record -- only return the generated string

Plugin

- Field name must be set in the config record
- Create a new plugin step
 - Create one under 'PreCreateTargetAutoNum' for pre-operation
 - Create one under 'PostCreateTargetAutoNum' for post-operation
 - If using backlog, create one under 'PreCreateTargetAutoNum' **and** 'PrevalCreateTargetUseBacklog'
- Choose either "Create" or "Update" event only
- Add the auto-numbering config record name exactly (not entity logical name) to the unsecure config
- For the "Update" event and post-operation, you must add a post-image that includes the fields specified in "{\${logicalname}}" (check below) in the config record if they exist

Inline Configuration

- An alternative to using config records is to add the config to the unsecure config of the plugin step directly
- Must be in the following format: "[format string];;[field name]", and optionally ";;true" at the end for unique validation
- Only Field Value, Random String, and Date formats are supported
 - E.g. "Test-{\$name}-{!un-5}-{@yyyy};;ldv_name"
- This is very useful for non-indexed auto-numbering, especially when using a combination of field values from the record to form the generated string

Supported Placeholders

The following are variables that can be inserted between '{' and '}' to be replaced by their function upon record creation:

- Index value
 - The auto-numbering index is inserted in-place of "{index}" .
- Field value
 - Must start with a '\$' .
 - Field logical name to read the value from
 - E.g. "{\$createdon}" .
 - Drill-through supported on lookups
 - E.g. "{\$primarycontactid\$gendercode}" .
 - Conditions can be used for empty field values
 - E.g. "{?{\$primarycontactid\$gendercode}::Gender is Missing}"
 - The result will be "Gender is Missing" at that position in the generated string if 'gendercode' is null.
 - If the target field is a date, a format can be specified
 - E.g. "{\$createdon@yy-MM}" .
- Random string
 - Must start with an '!' .
 - Can be followed by a combination of 'u' (upper-case), 'l' (lower-case), or 'n' (numbers)
 - This indicates the pool to choose the random string from.
 - Or can be followed by a comma-separated list of strings (or characters) to choose from by the generator.
 - Either of the above must be followed by a '-' and a number indicating the length of the generated string.
 - E.g. "{!un-5}" or "{!A,B,C,a,b,c-4}" .
 - Can't use a '-' or ',' as one of the strings in the string list.
- Date
 - Must start with an '@' .
 - The time zone of the owner of auto-numbering record is used to determine the output string.
 - Followed by a day, month, or year in the standard format.
 - E.g. "{@dd}" or "{@mm/yy}" .
- Param

- Must start with "param"
- Followed by a number greater than 0
- E.g. "{param5}".
- It will use the string parameter at the specified index in the WF step "Input Parameters".

Date Formats

- Year: "y yy yyy yyyy" => "8 08 008 2008"
- Month: "M MM MMM MMM" => "3 03 Mar March"
- Day: "d dd ddd dddd" => "9 09 Sun Sunday"
- Hour 12/24: "h hh H HH" => "4 04 16 16"

Reserved Characters

- '{' and '}'
- Leading '!', '@', '?', and '\$'
- '-' and ',' in the string list after an '!'

Notes

Any spaces in the generated string are replaced with an '_ '.

Examples

- "Test-{{{\$createdon@hh:mm}}::NO_DATE}-{!un-5}-{@yyyy}-{index}-{param3}"
 - With current index 5, padding 3, the user in cairo (9AM) and server in London (7AM), and 'PA;RA;M' as input parameter
 - Results in "Test-09:00-Ahmed-4AM7Z-2015-005-M"