AUTO-NUMBERING MANUAL

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V6.1

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2. FEATURES

- All features of the CRM Parser
- Run numbering on a condition
- 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
- Create different index sequence per field value

3. INSTALLATION

The solution files are at [YsCommonSolution](#) and [AutoNumbering](#).

Import the following solutions, in order:

1. `YsCommon`
2. `AutoNumbering`

4. TRIGGER

4.1. WORKFLOW

Use the custom step provided in the auto-numbering assembly inside a workflow.

If you choose a field name in the auto-numbering configuration, the step will update the record automatically; otherwise, use the string returned in the output parameter of the step to update the record manually.

Optionally, set the input parameters (semicolon separated). Those values will replace `{$inparam(<position>)}` in the format string.

The step returns the resulting string, the index as an integer and as a padded string (keyed sequences are not returned).

4.2. PLUGIN

CONFIGURATION-BASED

The plugin can run on the creation and update of a record.

MANUAL REGISTRATION

Register a plugin step on pre-validation, and on pre or post-operation stages.

For pre-validation, register a step on the types `PreCreateTargetAutoNum` (pre-operation) **and** `PrevalCreateTargetUseBacklog` (pre-validation). A special feature called 'backlog' will be triggered, which I will be explained later.

For pre-operation, register a step on the type `PreCreateTargetAutoNum` (Create) or `PreUpdateTargetAutoNum` (Update). For post-operation, register a step on the type `PostCreateTargetAutoNum` or `PostUpdateTargetAutoNum`.

For steps registered on the Update event, and for ones registered on post-operation stages in general, add a post-image that includes the fields specified in `{@this.<logical-name>}` patterns in the format string in the configuration.

In all the above steps, add the unique ID generated in the config record to the unsecure config of the step.

AUTOMATIC REGISTRATION

In the 'general' section in the configuration, choose the stage you want to register the step on. The step will only be registered on the Create message. Supports pre and post operation registration only.

INLINE CONFIGURATION

An alternative to using config records is to add the config directly to the unsecure config of the plugin step

Must be in the following format: `<format-string>;;<target-field-name>`, and optionally `;;true` at the end for unique validation.

Only expressions that don't require a configuration file (e.g., sequence numbering require config) are supported; e.g. `Test-{@this.fullname}-{$now$date(`yyyy`)};;ys_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.

5. PLACEHOLDERS

In addition to the CRM Parser constructs defined in its respective manual, the following are additional constructs that can be used in the same manner:

5.1. INDEX VALUE

The auto-numbering index is inserted in-place of `{$sequence}`. This is the default indexing, saved directly in the configuration itself.

If you want a different index sequence for different field values, specify the field name in the format string directly: `{$sequence(`<key>`,@this.<field-name>}`; e.g. `{$sequence(`casetypecode`,@this.casetypecode)}`. This will result in all values having different sequences; when the value is set in the record, the auto-numbering will use the appropriate sequence.

5.2. WF PARAMETERS

When using the custom step to generate an auto-number, you can pass some parameters into the step.

In the properties of the custom step, there is a field for the parameters. Insert the values you would like to pass to the step in-order, and separate them with a semi-colon (`;`).

In the placeholder, specify the index of the parameter to use, starting with 1; e.g. `{$inparam(3)}`.

5.3. NOTES

Any spaces in the generated string are replaced with `_`.

5.4. EXAMPLES

- `Test-{@this.createdon$date(`hh:mm`)??`NO_DATE`}-{$rand(5,`un`)}-{$now$date(`yyyy`)}-{$sequence}-{$inparam(3)}`
  - 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-YAM76-2015-005-M`

6. INDEX RESET

Usually, customers require their record index to reset on a regular interval; e.g., monthly or yearly.

If you choose an interval, you must enter the first date to reset on. After reaching said date, the index will be reset, and then every interval on the same occurrence; e.g., on the same day, hour, and minute for monthly intervals; on the same hour and minute for daily intervals … etc.

Currently the reset mechanism does not support keyed sequences.

7. CONDITIONS

Configuration supports specifying a condition for evaluation. Conditions are useful for when you have multiple configurations for the same entity, and want only one to run based on certain criteria in the record.

If multiple configuration IDs are set in the unsecure config (comma-separated), then each will be evaluated, and the first one that passes will be used to set the auto-number.