

P11: Enable Field Validation on Power Pages Forms Using Regular Expressions

Friday, 21 February 2025 4:23 pm

Context

| Item | Detail |
|----------------------|--|
| Tag | Vertical Development Power Pages Implementation |
| Contributors | Vincent Kimiti |
| Version Control | 1.0 - Implementing metadata-based validation for Power Pages forms |
| Application Use Case | Power Pages Forms, metadata-driven validation |
| Reference Usage | DFSA site |

Story Behind The Pattern

| Item | Detail |
|--------------|--|
| The Problem | Power Pages forms require field validation to ensure data integrity and compliance. However, implementing complex validation rules directly in the form UI can be challenging and error-prone. Using metadata for validation enables more streamlined approach without touching the form in the Backend or writing code snippets in form options. |
| The Solution | The solution involves using metadata to define field validation rules. These metadata definitions enable Power Pages forms to validate fields automatically without needing custom code for each rule. The validation rules are centrally managed through metadata, which improves scalability and simplifies maintenance. The metadata can include conditions like field type checks (e.g., email, phone number), required fields, value ranges, and custom business logic. |
| Dependencies | This pattern depends on the use of metadata and Regular Expressions(RegEx). The logical name of the target column should also be known beforehand. |

The Pattern

1. Go to specific form step's metadata tab

1.1 Standing Data - Saved
Form Step

General Form Definition Form Options Associated Table Reference Additional Functionality Developer Extensions Related ▾

Name * 1.1 Standing Data

Multistep Form * General Requirements Form x

Type * Load Form ▾

Target Table name * ...

Related - Common

- Metadata
- Entity Source Steps
- Reference Entity Steps

2. Create new metadata (if the metadata for that specific logical name isn't existing) of type "Attribute" and choose the attribute which you want validation to be applied to

New Multistep Form Metadata - Unsaved

General

Form Step * 1.1 Standing Data x Control Style --- ▾

Type * Attribute ▾

Attribute Logical Name * cr5f7_pleaseprovidethedetails2 Please provide the details (cr5f7_pleaseprovidethedetails2) ▾

Label

English (United Kingdom)

3. Scroll to Validation Section, enter the regex (*Pro Tip: You can use ChatGPT, Claude, Gemini etc. to generate regex for any use case*) and the regex validation error message. Example;

Validation

Validation Error Message
English (United States) (1033)

Regular Expression
^[A-Za-z0-9\,\&()\-\']{3,250}\$

Regular Expression Validation Error Message
English (United States) (1033)
Full name is not in the correct format

4. Save & Close. Sync if necessary.
5. When finished with all the metadata under one step, export the metadata to avoid loss. Export as Dynamic worksheet

☑ Show Chart + New Multistep Form ... 🔄 Refresh ⚙️ Flow 📄 Run Report 📄 Excel Templates 📄 Export Multistep Form...

Multistep Form Metadata Associated View ▼

| Type | Attribute Logi... | Tab Name | Section | Control Style | Group | Field is | Set Value O... | On Save... |
|----------------------------------|-------------------|----------|---------|---------------|-------|----------|----------------|------------|
| <input type="checkbox"/> Notes | | | | | | No | No | |
| <input type="checkbox"/> Subgrid | | | | | | No | No | |
| <input type="checkbox"/> Subgrid | | | | | | No | No | |
| <input type="checkbox"/> Subgrid | | | | | | No | No | |

Export Multistep Form Met...
Static Worksheet
Static Worksheet (Page only)
Dynamic Worksheet
Dynamic PivotTable

Select all checkboxes except one of the "Basic Form for Create" i.e

Select Columns for Dynamic Excel

Record Type: Multistep Form Metadata

| Display Name↑ | Name | Type |
|---|------------------------------------|------------------------|
| <input checked="" type="checkbox"/> Add Description | mspp_adddescription | Boolean |
| <input checked="" type="checkbox"/> Attribute Logical Name | mspp_attributelogicalname | Single Line of Text |
| <input type="checkbox"/> Basic Form for Create | mspp_entityformforcreate | Lookup |
| <input checked="" type="checkbox"/> Basic Form for Create | mspp_entityformforcreateinwebfo... | Lookup |
| <input checked="" type="checkbox"/> Constant Sum Maximum Total | mspp_constantsummaximumtotal | Whole Number |
| <input checked="" type="checkbox"/> Constant Sum Minimum Total | mspp_constantsumminimumtotal | Whole Number |
| <input checked="" type="checkbox"/> Constant Sum Validation Error Me... | mspp_constantsumvalidationerror... | Single Line of Text |
| <input checked="" type="checkbox"/> Control Style | mspp_controlstyle | Option Set |
| <input checked="" type="checkbox"/> Create Invoice on Payment | mspp_purchasecreateinvoiceonpa... | Boolean |
| <input checked="" type="checkbox"/> Created By | mspp_createdby | Lookup |
| <input checked="" type="checkbox"/> Created On | mspp_createdon | Date and Time |
| <input checked="" type="checkbox"/> CSS Class | mspp_cssclass | Single Line of Text |
| <input checked="" type="checkbox"/> Description | mspp_description | Multiple Lines of Text |
| <input checked="" type="checkbox"/> Field is Required | mspp_fieldisrequired | Boolean |

Export Cancel

Then click **Export and Save Locally**.

The table below contains a few examples of regex for various use cases:

| Field | Rules |
|------------|--|
| First Name | <ul style="list-style-type: none"> • Allowed Characters: Alphabetic characters (A-Z, a-z), including accents and diacritical marks (e.g., é, ñ, ü). Spaces, hyphens (-), and apostrophes ('). • Length: Min: 1 character, Max: 100 characters. |

| | |
|-------------------------------|---|
| | <ul style="list-style-type: none"> • Validation: No numeric characters. No special characters other than hyphens and apostrophes. No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-ZÀ-ÿ' -]+ |
| Last Name | <ul style="list-style-type: none"> • Allowed Characters:Alphabetic characters (A-Z, a-z), including accents and diacritical marks (e.g., é, ñ, ü). Spaces, hyphens (-), and apostrophes ('). • Length: Min: 1 character, Max: 200 characters. • Validation: No numeric characters. No special characters other than hyphens and apostrophes. No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-ZÀ-ÿ' -]+ |
| Full Name | <ul style="list-style-type: none"> • Allowed Characters:Alphabetic characters (A-Z, a-z), including accents and diacritical marks (e.g., é, ñ, ü). Spaces, hyphens (-), and apostrophes ('). • Length: Min: 1 character, Max: 255 characters. • Validation: No numeric characters. No special characters other than hyphens and apostrophes. No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-ZÀ-ÿ' -]+ |
| Email Address | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters, periods (.), underscores (_), hyphens (-), at symbol (@). • Length: Min: 5 character, Max: 254 characters. • Validation: Ensure the presence of the @ and . symbol. Validate the domain part with a valid top-level domain (TLD). No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[w\.-]+@[w\.-]+\w{2,}\$ |
| Website | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters (A-Z, a-z, 0-9), periods (.), underscores (_), hyphens (-), colons (:), slashes (/). • Length: Min: 5 characters, Max: 2048 characters. • Validation: Ensure the presence of a valid protocol (e.g., http://, https://). Validate the domain part with a valid top-level domain (TLD). No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^(https?:\V)?([w.-]+(:\d+)?(\V[w.-]*)*\V)?\$ |
| Phone Number | <ul style="list-style-type: none"> • Allowed Characters: Digits (0-9), Plus sign (+) for international dialing codes. Spaces, hyphens (-), and parentheses (()). • Length: Min: 7 digits, Max: 15 digits. • Validation: Strip non-numeric characters for processing. Ensure the number starts with a plus sign (+) for international format. No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^\+?[0-9\s\-\(\)]+\$ |
| Date | <ul style="list-style-type: none"> • Allowed Characters: Date Picker for standardised Dates • Length: None • Validation: Check for logical constraints (e.g., the date should not be in the future). No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^\d{2}-\d{2}-\d{4}\$ (for DD-MM-YYYY format) |
| Text (Single Line) | <ul style="list-style-type: none"> • Allowed Characters:Alphanumeric characters, common punctuation marks - commas (,), periods(.), exclamation marks(!), question marks(?), apostrophes(' '), hyphens (-), parentheses (()). • Length: Min: 1 character, Max: 255 characters. • Validation: No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[w\s, '!? -]+\$ |
| Text (Multiple Lines - Large) | <ul style="list-style-type: none"> • Allowed Characters:Alphanumeric characters, common punctuation marks - commas (,), periods(.), exclamation marks(!), question marks(?), apostrophes(' '), hyphens (-), parentheses (()). • Length:Min: 1 character, Max: 2000 characters. • Validation: No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[w\s, '!? -]+\$ |
| Text (Multiple Lines - Small) | <ul style="list-style-type: none"> • Allowed Characters:Alphanumeric characters, common punctuation marks - commas (,), periods(.), exclamation marks(!), question marks(?), apostrophes(' '), hyphens (-), parentheses (()). • Length: Min: 1 character, Max: 750 characters. • Validation: No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[w\s, '!? -]+\$ |
| File Upload | <ul style="list-style-type: none"> • Allowed Characters:N/A • Length: N/A • Validation: Check for allowed file types (PDF, DOCX, JPG, PNG, PPTX, XLSX). Limit file size to 5MB. No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: - |
| Address (Building, Street) | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters, commas (,), periods (.), hyphens (-), slashes (/), spaces. • Length: Min: 1 character, Max: 255 characters. • Validation: No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-Z0-9À-ÿ\s, ' /-]+\$ |
| City/District | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters, commas (,), periods (.), hyphens (-), slashes (/), spaces. • Length: Min: 1 character, Max: 100 characters. • Validation: No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-Z0-9À-ÿ\s, ' /-]+\$ |
| State/Province | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters, commas (,), periods (.), hyphens (-), slashes (/), spaces. • Length: Min: 1 character, Max: 100 characters. • Validation:No leading or trailing spaces. No HTML Tags (^<>+)\$ • Regular Expression: ^[a-zA-Z0-9À-ÿ\s, ' /-]+\$ |

| | |
|-----------------|--|
| ZIP/Postal Code | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters. • Length: Min: 3 character, Max: 20 characters. • Validation: No leading or trailing spaces. No HTML Tags (^[\s<>]+\$) • Regular Expression: ^[\s<>][A-Za-z0-9\s-]{3,20}[\s<>]\$\s\$ |
| Country | <ul style="list-style-type: none"> • Allowed Characters: Standardized dropdown list for country names. • Length: - vary in length but are generally between 2 to 50 characters. • Validation: - consists only of alphabetic characters, spaces, and hyphens, with a length between 2 and 100 characters • Regular Expression: ^[A-Za-z\s\-\-]+\$ |
| Passport Number | <ul style="list-style-type: none"> • Allowed Characters: Alphanumeric characters. • Length: Min: 5 character, Max: 10 characters. • Validation: No leading or trailing spaces. No HTML Tags (^[\s<>]+\$) • Regular Expression: ^[A-Za-z0-9]+\$ |

Lastly, here's a good prompt template you can use to request a regex from any AI tailored to your needs:

Prompt:

Can you please provide a regular expression to validate [type of data]? The data should meet the following conditions:

1. **[Condition 1]:** Describe the first condition (e.g., "Only allow letters and numbers").
2. **[Condition 2]:** Describe the second condition (e.g., "Minimum length of 5 characters").
3. **[Condition 3]:** Describe any additional conditions (e.g., "Must contain at least one special character").
4. **[Optional]:** If there are any other specific rules, such as format restrictions or examples of valid/invalid inputs, mention them.

For example: "Can you provide a regex to validate email addresses that must contain at least one dot and one '@' symbol?"

Example of a Filled-Out Request:

Prompt:

Can you please provide a regular expression to validate a US phone number? The number should meet the following conditions:

1. **Starts with a country code:** An optional + followed by 1-3 digits (e.g., +1, +44).
2. **Followed by a 10-digit phone number:** In formats like (123) 456-7890, 123-456-7890, or 1234567890.
3. **Allow optional spaces or hyphens between groups of digits.**

Don't forget to fill the **Regex Validation Error Message** field 😊.

Known Issues/Limitations

- No known issues

Useful Resources

1. Guide - <https://coderpad.io/blog/development/the-complete-guide-to-regular-expressions-regex/>
2. RegEx Generator - <https://regex-generator.olafneumann.org/>