Axy Validator

Rules Description Document

Version 2.2, June 2019

INDEX:

1. DOCUMENT PURPOSE

Axy Validator from AXY7 provides you with common or complex validations to improve your salesforce data quality and maximize your business performance. Axy Validator is easily installed and configured by any Salesforce Administrator, just with a few clicks

The purpose of this document is the listing and detailed description of the complete set of rules included in the Axy Validator app.

You will see below the explanation of the different rules, with an extensive description of how they are applied and the definition and characteristics of the fields you want to validate with every rule.

The validation rules come from official organizations and standards and AXY7 continuously works on updated versions. You only need to choose the rule you want to use and apply it to the relevant data for your processes. You will then have the data quality your business need.

2. Validation Rules Types

Our App provides three different validation types, depending on your business needs. Sometimes, the need to be very agile on data input only requires a format validation. There are other business situations where you need a more precise validation, so you need a checksum validation. And, finally, you may need to assure that data are not only correct but they “exist”, they are alive.

LOCAL VALIDATIONS

Some of the Axy Validator prebuilt rules help you to be sure that the LENGTH and SYNTAX of a code are correct, so the FORMAT accomplishes the definition of that type of data. This is the case of the US Social Security Number rule, that validates the input has a length of 9 digits with a first group of 3 digits, a second group of 2 digits and a third group of 4 digits. And does not begin with ’666', as one of the syntax conditions.

These rules are noted in the App as LOCAL.

CHECKSUM VALIDATIONS

This type of rule not only validates LENGTH and SYNTAX but AVOIDS any TYPING ERROR. This data quality check is performed using the checksum algorithm that the managing organization or the ISO standard body has defined for that code. This is the case of the IBAN Checksum rule, which follows the ISO 13616 and uses a MOD-97-10 algorithm.

These rules are noted in the App as CHECKSUM.

OPERATING VALIDATIONS

The ultimate validation rule. You will be sure that the data you are using defines a VALID and OPERATIVE code, so will always work for your business process. This means, as an example, if you need to be sure that and European VAT number belongs to the company you are doing business with, you should use this type of rule. The way it works is sending a query to the remote service of the official organization that manages and/or issues that code. Please go to our **Roadmap plan** in Axy Validator web page to check availability for this type of rules.

3. Action Types

Improving the classic Salesforce Validation Rule functionality, our application supports two types of actions during the validation: Warning and Error. Axy Validator gives your business more flexibility to capture the right information in the right process moment.

WARNING ACTIONS

Allows you to configure a specific field to set a warning message when the checked data is not correct. But this action allows the user to save the record.

ERROR ACTIONS

This action prevents the user to save the record when informed data is no matching the expected format. So you assure the business process only goes on if every data is correct.

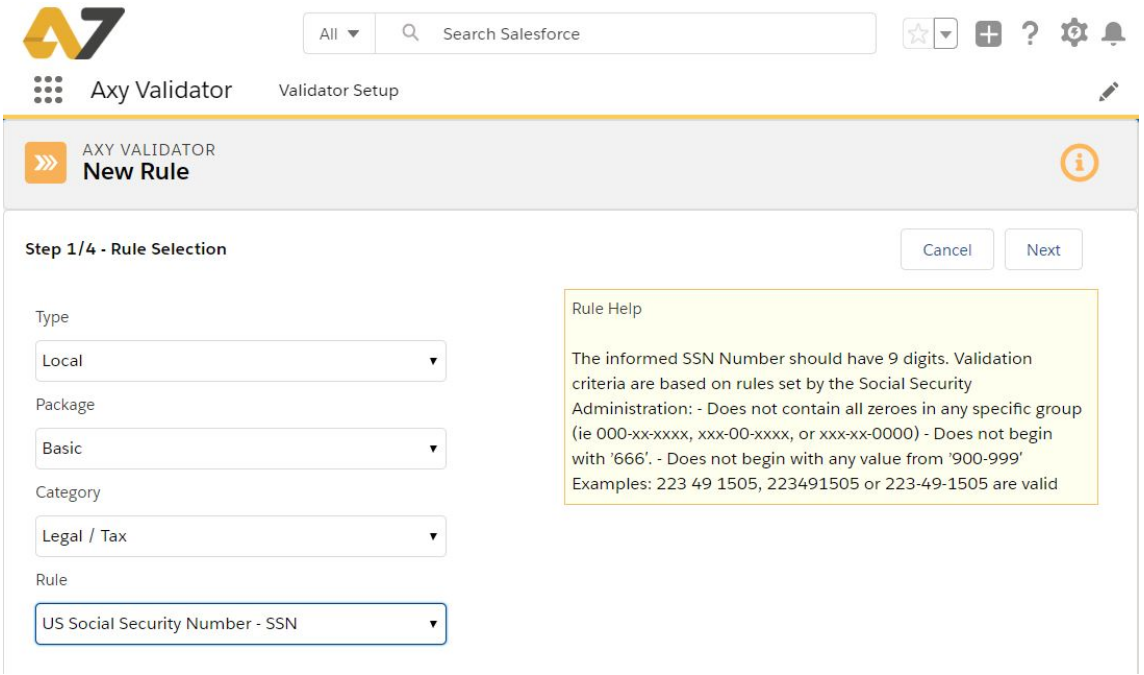
4. Rule Configuration generic description

We are describing in this section a generic rule in order to understand the different options and menus of the Rules Configuration Wizard on Validator Setup.

We are using the US SSN - Social Security Number as an example.

In the **first screen of the wizard**, you find the **RULE SELECTION** page:

- **TYPE**: If you want to use a LOCAL or a CHECKSUM rule
- **PACKAGE**: This will allow you to use rules from different Axy Validator Packages that you have installed in your org. Basic is the one by default.
- **CATEGORY**: We have classified the rules in different categories, to make easier to decide the rules you want to apply. We currently have three categories
    - **Legal / Tax**. Validation rules for taxes or legal purposes, like a VAT Number (Value Added Tax Number).
    - **Bank / Payments**. Applied to validate Bank codes or Payment Methods (Credit Cards)
    - **Contact Information**. These rules validate contact numbers or identifiers, like phone numbers or email addresses.

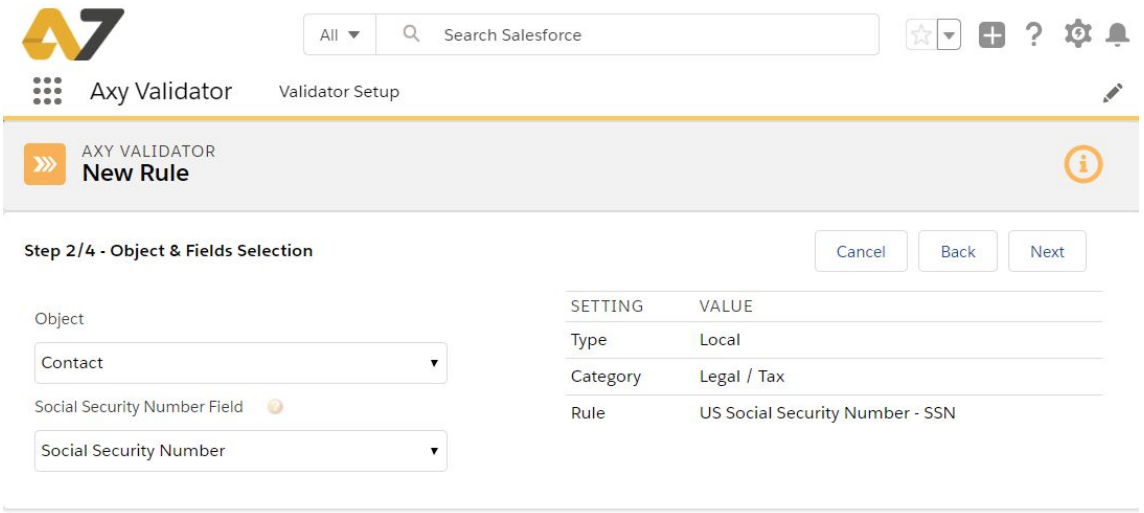


In the **second wizard screen**, you find the **OBJECT and FIELD SELECTION** page. In this page, you have to decide the Field Mapping for the rule.

The rule has to be mapped to a FIELD (Labeled in Validator Setup as *Social Security Number Field* for this example) in an OBJECT previously configured in your org.
This will be the field where you have the data you want to be validated by the rule.

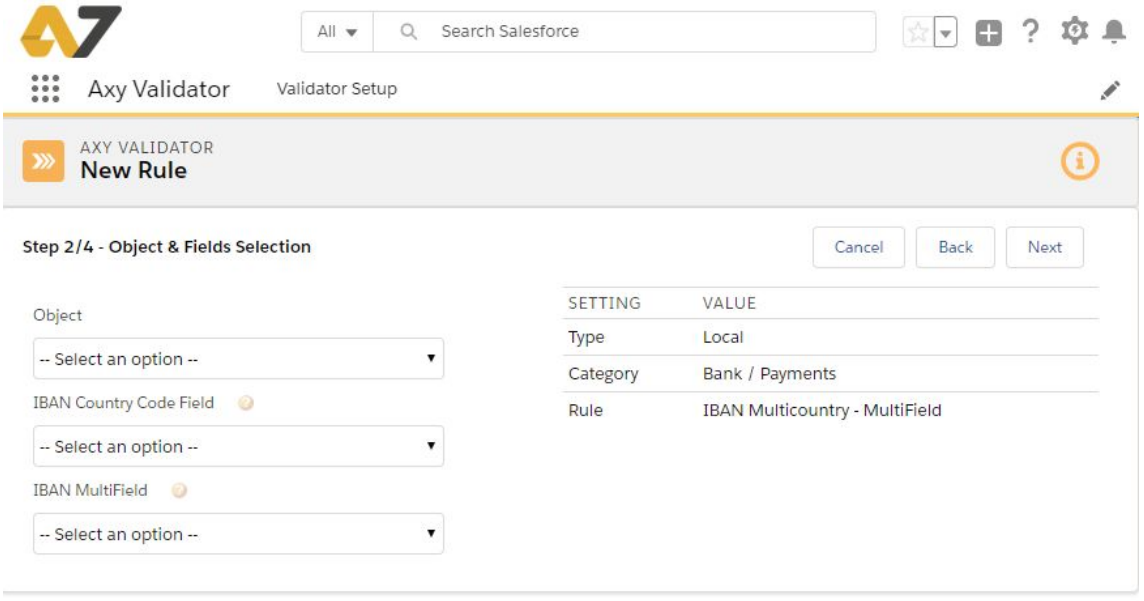
Axy Validator will show you a Picklist with the objects in your org and the Text Fields in the object you select. In this example, we have selected the standard object CONTACT and the user-defined field SOCIAL SECURITY NUMBER in it.

The FIELD has to have a minimum length for the rule to be applied. The minimum length is defined in every rule description.



There are rules that need two fields to validate. For this kind of rules we need to map the two FIELDs, and both have to be previously configured in your org.

Below you have the case of the IBAN Multicountry - Multifield, as an example, where you need the Country Code in order to apply the IBAN rule for every .

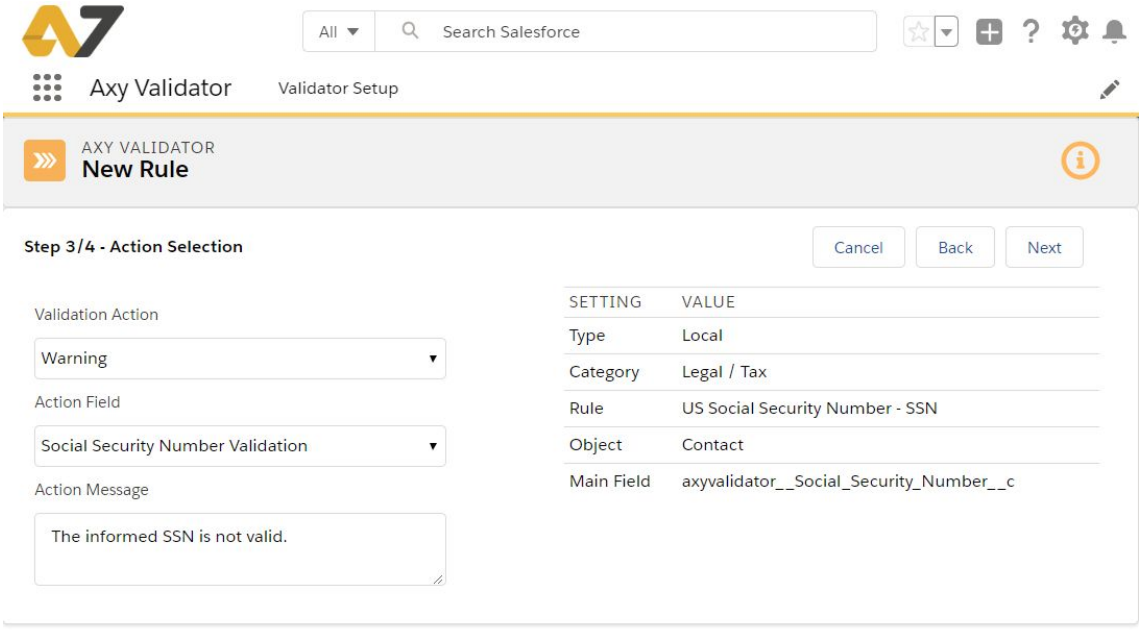


In the **third wizard screen**, you need to define the **ACTION SELECTION**. If you decide to use the **WARNING** validation action, (see image below), then you have to map as well other FIELD (Labeled in Validator Setup as *Action Field*) in the same OBJECT where you have the one validated by the rule.

This is the field where you will receive the *Action Message*. The *Action Message* is defined by Axy Validator, but you can customize it. The Action Field has to be preconfigured in the OBJECT as a TEXT AREA with a length of 255, long enough to contain the defined Action Message.

When the rule is applied, if the result is not correct, then the *Action Field* will be written with the *Action Message*. **The record will be saved**.

If the result is correct, then the Action Field will be written with the Axy Validator message **OK followed by the time stamp** of the validation: "OK - 2018-12-10 07:14:05" is an example. **The record will be saved as well**.

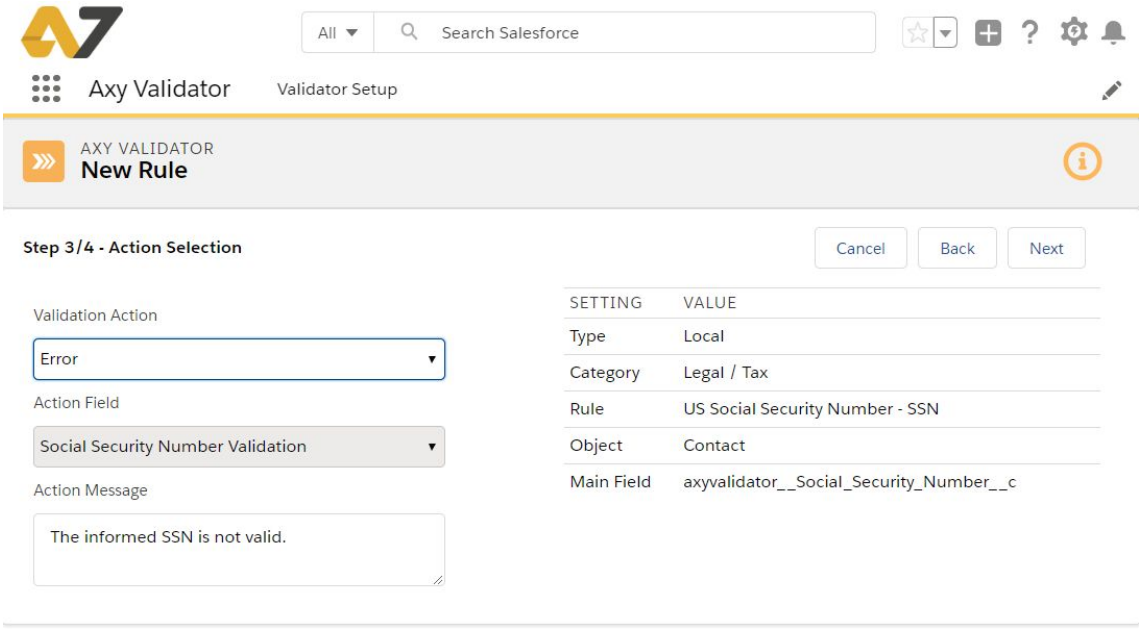


If you decide to use the **ERROR** validation action, (see image below), then you do not need to map other FIELD.

Yet you have to define the *Action Message* unless you want to use the one pre-defined by Axy Validator.

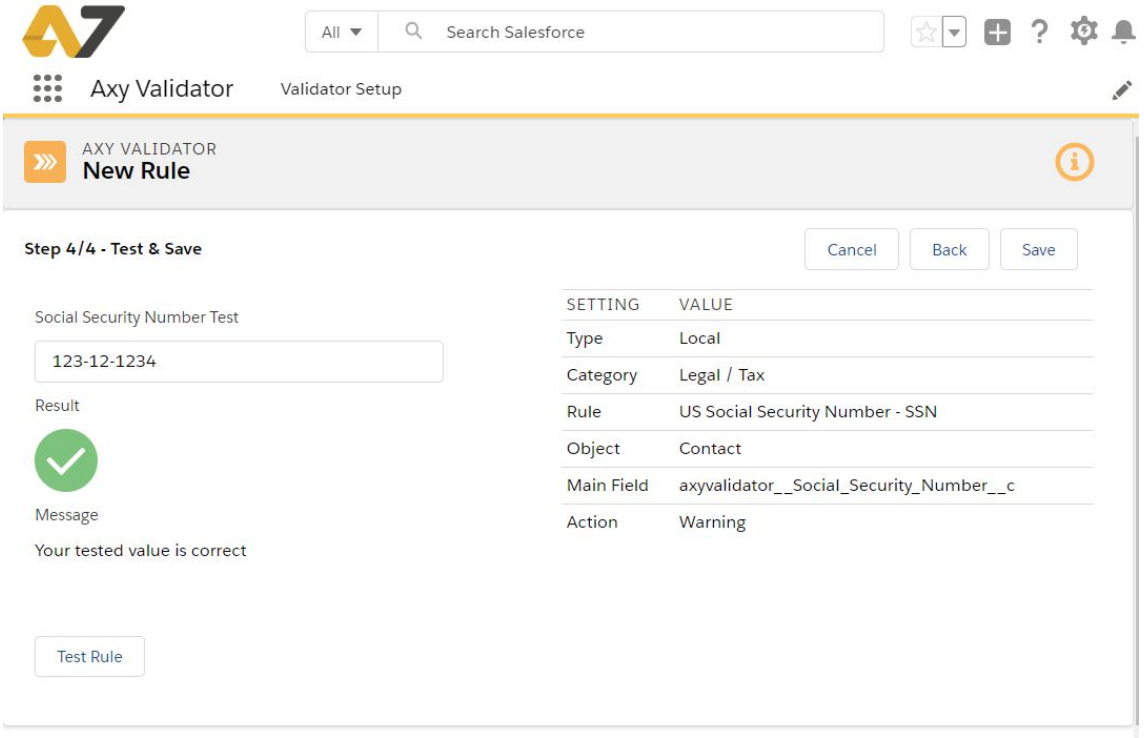
When the rule is applied, if the result is not correct, then the *Action Message* will be shown as an Axy Validator error message. **The record will not be saved**.

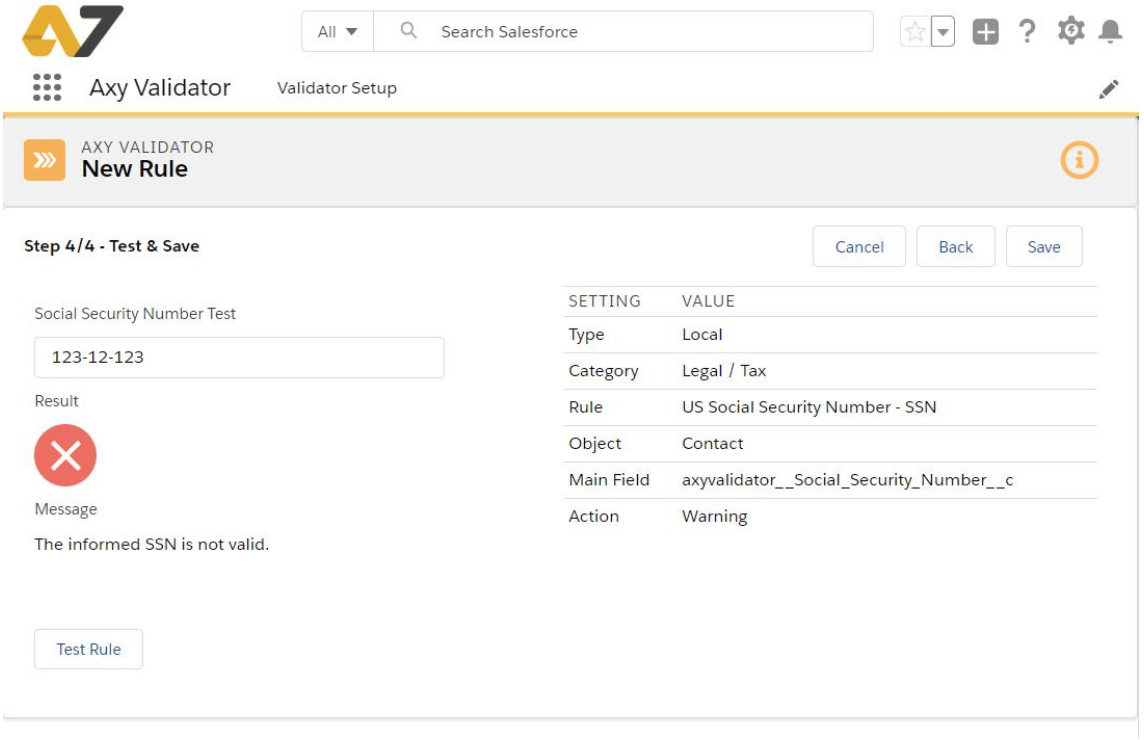
If the result is correct, then the record will be saved and no error message appears.



Lastly, In the **fourth wizard screen**, you can **TEST and SAVE** the rule.

You can test the rule clicking the button prior to saving. You will then see one of the two screens below, depending on the result of the test.





Below you have the full list of rules, classified by Type (Local or Checksum).

In every rule you will see the following schema:

- Summary
- Description
    - Format to validate
    - Special cases
    - What is not validated
- Examples

5. Other Axy Validator Features

In this section you can see other special features Axy Validator has to make its usage more efficient and flexible

Bypass feature

Axy Validator has a feature that permits any Salesforce admin to configure a Bypass for pre-build validations such as IBAN or VAT.

If you need to run any of our prebuild validations, but sometimes you need to exclude a record from being validated, you can create a ByPass Field that will tell Axy Validator when to run validations.

This ByPass Field has to be named ***AxyValidator_ByPass__c***. Axy validator checks if a so-named field exists and which value it has. If value is **TRUE**, Axy Validator will bypass that record.

The field ***AxyValidator_ByPass__c*** needs to be **Boolean** and our recommendation is to create it as **formula** field. By doing that you will be able to handle some business logic.

Example

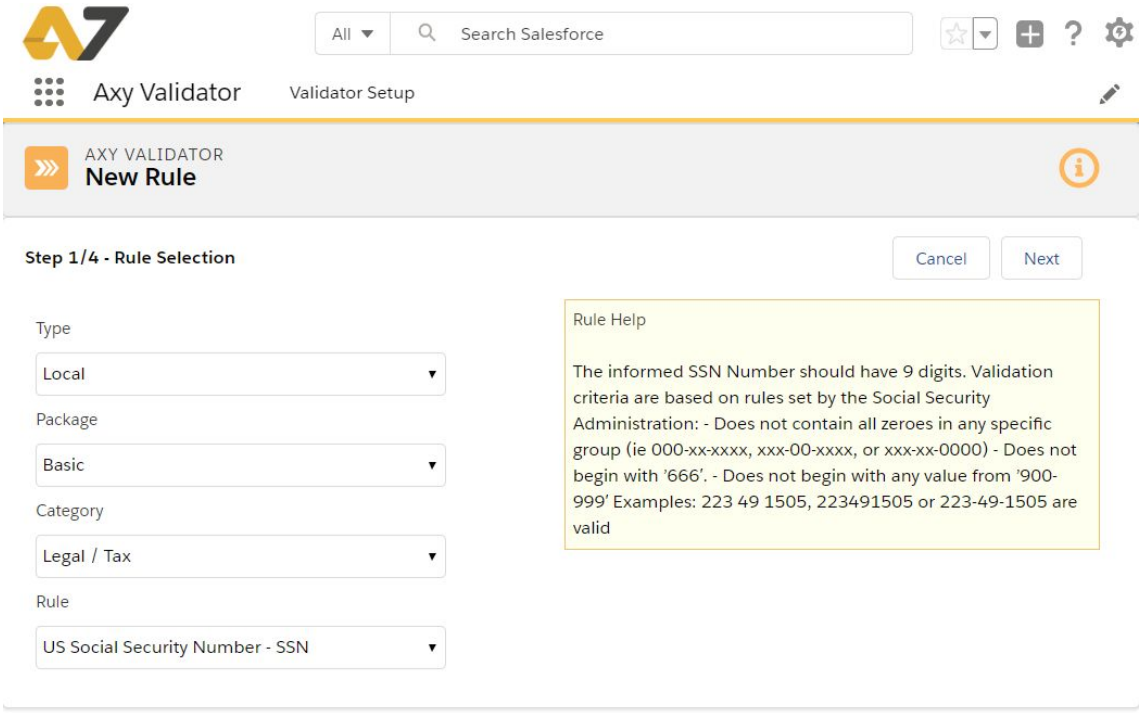
Let's say that you only need to check the Social Security Number in contact records where the RecordType is "Employee".

Just by creating a formula field named **AxyValidator_ByPass__c** that contains the following logic, Axy Validator will exclude the records that are not Employee:

NOT (RecordType.DeveloperName="Employee")

6. Local Axy Validator Rules

US Social Security Number - SSN



Summary

The object of this rule is the validation of the **Social Security Number (SSN)** in the USA. The Social Security number is a nine-digit number issued to U.S. citizens, permanent residents, and temporary (working) residents under section 205(c) of the Social Security Act.

The number is issued to an individual by the Social Security Administration, an independent agency of the United States government.
Although its primary purpose is to track individuals for Social Security purposes, the Social Security number has become a de facto national identification number for taxation and other purposes.

Description

Format to validate

The SSN has three groups of digits. A first group of 3 digits, a second group of 2 digits and a third group of 4 digits. A total of 9 digits.

The rule validates the number in the following formats:

- XXX-XX-XXXX
- XXX XX XXXX
- XXXXXXXXX

Validation criteria for SSN are based on rules set by the Social Security Administration.

Special Cases

- Does not contain all zeroes in any specific group (ie 000-xx-xxxx, xxx-00-xxxx, or xxx-xx-0000)
- Does not begin with ’666'.
- Does not begin with any value from ’900-999'

What is not validated

SSNs definition does not have any digits for any kind of validity check. The rule only validates the format but does not assure that the SSN is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  123-12-1234

  123121234

  123 12 1234

- Incorrect

  The following strings are not validated by the rule:

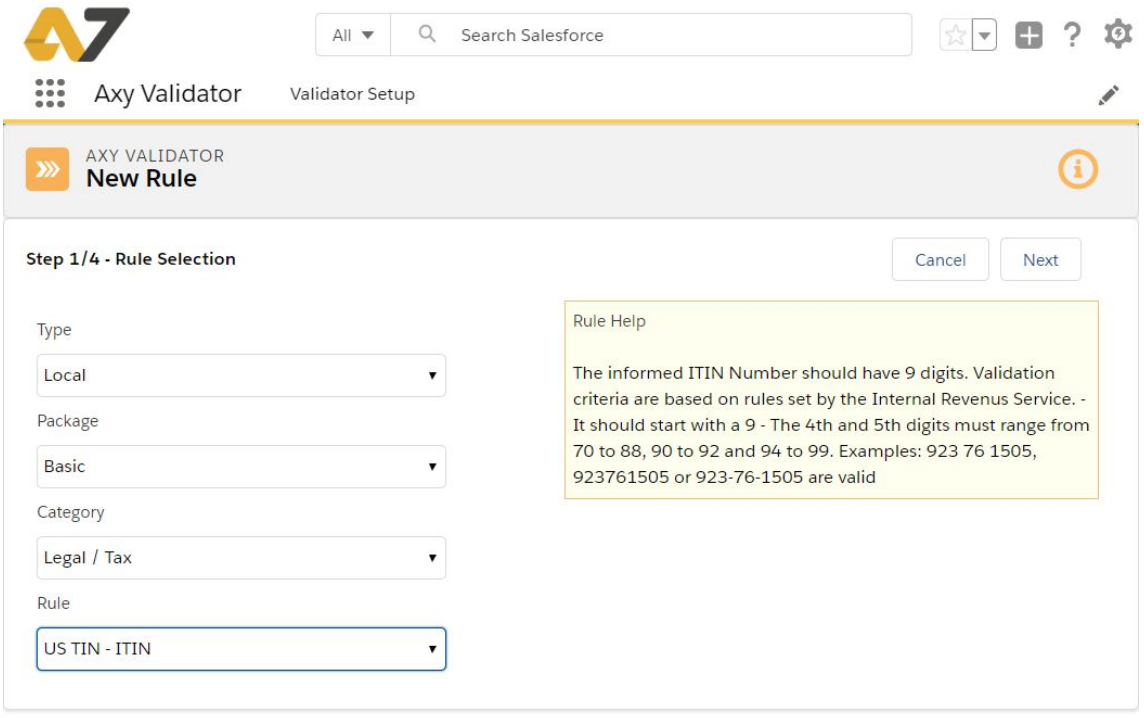
  123-12 1234

  666121234

  992121234

  842-00-1234

US TIN - ITIN



Summary

The object of this rule is the validation of the **Individual Taxpayer Identification Number (ITIN)** in the USA. It is issued by the Internal Revenue Service (IRS).

An Individual Taxpayer Identification Number (ITIN) is a tax processing number issued by the Internal Revenue Service. The IRS issues ITINs to individuals who are required to have a U.S. taxpayer identification number but who do not have and are not eligible to obtain, a Social Security number (SSN) from the Social Security Administration (SSA)

Description

Format to validate

The ITIN has three groups of digits. A first group of 3 digits, a second group of 2 digits and a third group of 4 digits. A total of 9 digits.
First digit is always a 9.

The rule validates the number in the following formats:

- XXX-XX-XXXX
- XXX XX XXXX

- XXXXXXXXX

Validation criteria for ITIN are based on rules set by the Internal Revenue Service

Special Cases

The second group must range from 70 to 88, 90 to 92 and 94 to 99

What is not validated

ITIN definition does not have any digits for any kind of validity check. The rule only validates the format but does not assure that the ITIN is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  923-72-1234

  923721234

  923 72 1234

- Incorrect

  The following strings are not validated by the rule:

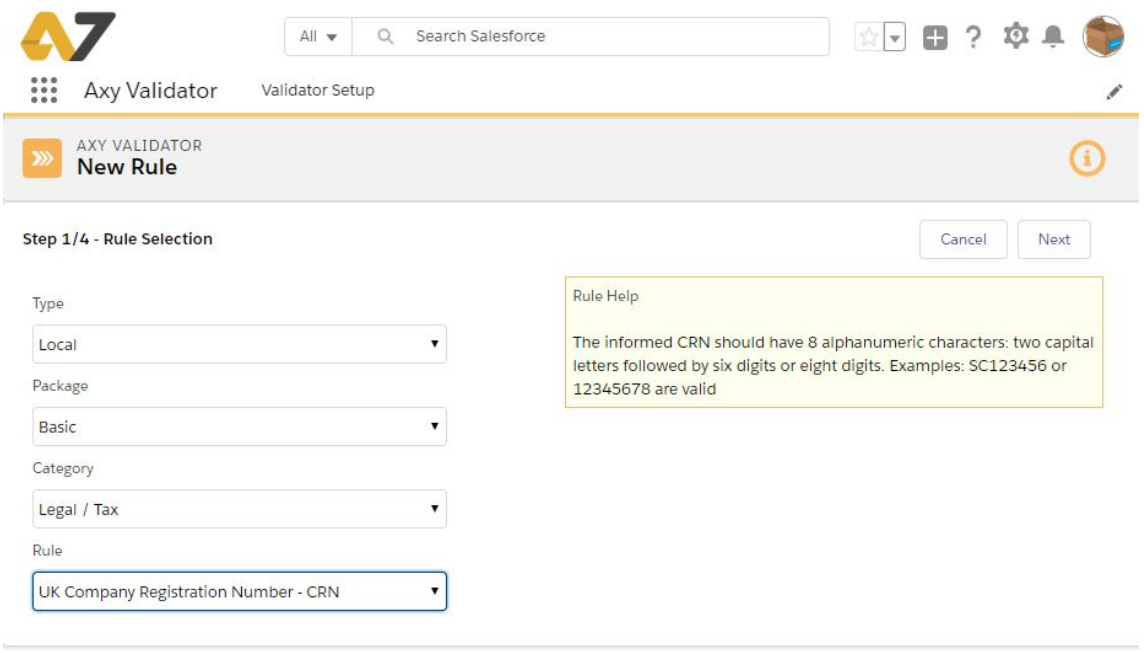
  923-72 1234

  92372-1234

  923 721234

  823721234

UK Company Registration Number - CRN



Summary

The object of this rule is the validation of the **Company Registration Number (CRN)** in the UK.

A company registration number is a unique number issued by Companies House when a limited company or Limited Liability Partnership (LLP) is incorporated. It is usually abbreviated as 'CRN' and is sometimes referred to as a Companies House Number.

Generally, you should expect to provide your CRN when:

- Changing your registered office or SAIL address.
- Filing annual returns.
- Filing annual accounts.
- Registering for business taxes.

Description

Format to validate

A CRN will consist of 8 numbers, or 2 letters followed by 6 numbers. It is computer generated on a sequential basis depending on your country of incorporation and the type of company you set up.

The rule validates the CRN code in the following formats, where A is a capital letter and X is a digit:

- AAXXXXXX
- XXXXXXXX

Validation criteria for CRN are based on rules set by the **UK Companies House**

Special Cases

- Companies formed in England and Wales have CRNs beginning with 0 (zero).
- Scottish companies are given CRNs with the prefix 'SC'.
- Limited Liability Partnerships (LLPs) are issued with CRNs beginning with 'OC'.
- Scottish LLPs have CRNs beginning with 'SO'.

What is not validated

CRN definition does not have any digits for any kind of validity check. The rule only validates the format but does not assure that the CRN is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  SC488522

  06488522

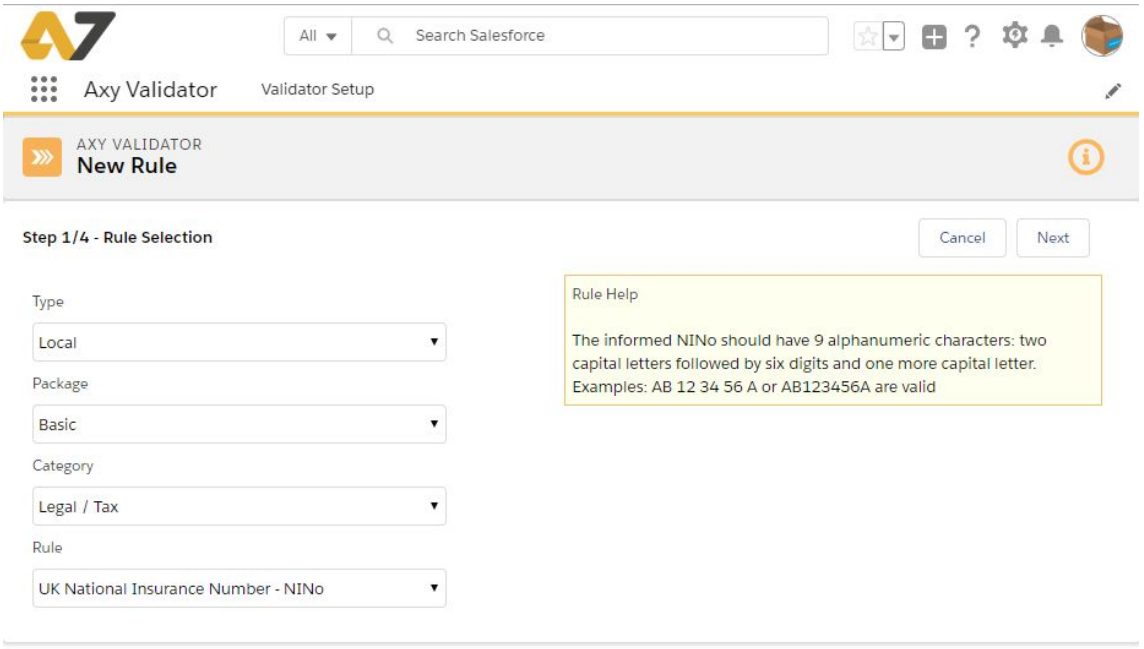
- Incorrect

  The following strings are not validated by the rule:

  QQ 12 345

  1234564

UK National Insurance Number - NINo



Summary

The object of this rule is the validation of the **National Insurance Number (NINo)** in the UK.

The NINo is an administrative number primarily for the use of **HM Revenue & Credits (HMRC) and the Department of Works and Pensions (DWP)**. Many people have the same or similar identity details so having a unique NINo means that any Tax and National Insurance Contributions they pay or credits they are awarded can be correctly recorded on their NI account.
It is used by DWP to check the NI record when that person makes a claim to contributory state benefit and to record information about benefit claims on the National Insurance account.

An individual is given one NINo - once it has been allocated they keep the same number forever.

Description

Format to validate

A NINo is made up of two letters, six numbers and a final letter, which is always A, B, C, or D.

The rule validates the NINo code in the following formats, where A is a capital letter and X is a digit:

- AA XX XX XX A
- AAXXXXXXA

Validation criteria for NINo are based on rules set by the **GOV.UK**

What is not validated

NINo definition does not have any digits for any kind of validity check. The rule only validates the format but does not assure that the NINo is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  AB 12 34 56 A

  AZ123456A

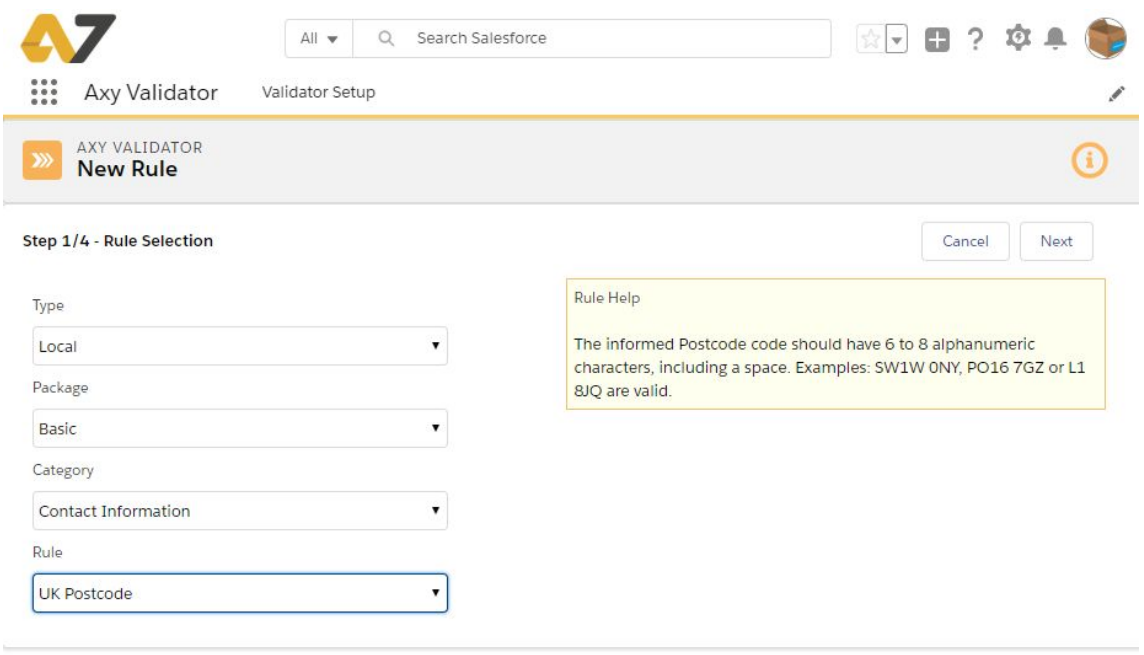
- Incorrect

  The following strings are not validated by the rule:

  QQ 12 34 A

  12345678A

UK Postcode



Summary

The object of this rule is the validation of the **UK Postal Codes (postcode).**

They are alphanumeric and were adopted nationally between 11 October 1959 and 1974, having been devised by the **General Post Office (Royal Mail)**. A full postcode is known as a "postcode unit" and designates an area with a number of addresses or a single major delivery point.

The structure of a postcode is that of two alphanumeric codes, the first made up of between two and four characters, and the second made up of three characters. First, one or two letters indicate the city or region, followed by one or two digits signifying a locality/ area or neighbourhoods in that city/ region. This is followed by a space and then a number and two letters which are allocated to streets, and sides of the street

Description

Format to validate

The postcodes are alphanumeric, and are variable in length: ranging from six to eight characters (including a space) long.

Each post code is divided into two parts separated by a single space:

- The outward code includes the postcode area and the postcode district, respectively.
- The inward code includes the postcode sector and the postcode unit respectively.

Examples of postcodes include "SW1W 0NY", "PO16 7GZ", "GU16 7HF", or "L1 8JQ".

The rule validates the postcode in the following formats, where A is a capital letter and X is a digit:

- AAXA XAA
- AXA XAA
- AX XAA
- AXX XAA
- AAX XAA
- AAXX XAA

Validation criteria for UK postcodes are based on rules referenced by Postcodes in the United Kingdom

What is not validated

UK Postcode definition does not have any digits for any kind of validity check.

Examples

- Correct

  The following strings are validated by the rule:

  GU16 7HF

  L1 8JQ

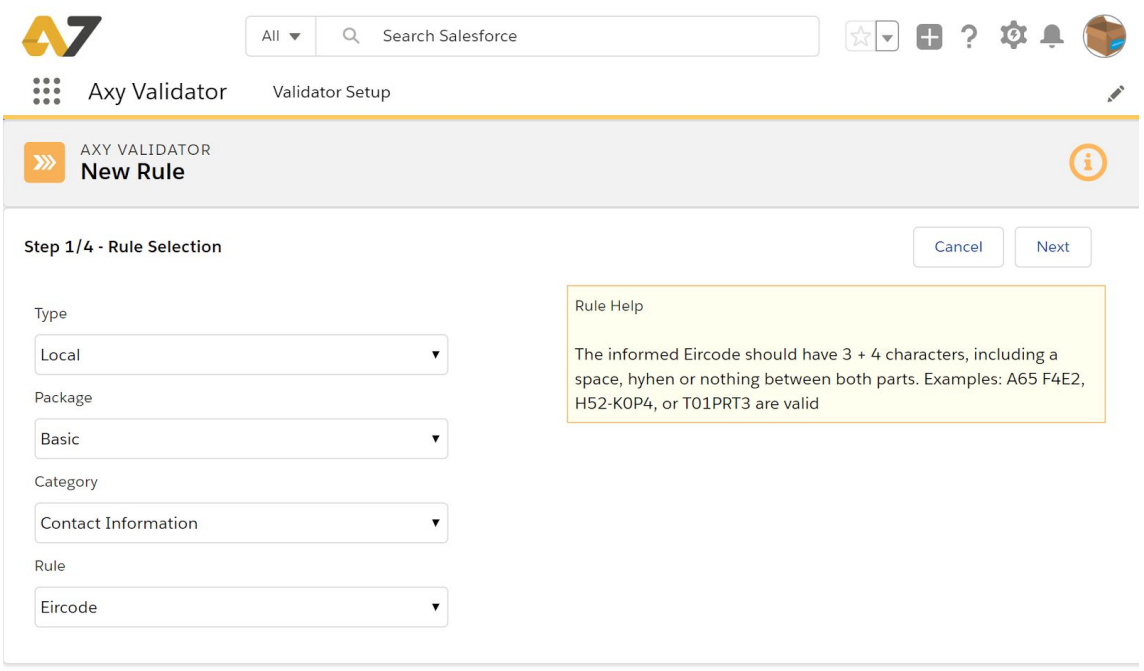
- Incorrect

  The following strings are not validated by the rule:

  16GU 7HF

  GU1F 8JQ

EIRCODE



SUMMARY

The object of this rule is the validation of the **Eircode**.

In July 2015 every address in Ireland has received its unique Eircode. Eircode is the Republic of Ireland's new Postcode Address Database of unique address identifiers for all addresses in the state.

It assists citizens, businesses and public bodies to locate every individual address in the country using its own unique Eircode at the end of current addresses.

All 2.2 million addresses in the country have been directly notified of their Eircode in July 2015. People do not need to change their address, they just add the Eircode at the end of their current address.

DESCRIPTION

FORMAT TO VALIDATE

The Eircode is seven characters in length, divided into two parts – a three character Routing Key and a four character Unique Identifier.

- Routing key is designed to help the parcel/postal industry. A Routing Key will be shared by many properties in an area, so will become familiar in

the same way that prefixes on landline telephone numbers indicate what part of the country the phone is located.
- The second part has four characters drawn from a carefully selected set of letters and numbers that identify each address.

Both parts can contain CAPITAL LETTERS and/or DIGITS

Examples of Eircode include "A65 F4E2", "H52 K0P4", or "T01 PRT3"

The rule validates the Eircode with hyphen, space or nothing between the two parts:

- XXXX XXX
- XXXX-XXX
- XXXXXXX

Validation criteria for Eircode are based on rules referenced by PREPARE YOUR BUSINESS FOR EIRCODE document, supported by the Department of Communications, Climate Action and Environment.

What is not validated

Eircode definition does not have any digits for any kind of validity check.

Examples

- Correct

  The following strings are validated by the rule:

  A65 F4E2

  H52-K0P4

  T01PD6W

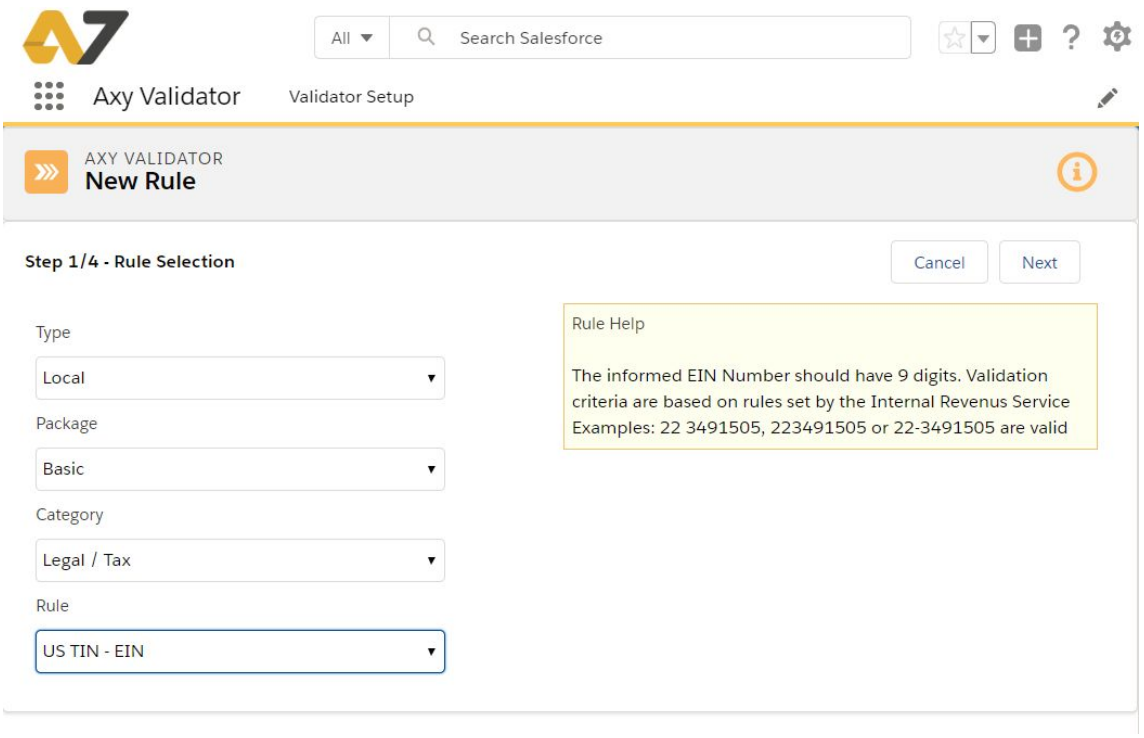
- Incorrect

  The following strings are not validated by the rule:

  16GU 7HF

  GU1F-8J

US TIN - EIN



Summary

The object of this rule is the validation of the **Employer Identification Number (EIN)** in the USA. It is issued by the Internal Revenue Service (IRS).

An Employer Identification Number is also known as a federal tax identification number, and is used to identify a business entity in the administration of tax laws.

It is also used by estates and trusts which have income which is required to be reported on Form 1041, U.S. Income Tax Return for Estates and Trusts.

Description

Format to validate

The EIN has two groups of digits. A first group of 2 digits and a second group of 7 digits. A total of 9 digits.

The rule validates the number in the following formats:

- XX XXXXXXX
- XX-XXXXXXX
- XXXXXXXXX

Validation criteria for EIN are based on rules set by the Internal Revenue Service

What is not validated

EIN definition does not have any digits for any kind of validity check. The rule only validates the format but does not assure that the EIN is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  12-1234567

  12 1234567

  121234567

- Incorrect

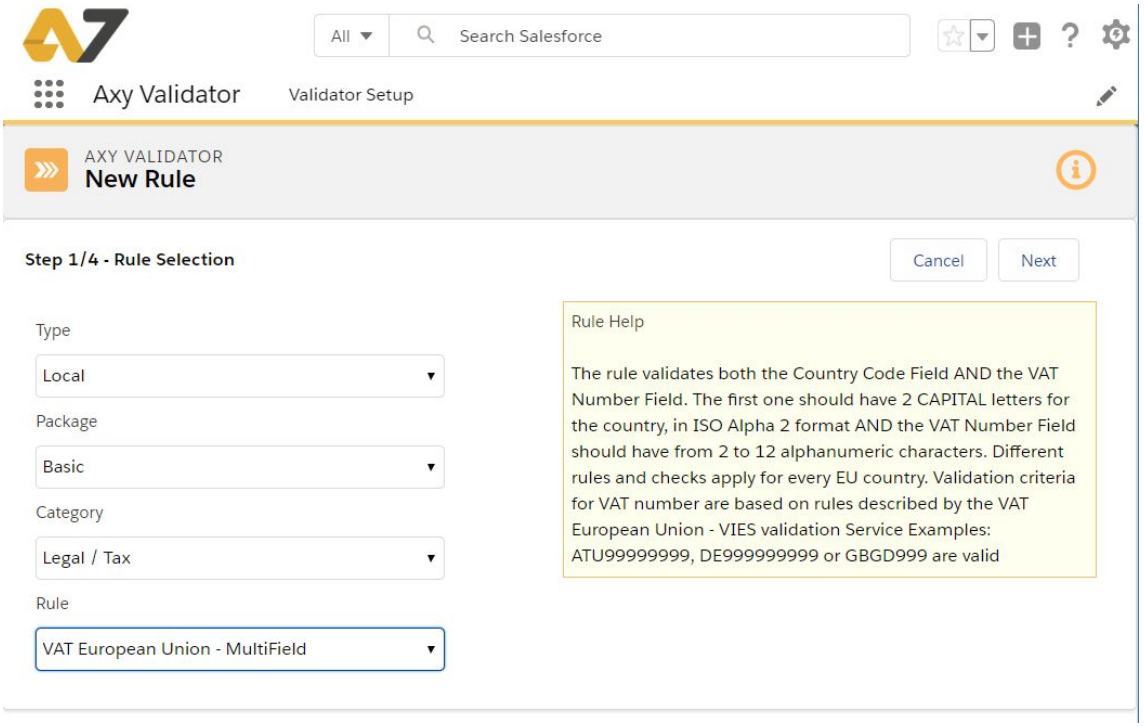
  The following strings are not validated by the rule:

  12-123-4567

  1212 34567

  12345678

VAT European Union - MultiField



Summary

The object of this rule is the validation of the **Value Added Tax Number (VAT number)** in the European Union.

Sometimes also known as a VAT registration number, this is the unique number that identifies a taxable person (business) or non-taxable legal entity that is registered for VAT. Every EU country issues its own national VAT number.

Most businesses (and other persons carrying out an economic activity) need a VAT number.
In particular, business is obliged to register for VAT in the following cases:

- When it carries out the supply of goods or services taxed with VAT
- When it makes an intra-EU acquisition of goods
- When it receives services for which it is liable to pay VAT
- When it supplies services for which the customer is liable to pay VAT

Description

Format to validate

The VAT full identifier starts with an ISO alpha-2 (2 letters) country code and then has a VAT number between 2 and 12 characters.

The identifiers are composed of numeric digits in most countries but, in some countries, they may contain letters.

This rule validates the **VAT number using two fields**: one for the **Country Code** in ISO alpha-2 (2 letters) format and other for the **VAT number**.

The rule validates the identifier always WITHOUT any space.

Validation criteria for VAT number are based on rules described by [VAT European Union - VIES validation Service]

Special Cases

The table below shows the different formats for every EU country

- 9: A digit
- X: A letter or a digit
- L: A letter

Member State	Structure	Format
AT-Austria	AT**U**99999999	1 block of 9 characters
BE-Belgium	BE**0**999999999	1 block of 10 digits
BG-Bulgaria	BG999999999 or	1 block of 9 digits or 1 block of 10 digits
	BG9999999999	
CY-Cyprus	CY99999999L	1 block of 9 characters
CZ-Czech Republic	CZ99999999 or	1 block of either 8, 9 or 10 digits
	CZ999999999 or	
	CZ9999999999	
DE-Germany	DE999999999	1 block of 9 digits
DK-Denmark	DK99999999	4 blocks of 2 digits
EE-Estonia	EE999999999	1 block of 9 digits
EL-Greece	EL999999999	1 block of 9 digits
ES-Spain	ESX9999999X	1 block of 9 characters
FI-Finland	FI99999999	1 block of 8 digits
FR-France	FRXX999999999	1 block of 2 characters, 1 block of 9 digits

GB-United Kingdom	GB999999999 or	1 block of 3 digits, 1 block of 4 digits and 1 block of 2 digits; or the above followed by a block of 3 digits; or 1 block of 5 characters
	GB999999999999 or	
	GB**GD**999 or	
	GB**HA**999	
HR-Croatia	HR99999999999	1 block of 11 digits
HU-Hungary	HU99999999	1 block of 8 digits
IE-Ireland	IE9L99999L or	1 block of 8 characters or 1 block of 9 characters
	IE9999999L or	
	IE9999999LL	
IT-Italy	IT99999999999	1 block of 11 digits
LT-Lithuania	LT999999999 or	1 block of 9 digits, or 1 block of 12 digits
	LT999999999999	
LU-Luxembourg	LU99999999	1 block of 8 digits
LV-Latvia	LV99999999999	1 block of 11 digits
MT-Malta	MT99999999	1 block of 8 digits
NL-The Netherlands	NL999999999**B**99	1 block of 12 characters
PL-Poland	PL9999999999	1 block of 10 digits
PT-Portugal	PT999999999	1 block of 9 digits
RO-Romania	RO999999999	1 block of minimum 2 digits and maximum 10 digits
SE-Sweden	SE999999999999	1 block of 12 digits
SI-Slovenia	SI99999999	1 block of 8 digits
SK-Slovakia	SK9999999999	1 block of 10 digits

What is not validated

The rule only validates the format but does not assure that the VAT is issued or active.

Examples

- Correct

The following strings are validated by the rule:

Country Code: EE

VAT Number: 999999999

Country Code: IT

VAT Number: 99999999999

- Incorrect

  The following strings are not validated by the rule:

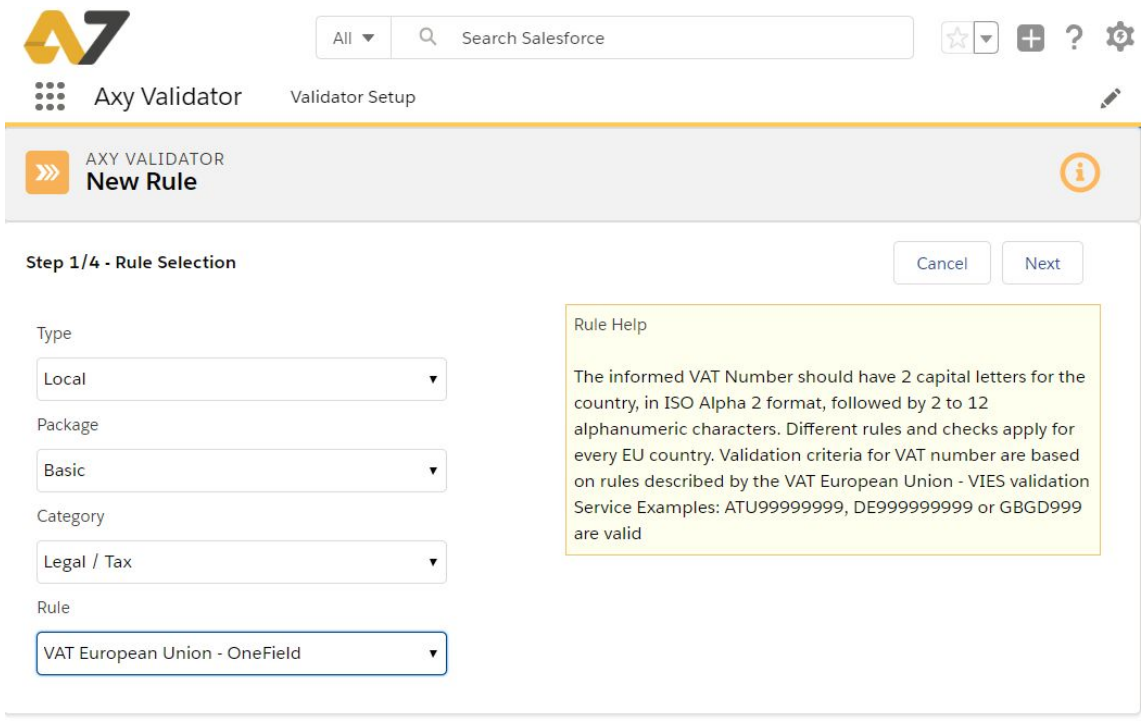
  Country Code: ee

  VAT Number: 999999999

  Country Code: IT

  VAT Number: 99999999999999999

VAT European Union - OneField



Summary

The object of this rule is the validation of the **Value Added Tax Number (VAT number)** in the European Union.

Sometimes also known as a VAT registration number, this is the unique number that identifies a taxable person (business) or non-taxable legal entity that is registered for VAT. Every EU country issues its own national VAT number.

Most businesses (and other persons carrying out an economic activity) need a VAT number.
In particular, business is obliged to register for VAT in the following cases:

- When it carries out the supply of goods or services taxed with VAT
- When it makes an intra-EU acquisition of goods
- When it receives services for which it is liable to pay VAT
- When it supplies services for which the customer is liable to pay VAT

Description

Format to validate

The VAT full identifier starts with an ISO alpha-2 (2 letters) country code and then has a VAT number between 2 and 12 characters.

The identifiers are composed of numeric digits in most countries but, in some countries, they may contain letters.

The rule validates the identifier always WITHOUT any space.

Validation criteria for VAT number are based on rules described by VAT European Union - VIES validation Service

Special Cases

See table in previous rule.

What is not validated

The rule only validates the format but does not assure that the VAT is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  EE999999999

  IT99999999999

  PT999999999

  FRXX999999999

  IE9999999WI

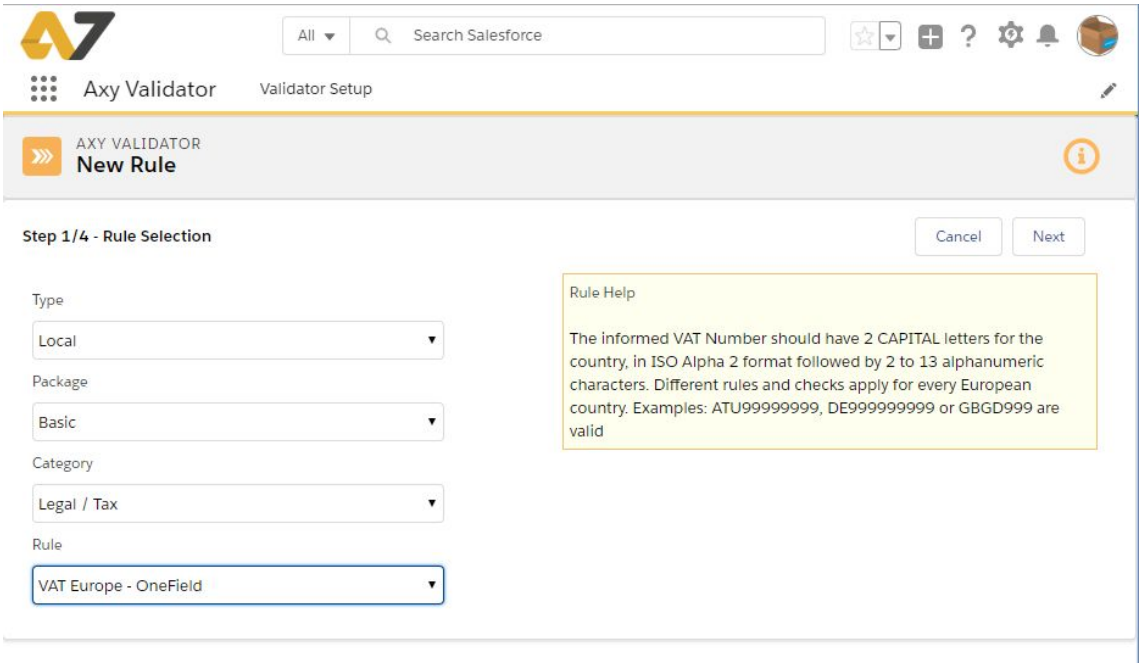
- Incorrect

  The following strings are not validated by the rule:

  ee999999999

  it99999999999

VAT Europe - OneField



Summary

The object of this rule is the validation of the **Value Added Tax Number (VAT number)** in Europe.

This rule validates both, **European Union and NON-European Union VAT numbers. We have included Russia as well for convenience.**

Sometimes also known as a VAT registration number, this is the unique number that identifies a taxable person (business) or non-taxable legal entity that is registered for VAT. Every EU country issues its own national VAT number.

Most businesses (and other persons carrying out an economic activity) need a VAT number.
In particular, business is obliged to register for VAT in the following cases:

- When it carries out the supply of goods or services taxed with VAT
- When it makes an intra-EU acquisition of goods
- When it receives services for which it is liable to pay VAT
- When it supplies services for which the customer is liable to pay VAT

Description

Format to validate

The VAT full identifier starts with an ISO alpha-2 (2 letters) country code and then has a VAT number between 2 and 14 characters.

The identifiers are composed of numeric digits in most countries but, in some countries, they may contain letters.

The rule validates the identifier always WITHOUT any space.

Validation criteria for VAT number are based on rules described by VAT European Union - VIES validation Service

Special Cases

The table below shows the different formats for every European country

- 9: A digit
- X: A letter or a digit
- L: A letter

Member State	Structure	Format
European Union Countries		
AT-Austria	AT**U**99999999	1 block of 9 characters
BE-Belgium	BE**0**999999999	1 block of 10 digits
BG-Bulgaria	BG999999999 or	1 block of 9 digits or 1 block of 10 digits
	BG9999999999	
CY-Cyprus	CY99999999L	1 block of 9 characters
CZ-Czech Republic	CZ99999999 or	1 block of either 8, 9 or 10 digits
	CZ999999999 or	
	CZ9999999999	
DE-Germany	DE999999999	1 block of 9 digits
DK-Denmark	DK99999999	4 blocks of 2 digits
EE-Estonia	EE999999999	1 block of 9 digits
EL-Greece	EL999999999	1 block of 9 digits

ES-Spain	ESX9999999X	1 block of 9 characters, first one a letter or digit, and last one a letter or digit as well. Rest are digits.
FI-Finland	FI99999999	1 block of 8 digits
FR-France	FRXX999999999	1 block of 2 characters, 1 block of 9 digits
GB-United Kingdom	GB999999999 or	1 block of 3 digits, 1 block of 4 digits and 1 block of 2 digits; or the above followed by a block of 3 digits; or 1 block of 5 characters
	GB999999999999 or	
	GB**GD**999 or	
	GB**HA**999	
HR-Croatia	HR99999999999	1 block of 11 digits
HU-Hungary	HU99999999	1 block of 8 digits
IE-Ireland	IE9L99999L or	1 block of 8 characters or 1 block of 9 characters
	IE9999999L or	
	IE9999999LL	
IT-Italy	IT99999999999	1 block of 11 digits
LT-Lithuania	LT999999999 or	1 block of 9 digits, or 1 block of 12 digits
	LT999999999999	
LU-Luxembourg	LU99999999	1 block of 8 digits
LV-Latvia	LV99999999999	1 block of 11 digits
MT-Malta	MT99999999	1 block of 8 digits
NL-The Netherlands	NL999999999**B**99	1 block of 12 characters
PL-Poland	PL9999999999	1 block of 10 digits
PT-Portugal	PT999999999	1 block of 9 digits
RO-Romania	RO999999999	1 block of minimum 2 digits and maximum 10 digits
SE-Sweden	SE999999999999	1 block of 12 digits
SI-Slovenia	SI99999999	1 block of 8 digits
SK-Slovakia	SK9999999999	1 block of 10 digits
NON-European Union Countries		
AL-Albania	AL**J**99999999X	1 block of 10 characters
	AL**K**99999999X	

	AL**L**99999999X	
AN-Andorra	AN**A7**99999X	1 block of 8 characters
	AN**L7**99999X	
	AN**E**999999X	
	AN**C**999999X	
	AN**D**999999X	
	AN**G**999999X	
	AN**O**999999X	
	AN**P**999999X	
	AN**U**999999X	
BY-Belarus	BY999999999	1 block of 9 digits
BA-Bosnia&Herzegovina	Not public	Not included in the validation
IS-Iceland	IS9999999999	1 block of 10 digits
LI-Lietchtenstein	LI999999999999	1 block of 12, 7 or 4 digits
	LI9999999	
	LI9999	
MD-Moldova	Not public	Not included in the validation
ME-Montenegro	Not public	Not included in the validation
SM-San Marino	SM99999	1 block of 5 digits
RS-Serbia	RS999999999	1 block of 9 digits
CH-Switzerland	CH**E**999999999**IVA**	1 block of 13 or 14 characters
	CH**E**999999999**VAT**	
	CH**E**999999999**MWST**	
MK-Macedonia	MK9999999999999	1 block of 13 characters
UA-Ukrania	UA9999999999	1 block of 10 characters
RU-Russia	RU9999999999	1 block of 10 characters

What is not validated

The rule only validates the format but does not assure that the VAT is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  EE999999999

  IT99999999999

  PT999999999

  FRXX999999999

  IE9999999WI

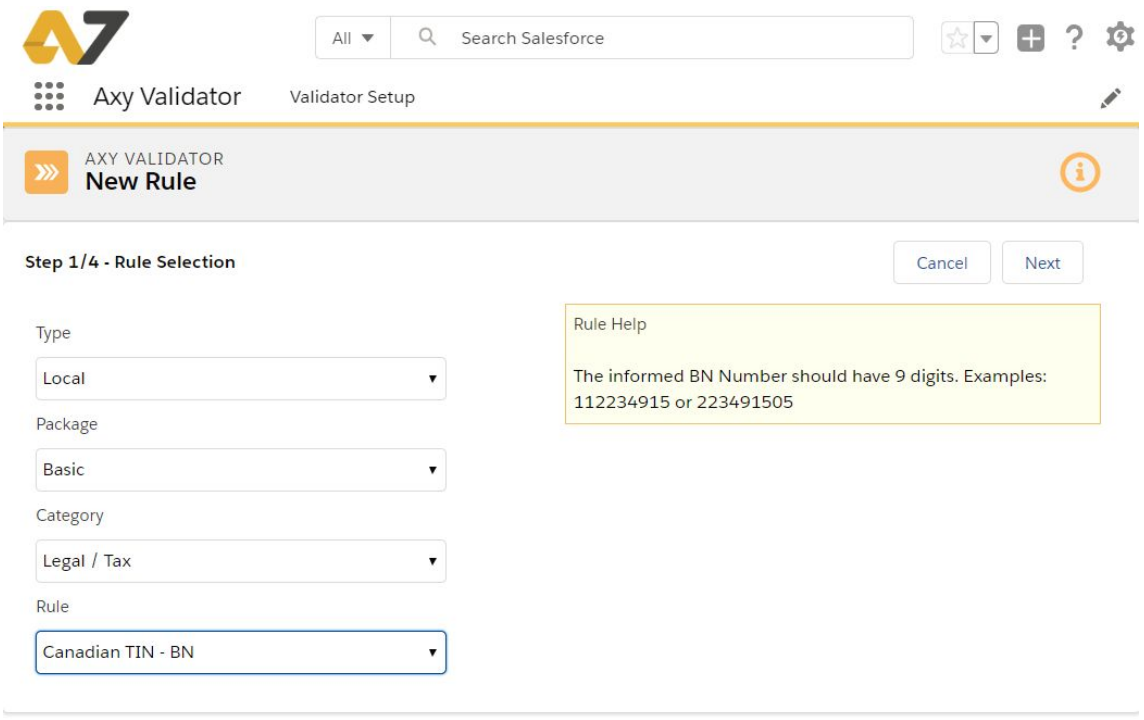
- Incorrect

  The following strings are not validated by the rule:

  ee999999999

  it99999999999

CANADIAN TIN - BN



SUMMARY

The object of this rule is the validation of the **Canadian Business Number. (BN)**.

The Business Number (BN) is a nine-digit number that the Canada Revenue Agency will assign to a business (or other organization such as a charity) for tax matters related to business in Canada.

The BN is gradually becoming the standard identifier for all federal business programs.

DESCRIPTION

FORMAT TO VALIDATE

The Business Number is a nine-digit number. The rule validates the number in the following format:

XXXXXXXXX

Validation criteria for Canadian BN number are based on rules described by the Canada Revenue Agency.

What is not validated

The rule only validates the format but does not assure that the BN is issued or active.

Examples

- Correct

  The following strings are validated by the rule:

  123456789

  999666777

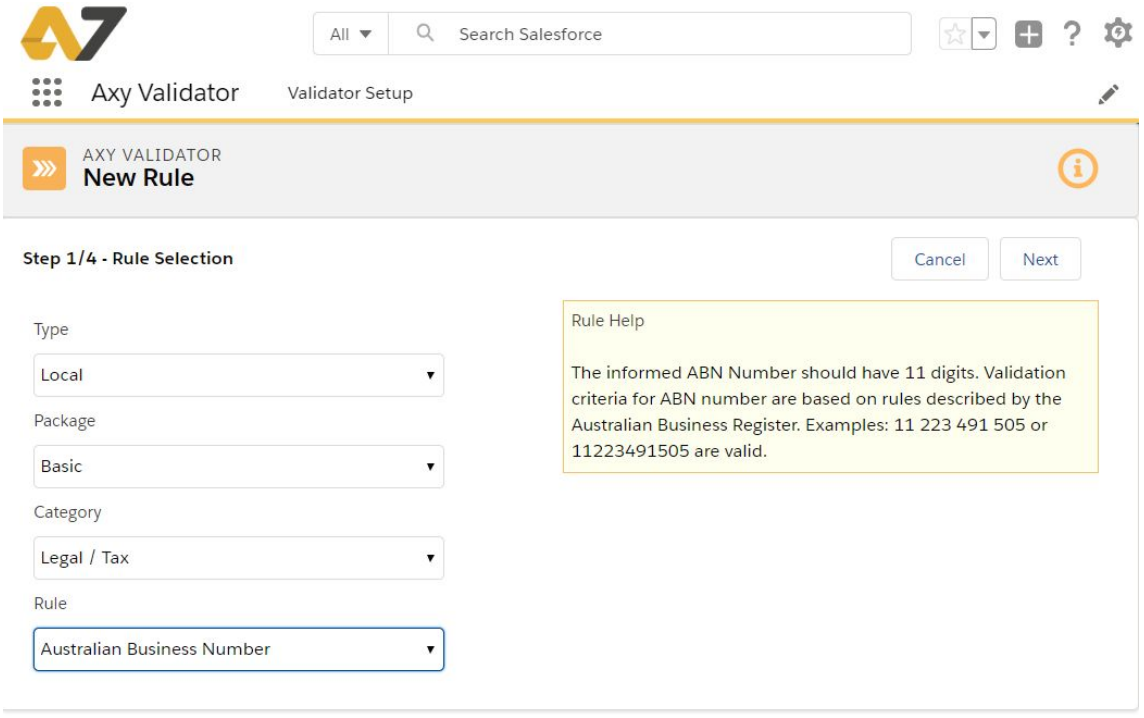
- Incorrect

  The following strings are not validated by the rule:

  12 345 6789

  A23456789

Australian Business Number - ABN



Summary

The object of this rule is the validation of the **Australian Business Number. (ABN)**.

The Australian Business Number (ABN) enables businesses in Australia to deal with a range of government departments and agencies using a single identification number. The ABN is a public number which does not replace the tax file number.

ABN registration details become part of the Australian Business Register (ABR) which the Australian Taxation Office (ATO) maintains on behalf of the Commonwealth.

Description

Format to validate

The Australian Business Number (ABN) is a unique 11 digit identifier issued to all entities registered in the Australian Business Register (ABR).

The 11 digit ABN is structured as a 9 digit identifier with two leading check digits.

The rule validates the number in the following formats:

XX XXX XXX XXX
XX XXXXXXXXX
XXXXXXXXX

Validation criteria for ABN number are based on rules described by the Australian Business Register

What is not validated

The rule only validates the format, NOT the checksum and does not assure that the ABN is issued or active

Examples

- Correct

  The following strings are validated by the rule:

  11 223 491 505

  11 223491505

  11223491505

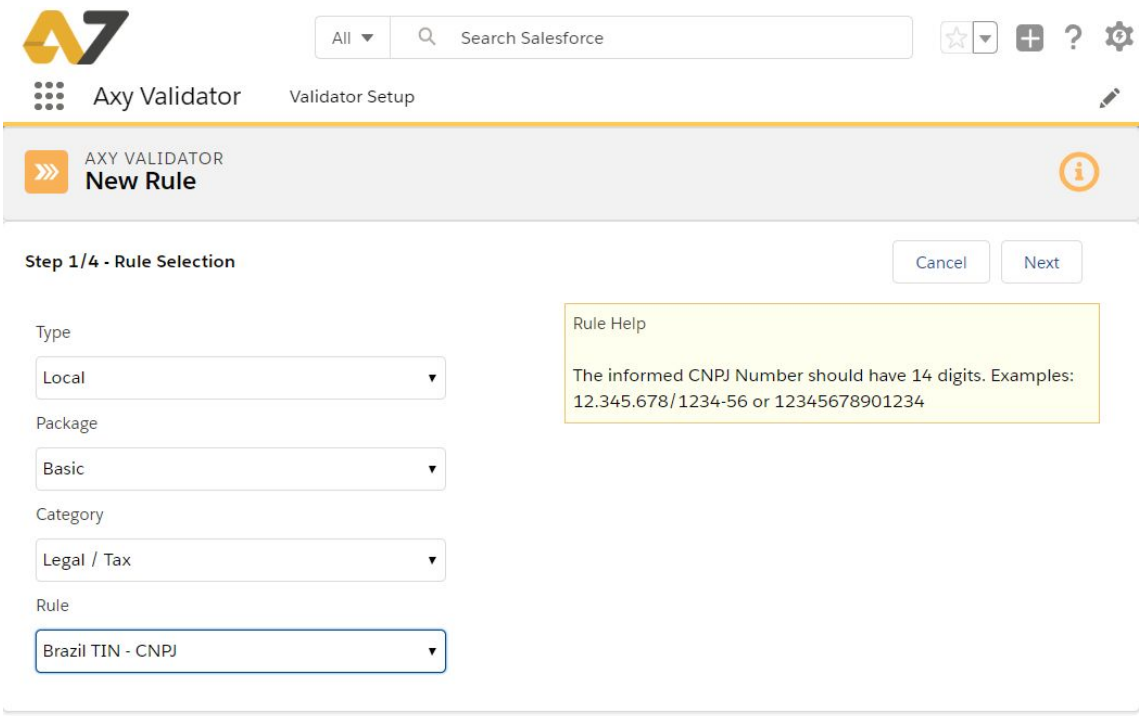
- Incorrect

  The following strings are not validated by the rule:

  11 223491

  A1 223 491 505

Brazil TIN - CNPJ



Summary

The object of this rule is the validation of the **Cadastro Nacional de Pessoas Jurídicas Number (CNPJ).**

Brazilian registry of legal entities is called Cadastro Nacional de Pessoas Jurídicas. Acronym CNPJ is used as well for the identification numbers assigned to Brazilian companies and their branches by national taxation agency (Secretaria da Receita Federal) and stored in this centralized registry.

Description

Format to validate

The CNPJ consists of 14 decimal digits and usually is printed or displayed in human-friendly format NN.NNN.NNN/BBBB-CC, where N-digits are defined by the body issuing this number, B denotes the company branch and the most common value is 0001 meaning the main office of the company, and C's are two check digits.

The rule validates the number in the following format:

XX.XXX.XXX/XXXX-XX

XXXXXXXXXXXXX

Validation criteria for CNPJ number are based on rules described by the Secretaria da Rezeita Federal do Brasil

What is not validated

This rule will validate only the format but NOT the checksum and does not assure that the CNPJ is issued or active

Examples

- Correct

  The following strings are validated by the rule:

  12.345.678/1234-56

  12345678901234

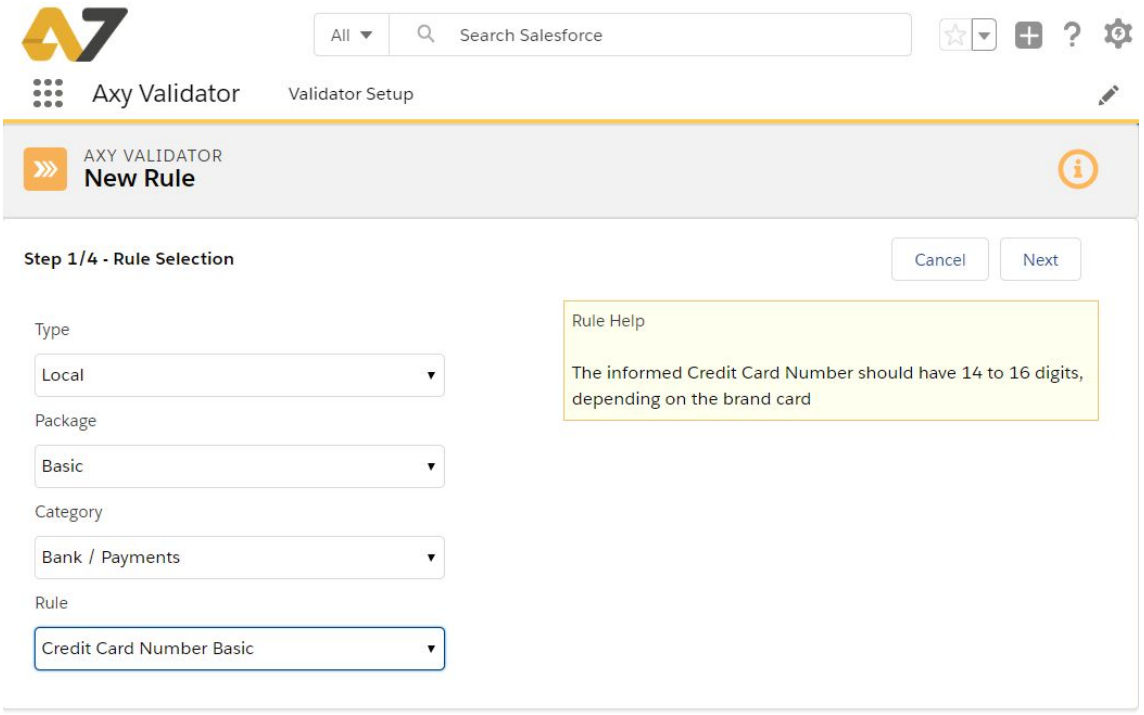
- Incorrect

  The following strings are not validated by the rule:

  12.3456781234-56

  A1234567890123

Credit Card Number Basic



Summary

The object of this rule is the validation of a **Credit Card Number.**

Validates correct format for the following cards: VISA, Mastercard, American Express, Diners, Discover and JCB, but does NOT take into account the prefix ranges for everyone

Description

Format to validate

A Credit Card number consists of 14 to 16 decimal digits, depending on the card brand. Old VISA can have 13 digits.

This basic rule only validates format and number of digits. Do NOT validate prefix ranges for every brand.

The rule validates the number in the following format

16 digits for VISA, Mastercard, JCB and Discover
XXXX XXXX XXXX XXXX
XXXX-XXXX-XXXX-XXXX
XXXXXXXXXXXXXXXX

15 digits for American Express
XXXX XXXXXX XXXXX
XXXX-XXXXXX-XXXXX
XXXXXXXXXXXXXXX

14 digits for Diners
XXXX XXXXXX XXXX
XXXX-XXXXXX-XXXX
XXXXXXXXXXXXXX

Validation criteria for Credit Card numbers are based on formats described by the Payment card number article that gather information from every card brand.

What is not validated

This rule will validate only the format but NOT the checksum and does not assure that the Credit Card is issued or active

Examples

- Correct

  The following strings are validated by the rule:

  4234 5678 9012 3456

  9234567890123456

  3734 567890 12345

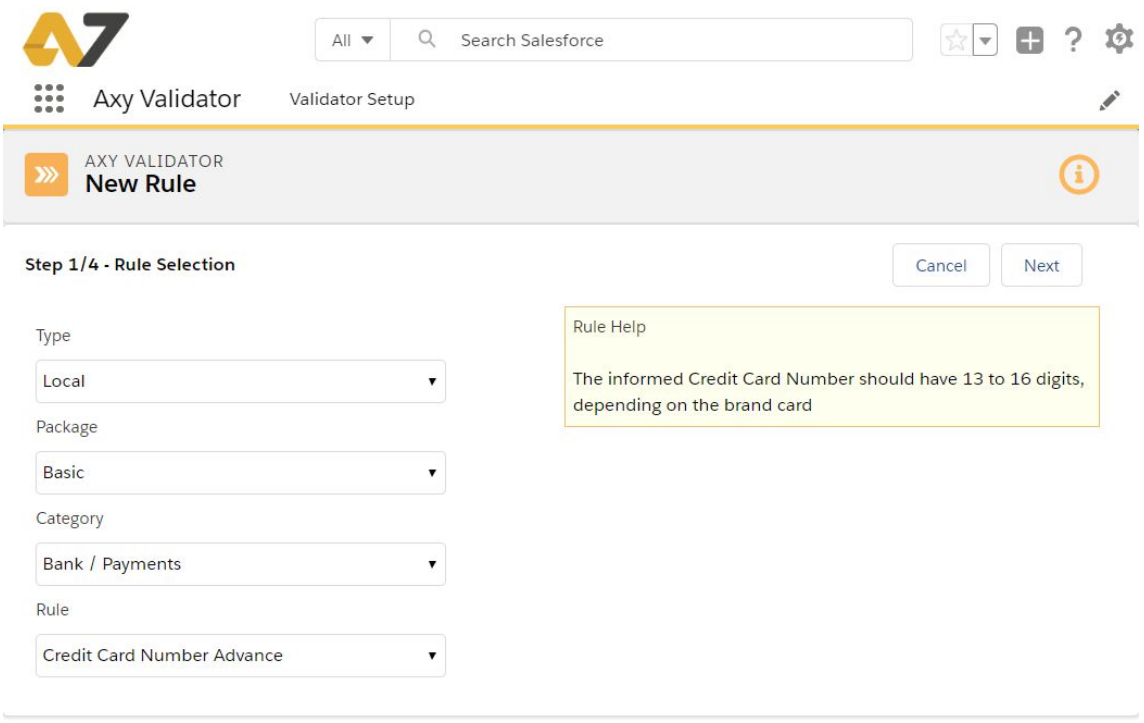
- Incorrect

  The following strings are not validated by the rule:

  42345678 9012 3456

  1234567890

Credit Card Number Advance



Summary

The object of this rule is the validation of a **Credit Card Number.**

Validates correct format for the following cards: VISA, Mastercard, American Express, Diners, Discover and JCB, **taking into account the prefix ranges** for everyone

Description

Format to validate

A Credit Card number consists of 14 to 16 decimal digits, depending on the card brand. Old VISA can have 13 digits.

This rule validates format and number of digits, taking in account prefix ranges for every brand.

The rule validates the number in the following formats

- 16 digits for VISA, Mastercard, JCB and Discover
  - XXXX XXXX XXXX XXXX
  - XXXX-XXXX-XXXX-XXXX
  - XXXXXXXXXXXXXXXX

- 13 digits for VISA
  - XXXXXXXXXXXXX
- 15 digits for American Express
  - XXXX XXXXXX XXXXX
  - XXXX-XXXXXX-XXXXX
  - XXXXXXXXXXXXXXX
- 14 digits for Diners
  - XXXX XXXXXX XXXX
  - XXXX-XXXXXX-XXXX
  - XXXXXXXXXXXXXX

Validation criteria for Credit Card numbers are based on formats described by the Payment card number article that gather information from every card brand.

Special Cases

The first six digits of a card number are known as the issuer identification number (IIN). This IIN has different ranges for every Brand Card.

The rule validates that the ranges are correct.

- American Express
  - 340000-379999
- VISA
  - 400000-499999
- JCB
  - 352800–358999
- MasterCard
  - 222100–272099
  - 510000–559999
- Discover
  - 601100-601199
  - 640000-649999
  - 650000-659999
- Diners
  - 360000-369999
  - 300000–305999
  - 309500-309599
  - 380000–399999
  - 540000-549999
  - 550000-559999

What is not validated

This rule will validate only the format but NOT the checksum and does not assure that the Credit Card is issued or active

Examples

- Correct

  The following strings are validated by the rule:

  4234 5678 9012 3456

  9234567890123456

  3734 567890 12345

- Incorrect

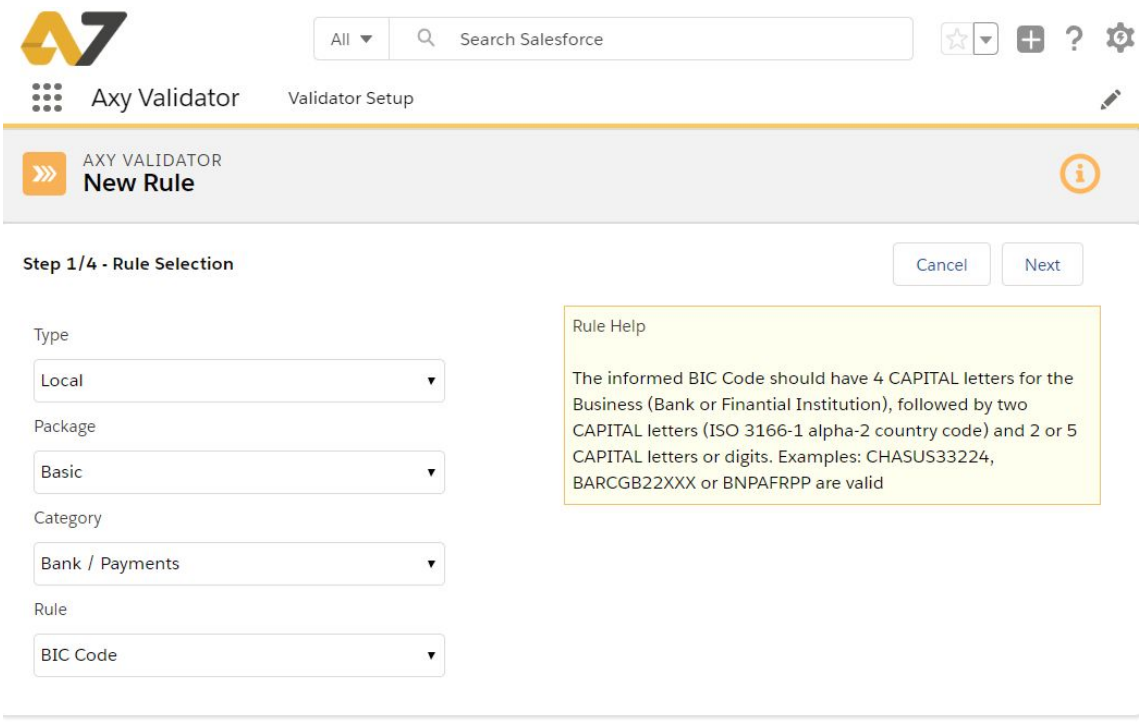
  The following strings are not validated by the rule:

  42345678 9012 3456

  1234567890

  9234 5678 9012 3456, because VISA number cannot start with 9

BIC Code



Summary

The object of this rule is the validation of the **Business Identifier Code (BIC)**, the unique identifier defined by **ISO 9362** for businesses around the globe.

SWIFT has adopted BIC codes as “SWIFT codes” being the global organization that uses more the BIC codes.

Both terms are used today and mean exactly the same thing: a BIC code is a unique alphanumeric identification code, consisting of combinations of letters and numbers, which is used to uniquely identify an institution's branch (Bank or Financial Institution) among the members of the SWIFT network.

Description

Format to validate

BIC Code is the Business Identifier Code. SWIFT has adopted BIC Codes to uniquely identify banks. SWIFT code (sometimes also called a SWIFT number) and BIC code are the same when used to identify banks or financial institutions globally.

BIC Code has from 8 to 11 characters:

- First 4 characters - Business (bank) code (only CAPITAL letters)
- Next 2 characters - ISO 3166-1 alpha-2 country code (only CAPITAL letters)
- Next 2 characters - location code (CAPITAL letters or digits)
- Last 3 characters - branch code, optional (CAPITAL letters or digits)

This rule only validates format and number of digits. The rule validates the BIC without spaces.

Validation criteria for BIC Code are based on rules described by the ISO 9362 - Business Identifier Code standard.

What is not validated

This rule will validate only the format but NOT the checksum and does not assure that the BIC code is issued or active

Examples

- Correct

  CHASUS33

  BARCGB22XXX

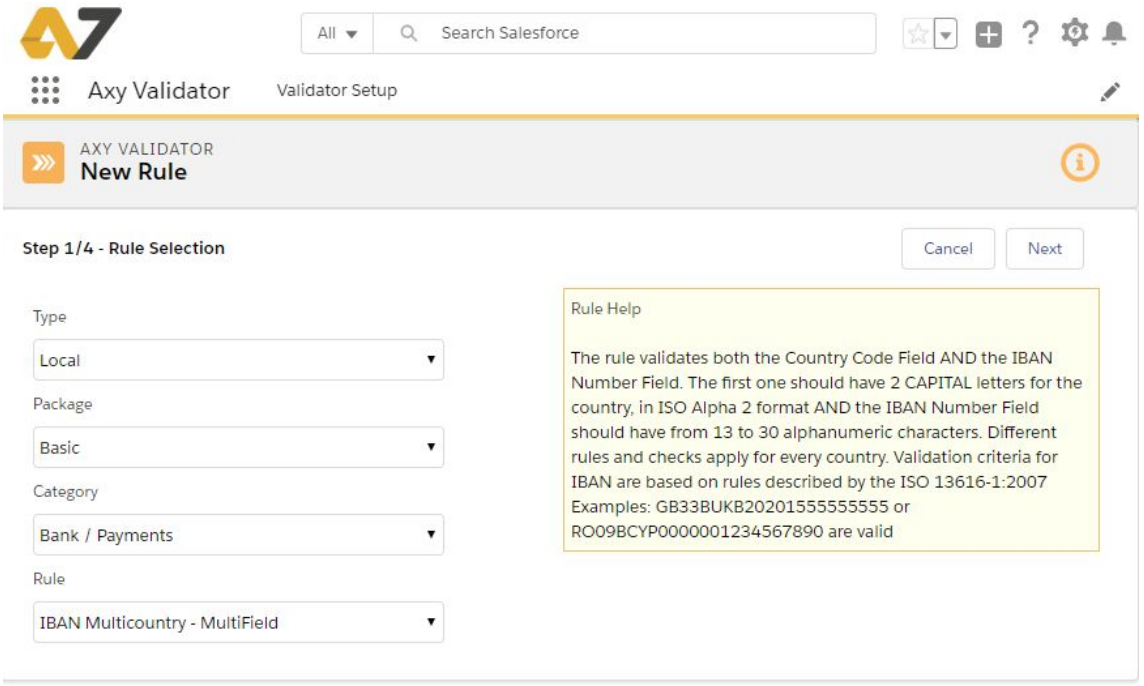
- Incorrect

  The following strings are not validated by the rule:

  CHASUS3322422

  12BARCGB22

IBAN Multicountry - Multifield



Summary

The object of this rule is the validation of the **International Bank Account Number (IBAN)** for the countries that have adopted **ISO 13616-compliant** national IBAN formats.

The current standard is ISO 13616:2007, which indicates SWIFT as the formal registrar. Initially developed to facilitate payments within the European Union, it has been implemented by most European countries and numerous countries in the other parts of the world, mainly in the Middle East and in the Caribbean.

As of April 2018, 75 countries are using the IBAN numbering system, and 27 are in the process of implementing it.

Description

Format to validate

The IBAN consists of up to 32 alphanumeric characters, as follows:

- Country code using ISO 3166-1 alpha-2, two capital letters
- Two digits checksum
- Basic Bank Account Number (BBAN) – up to 28 alphanumeric characters that are country-specific

This rule validates the **IBAN number using two fields**: one for the **Country Code** and other for the rest of the IBAN digits (**checksum and BBAN**)
The rule validates the identifier always WITHOUT any space.

Validation criteria for IBAN number are based on rules described by the ISO 13616-1:2007 - Financial services - International bank account number (IBAN) -- Part 1: Structure of the IBAN

A complete list of the currently registered IBANs can be downloaded from the SWIFT Standards IBAN page.

What is not validated

This rule will validate only the length and format. It does not validate the checksum nor if the IBAN account is issued or active

Special Cases

We show below the list of the IBAN codes as per December 2018.

#	Country	Country Code	IBAN length
1	Andorra	AD	24
2	United Arab Emirates	AE	23
3	Albania	AL	28
4	Austria	AT	20
5	Azerbaijan	AZ	28
6	Bosnia and Herzegovina	BA	20
7	Belgium	BE	16
8	Bulgaria	BG	22
9	Bahrain	BH	22
10	Brazil	BR	29
11	Belarus	BY	28
12	Switzerland	CH	21
13	Costa Rica	CR	22
14	Cyprus	CY	28
15	Czech Republic	CZ	24

16	Germany	DE	22
17	Denmark	DK	18
18	Dominican Republic	DO	28
19	Estonia	EE	20
20	Spain	ES	24
21	Finland	FI	18
22	Faroe Islands	FO	18
23	France	FR	27
24	United Kingdom	GB	22
25	Georgia	GE	22
26	Gibraltar	GI	23
27	Greenland	GL	18
28	Greece	GR	27
29	Guatemala	GT	28
30	Croatia	HR	21
31	Hungary	HU	28
32	Ireland	IE	22
33	Israel	IL	23
34	Iraq	IQ	23
35	Iceland	IS	26
36	Italy	IT	27
37	Jordan	JO	30
38	Kuwait	KW	30
39	Kazakhstan	KZ	20
40	Lebanon	LB	28
41	Saint Lucia	LC	32
42	Liechtenstein	LI	21
43	Lithuania	LT	20

44	Luxembourg	LU	20
45	Latvia	LV	21
46	Monaco	MC	27
47	Moldova	MD	24
48	Montenegro	ME	22
49	Macedonia	MK	19
50	Mauritania	MR	27
51	Malta	MT	31
52	Mauritius	MU	30
53	Netherlands	NL	18
54	Norway	NO	15
55	Pakistan	PK	24
56	Poland	PL	28
57	Palestine	PS	29
58	Portugal	PT	25
59	Qatar	QA	29
60	Romania	RO	24
61	Serbia	RS	22
62	Saudi Arabia	SA	24
63	Seychelles	SC	31
64	Sweden	SE	24
65	Slovenia	SI	19
66	Slovak Republic	SK	24
67	San Marino	SM	27
68	Sao Tome and Principe	ST	25
69	El Salvador	SV	28
70	Timor-Leste	TL	23
71	Tunisia	TN	24

72	Turkey	TR	26
73	Ukraine	UA	29
74	Vatican City State	VA	22
75	Virgin Islands, British	VG	24
76	Kosovo	XK	20

EXAMPLES

- Correct

  Country Code: GB

  IBAN: 33BUKB20201555555555 (20 digits)

  Country Code: IT

  IBAN: 60X0542811101000000123456 (25 digits)

- Incorrect

  The following strings are not validated by the rule:

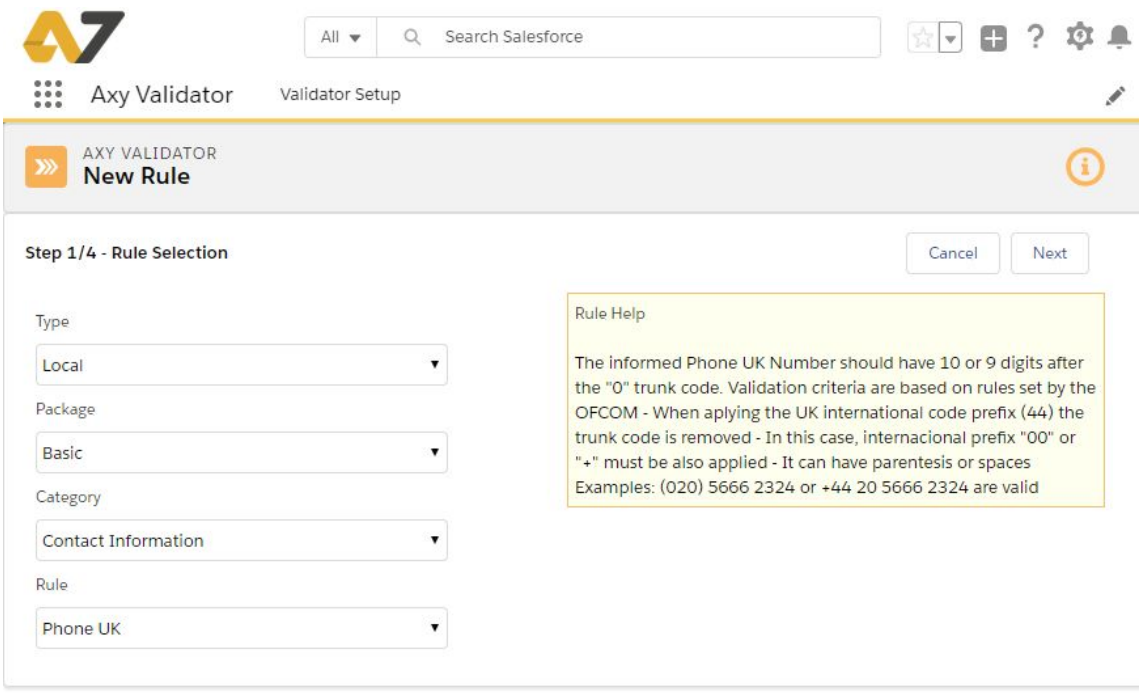
  Country Code: GB

  IBAN: 3312KB20201555555555 (Incorrect format)

  Country Code: IT

  IBAN: 60X054281110100000012345 (Different than 25 digits)

PHONE UK



SUMMARY

The object of this rule is the validation of the **Phone Numbers in the UK**. Telephone numbers in the United Kingdom are administered by the **UK government's Office of Communications (Ofcom).**

For this purpose, Ofcom established a telephone numbering plan, known as the National Telephone Numbering Plan, which is the system for assigning telephone numbers to subscriber stations.

The numbers are of variable length. Local numbers are supported from land-lines, or numbers can be dialed with a '0'-lead prefix that denotes either a geographical region or another service. Cell phone numbers have their own prefixes which are not geographical and are completely portable between providers

DESCRIPTION

FORMAT TO VALIDATE

The Phone UK Numbers have different formats:

- Almost all geographic numbers and most non-geographic numbers have 9 or 10 national (significant) numbers after the "0" trunk code.
- All mobile telephone numbers have 10 national (significant) numbers after the "0" trunk code

- When applying the UK international code (44) the trunk code is removed.

The rule validates the number in the following formats:

- +44 (XX) XXXX XXXX or (0XX) XXXX XXXX
- +44 (XXX) XXX XXX or (0XXX) XXX XXX
- +44 (XXX) XXX XXXX or (0XXX) XXX XXXX
- +44 (XXXX) XXXXX or (0XXXX) XXXXX
- +44 (XXXX) XXX XXX or (0XXXX) XXX XXX
- +44 (XXXXX) XXXX or (0XXXXX) XXXX
- +44 (XXXXX) XXXXX or (0XXXXX) XXXXX

The rule validates as well other alternatives:

- The same formats with internacional prefix 00 instead of +
- Every format without parentheses or spaces

Validation criteria for Phone UK numbers are based on rules set by the Ofcom

What is not validated

This rule will validate only the format but does not assure that the Phone UK number is issued or active

Examples

- Correct

  (020) 5666 2324

  +44 20 5666 2324

  0044 20 5666 2324

  +442056662324

- Incorrect

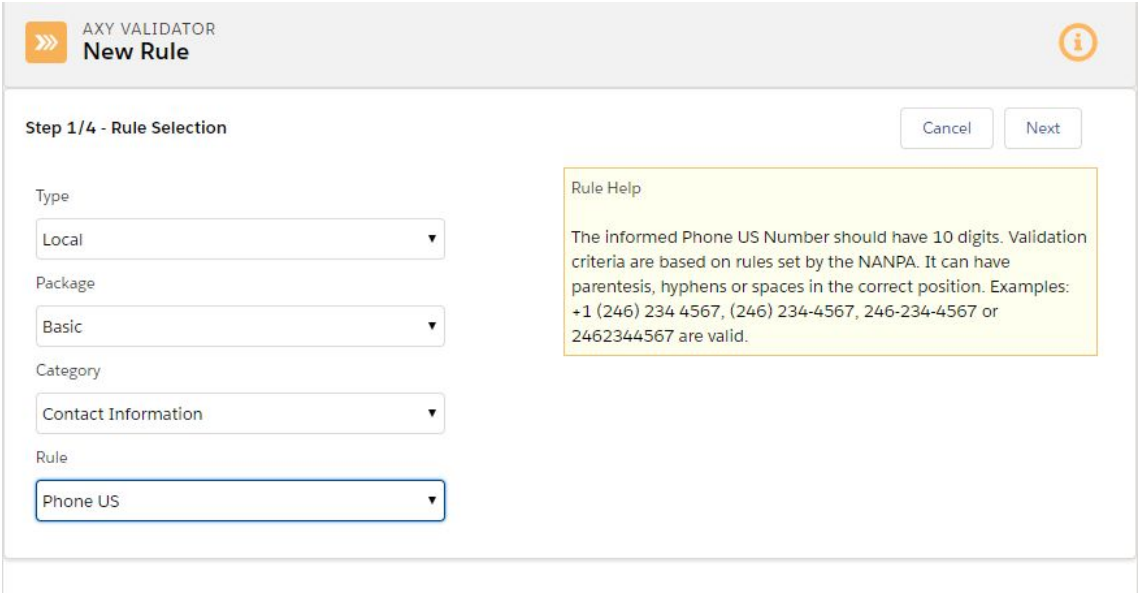
  The following strings are not validated by the rule:

  (20) 5666 2324

  44 20 5666 2324

  0044 20 5666 23

PHONE US



SUMMARY

The object of this rule is the validation of the **Phone Numbers in the US** and other 19 countries, mainly Caribbean and Canada, following the **North American Numbering Plan (NANP)**

Telephone numbers under the NANP are administered by the Federal Communications Commission thru NANPA

DESCRIPTION

FORMAT TO VALIDATE

The Phone US Number follows the NANP number format. It may be summarized in the notation NPA-NXX-XXXX:

- NPA, numbering plan area code. [2–9] for the first digit, and [0-9] for the second and third digits. When the second and third digits of an area code are the same, that code is called an easily recognizable code (ERC). ERCs designate special services; e.g., 888 for toll-free service.
- NXX, central office code/geographic area code. [2–9] for the first digit, and [0–9] for both the second and third digits.
- XXXX, line number or subscriber number. Any number for any position.

The rule validates the number in the following formats:

- +1 (XXX) XXX XXXX or (XXX) XXX XXXX
- +1 (XXX) XXX-XXXX or (XXX) XXX-XXXX

- +1 XXX-XXX-XXXX or XXX-XXX-XXXX

The rule validates aswell the previous formats without parentheses, hyphens or spaces

Validation criteria for Phone US numbers are based on rules set by the NANPA: North American Numbering Plan Administration

Special Cases

The rule validates the following special conditions:

- The first digit of NPA cannot be 1.
- The first digit of NXX cannot be 1.
- The third digit of NXX cannot be 1 if the second digit is also 1

What is not validated

This rule will validate only the format but does not assure that the Phone US number is issued or active

Examples

- Correct

  +1 (246) 234 4567

  (246) 234-4567

  246-234-4567

  2462344567

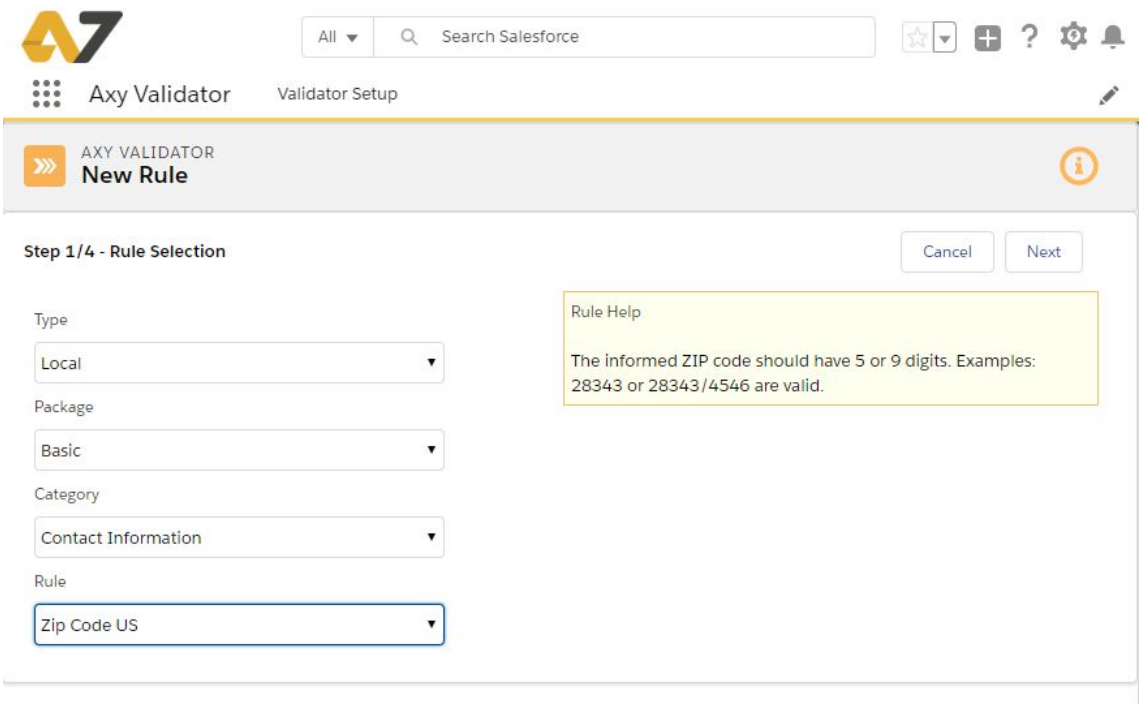
- Incorrect

  The following strings are not validated by the rule:

  (246)-234-4567

  24623445

ZIP Code US



Summary

The object of this rule is the validation of the **Zone Improvement Plan (ZIP) code.**

A ZIP Code is a postal code defined and used by the United States Postal Service (USPS) and was introduced in 1963.

The basic format consists of five digits. An extended ZIP+4 code was introduced in 1983 which includes the five digits of the ZIP Code, followed by a hyphen and four additional digits that reference a more specific location.

Description

Format to validate

The ZIP Code has 5 or 9 digits. There are four categories of ZIP codes:

- Unique: assigned to a single high-volume address
- Post Office Box only: used only for PO Boxes at a given facility, not for any other type of delivery
- Military: used to route mail for the U.S. military
- Standard: all other ZIP Codes.

The optional second block of 4 digits is related to a more specific geographical location.

The rule validates the number in the following formats:

- XXXXX
- XXXXX-XXXX
- XXXXX XXXX
- XXXXX/XXXX

Validation criteria for ZIP Codes are based on rules set by the **USPS: United States Postal Service**

What is not validated

This rule will validate only the format but does not assure that the ZIP Code is issued or active

Examples

- Correct

  28452

  28452 4542

- Incorrect

  The following strings are not validated by the rule:

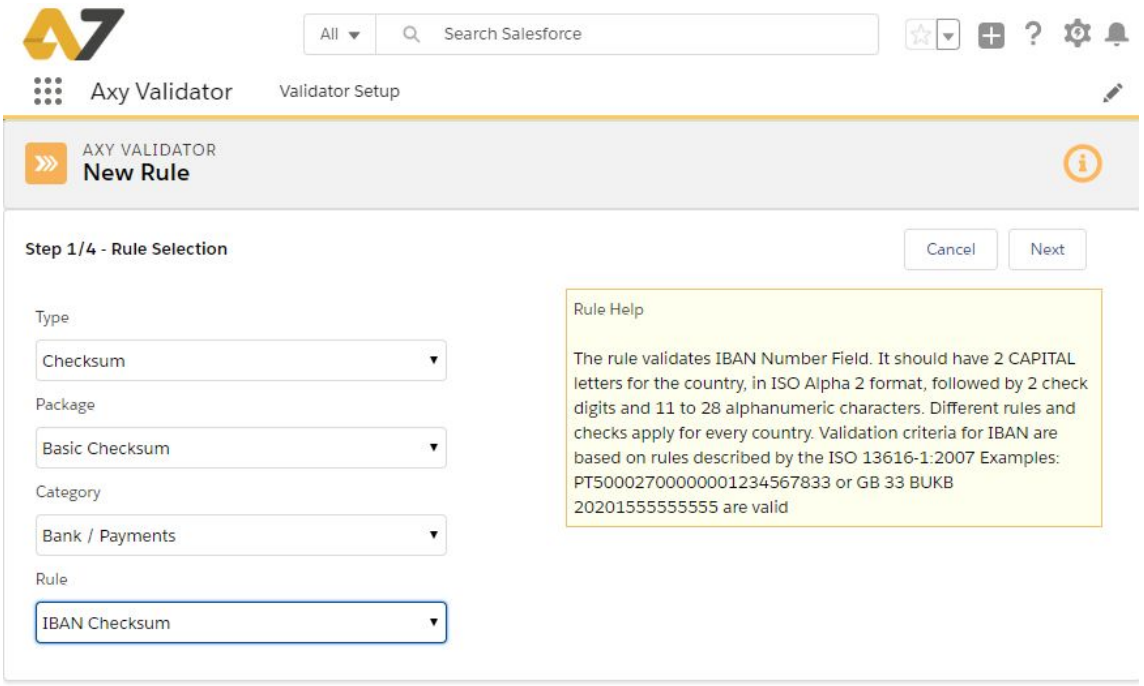
  1880

  389997

  389993456

7. Checksum Axy Validator Rules

IBAN Checksum



Summary

The object of this rule is the validation of the **International Bank Account Number (IBAN)** for the countries that have adopted **ISO 13616-compliant** national IBAN formats.

The current standard is ISO 13616:2007, which indicates SWIFT as the formal registrar. Initially developed to facilitate payments within the European Union, it has been implemented by most European countries and numerous countries in the other parts of the world, mainly in the Middle East and in the Caribbean.

As of April 2018, 75 countries are using the IBAN numbering system, and 27 are in the process of implementing it.

Description

Format to validate

The IBAN consists of up to 32 alphanumeric characters, as follows:

- Country code using ISO 3166-1 alpha-2, two capital letters

- Two digits checksum
- Basic Bank Account Number (BBAN) – up to 28 alphanumeric characters that are country-specific

This rule validates the IBAN number using checksum. IBAN can be written with or without spaces.
With checksum validation, we can assure that IBAN has no missing or wrong digits or letters, avoiding any typing error.

Validation criteria for IBAN number are based on rules described by the ISO 13616-1:2007 - Financial services - International bank account number (IBAN) -- Part 1: Structure of the IBAN

A complete list of the currently registered IBANs can be downloaded from the SWIFT Standards IBAN page.

What is not validated

This rule will validate only the length and format. It does not validate the checksum nor if the IBAN account is issued or active

Special Cases

We show the list of the IBAN codes as per December 2018 in previous IBAN Multicountry - Multifield rule reference

Examples

- Correct

  IT60X0542811101000000123456

  LU 12 0010 0012 3456 7891

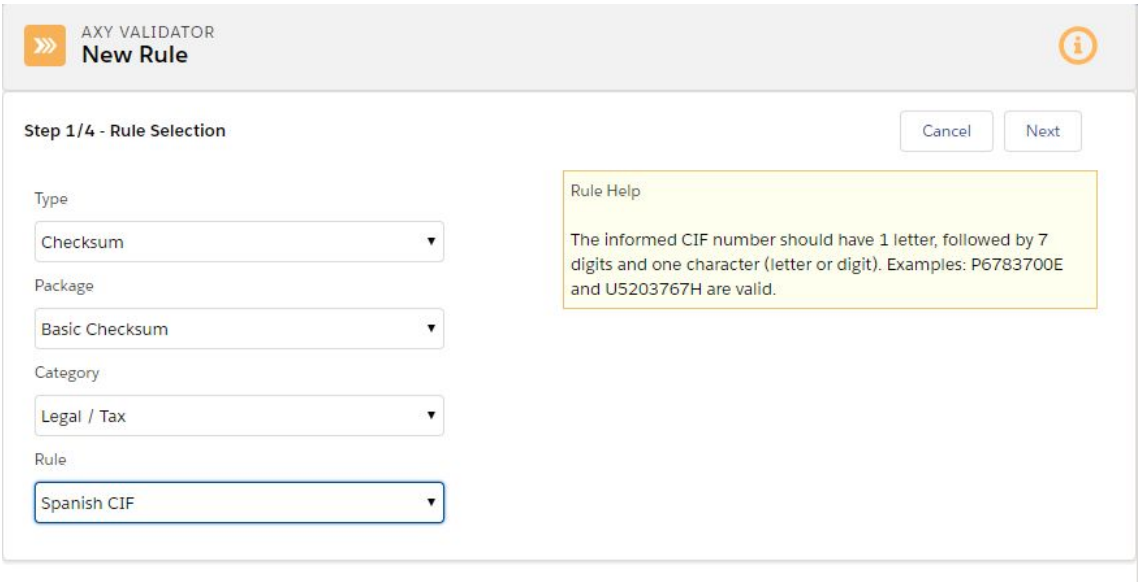
- Incorrect

  The following strings are not validated by the rule:

  IT60X0542811101000000123456A

  LU 13 0010 0012 3456 7891

Spanish CIF



Summary

The object of this rule is the validation of the **Código de Identificación Fiscal (CIF)** in Spain. It is issued by the **Agencia Tributaria** from the Spanish Government.

Every legal person, as well as parties required to pay taxes under Article 35(4) of General Tax Act 58/2003 of 17th December, shall possess a Tax ID number (formerly known as CIF for companies and organizations) to be used in any interactions of a tax nature or with a bearing on taxation.

Description

Format to validate

The Tax ID Number for legal persons and organizations without a legal personality in Spain (also known as CIF), shall consist of nine characters with the following composition:

- One letter, which will provide information on the legal form of a Spanish organization or, if applicable, on the nature of a foreign organization or permanent establishment that is resident outside Spain
- A random seven-digit number
- A control character

This rule validates the CIF number using checksum. With checksum validation, we can assure that CIF number has no missing or wrong digits or letters, avoiding any typing error.

Validation criteria for CIF are based on rules set by the Agencia Tributaria of Spain.

What is not validated

This rule will validate the format and checksum but does not assure that the CIF number is issued or active

Examples

- Correct

  P6783700E

  U5203767H

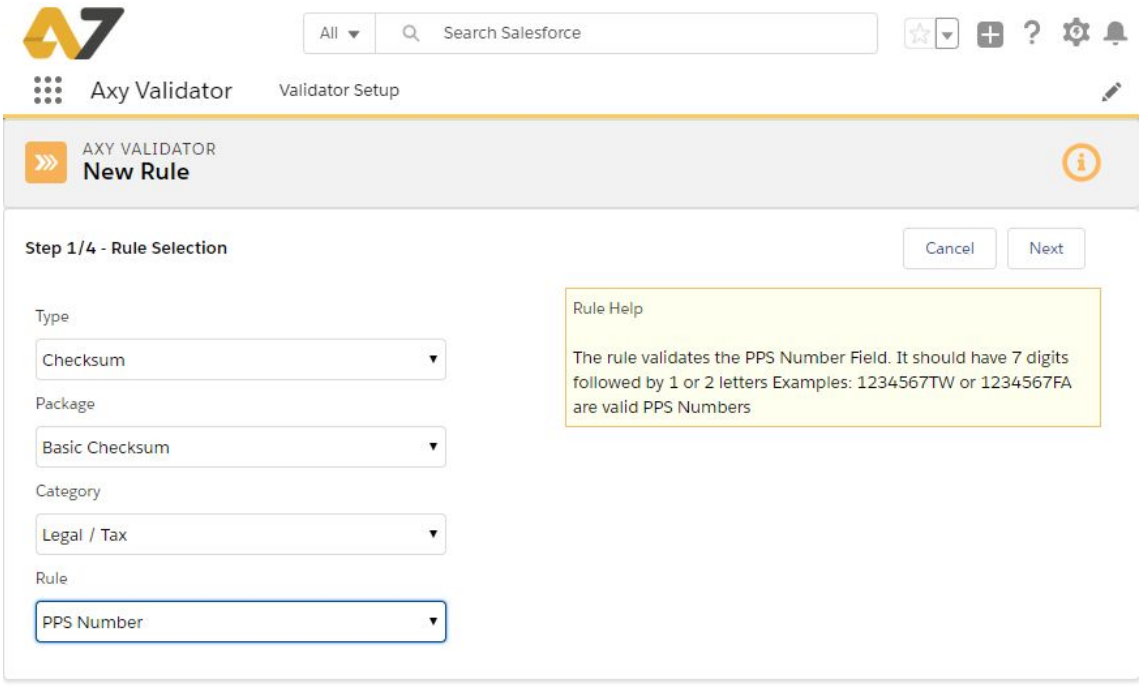
- Incorrect

  The following strings are not validated by the rule:

  123456789

  U5203767L

PPS Number (Ireland)



Summary

The object of this rule is the validation of the **Personal Public Service Number (PPS)**.

PPS number is assigned by the **Department of Employment Affairs and Social Protection** and is a unique reference number that helps people access social welfare benefits, public services and information in **Ireland**.

The PPS number was formerly known as the Revenue and Social Insurance (RSI) number.

Description

Format to validate

The PPS number is always 7 numbers followed by either one or two letters.
The character in position 8 operates as the check character.

This rule validates the PPS number using checksum. With checksum validation, we can assure that PPS number has no missing or wrong digits or letters, avoiding any typing error.

Validation criteria for PPS number are based on rules described by the Irish Department of Employment Affairs and Social Protection

What is not validated

This rule will validate the format and checksum but does not assure that the PPS number is issued or active

Examples

- Correct

  1234567TW

  1234567FA

- Incorrect

  The following strings are not validated by the rule:

  1234567TWA

  1234567