

# Internationalization

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This page gives guidelines to I18n for:

- Plugin developers who would like to apply the i18n mechanism in their own plugin, so that this plugin can be available in several languages
- People who would like to help the community by making the platform available in a new language

## Principles

Although the basics of the i18n mechanism are the same for every part of the ecosystem, the packaging differs depending on what you are developing:

- **Translations for SonarQube:** making SonarQube available in a new language requires you to develop and publish a new Language Pack plugin.
  - By default SonarQube embeds the English Pack.
  - All other Language Pack plugins, like the French Pack plugin, are hosted in the [Plugins Forge](#), are maintained by the community, and are available through Marketplace (category "Localization").
- **Translations for the SonarQube Community Plugins:** open-source plugins from the SonarQube Community (hosted in the Plugins Forge) must embed [only the bundles for the default locale](#) (en). Translations will be done in the Language Pack plugins.
- **Translations for other Plugins:** closed-source/commercial/independent plugins must embed the bundles for the default locale **and** the translations for every language they want to support.



### To sum up

- **SonarQube Platform and SonarQube Community Plugins rely on Language Pack plugins for translations**
- **Other independent SonarQube plugins must themselves embed all the translations they need**

## Translation Bundles

Localized messages are stored in properties files:

- These are regular properties files with key/value pairs where you put most translations
- These files must be stored in the `org.sonar.l10n` package (usually in the `src/main/resources/org/sonar/l10n` directory)
- The names of these files must follow the convention "`<key of the plugin to translate>_<language>.properties`", for example `widgetlabs_fr.properties` or `core_fr.properties` for core bundle. See [sonar-packaging-maven-plugin](#) for details on plugin key derivation.
- Messages can accept arguments. Such entries would look like:

```
myplugin.foo=This is a message with 2 params: the first "{0}" and the second "{1}".
```



### UTF-8 encoding

In the Java API, properties files are supposed to be encoded in ISO-8859 charset. Without good tooling, it can be quite annoying to write translations for languages that do not fit in this charset.

**This is why we decided to encode the properties files in UTF-8**, and let Maven turn them into ASCII at build time thanks to `native2ascii-maven-plugin` (check the French plugin pom.xml). This makes the process of writing translations with a standard editor far easier.

## Naming conventions for keys

Here is what you need to know about conventions for keys:

| Key  | Description   | Example   |
|--|---|---|
| metric.<key>.name  | Metric name   | metric.ncloc.name=Lines of code   |
| metric.<key>.description                                       | Metric description  | metric.ncloc.description=Non Commenting Lines of Code   |
| notification.channel.<channel key>                             | Name of notification channel                              | notification.channel.EmailNotificationChannel=Email   |
| notification.dispatcher.<dispatcher key>                       | Subscription to notification channel                      | notification.dispatcher.ChangesInReviewAssignedToMeOrCreatedByMe=Changes in review assigned to me or created by me                    |
| rule.<repository>.<key>.name                                   | Rule name   | rule.pmd.StringInstantiation.name=String Instantiation  |
| rule.<repository>.<key>.param.<param key>                      | Description of rule parameter                             | rule.pmd.VariableNamingConventions.param.memberSuffix=Suffix for member variables   |
| dashboard.<key>.name   | Dashboard name, since 2.14.                               | dashboard.Hotstspots.name=Point Chauds  |
| qualifier.<key>  | Qualifier name, since 2.13.                               | qualifier.TRK=Project   |
| qualifiers.<key>   |   | qualifiers.TRK=Projects   |
| widget.<key>.name  | Widget name   | widget.alerts.name=Alerts   |
| widget.<key>.description                                       | Widget description  | widget.alerts.description=Display project alerts  |
| widget.<key>.property.<property key>.name                      | Name of widget property                                   | widget.hotspot_most_violated_rules.property.defaultSeverity.name=Default severity   |
| widget.<key>.property.<property key>.desc                      | Description of widget property                            | widget.hotspot_most_violated_rules.property.defaultSeverity.desc=If selected, severity used to initialize the dropdown list of widget |
| widget.<key>.property.<property>.option.<option>.name          | Name of item of dropdown list                             |   |
| widget.<key>.*   | Any other widget message                                  | widget.alerts.tooltip=Threshold is raised   |
| <page key>.page  | Page names shown in the left sidebar                      | cloud.page=Cloud  |
| <page key>.*   | Any other keys used in a page                             | cloud.size=Size   |
| property.category.<category key>                               | Category name of properties, since 2.11                   | property.category.General=Général   |
| property.category.<category key>.description                   | Short description of category of properties, since 3.6    | property.category.General.description=General properties of SonarQube   |
| property.category.<category key>.<subcategory key>             | Subcategory name of properties, since 3.6                 | property.category.exclusions.global=Global exclusions   |
| property.category.<category key>.<subcategory key>.description | Short description of subcategory of properties, since 3.6 | property.category.exclusions.global.description=Configuration of global exclusions  |
| property.<key>.name  | Property name, since 2.11                                 | property.sonar.sourceEncoding.name=Source encoding  |
| property.<key>.description                                     | Property description, since 2.11                          | property.sonar.sourceEncoding.description=Source encoding   |
| <plugin key>.*   | Any other keys used by plugin                             |   |

## How to read localized messages from a plugin extension?

The component `org.sonar.api.i18n.I18n` is available for **web server extensions**. Scanner extensions can not load bundles.

# Writing a Language Pack

A Language Pack defines bundles for SonarQube and/or plugins.

## Creating a Language Pack

The easiest way to create a new pack is to copy the [French Pack](#) and adapt it to your language.

## Maintaining a Language Pack

In the pom file, set the versions of SonarQube and of the plugins you want to translate.

When it's time to update your language pack for a new version of SonarQube or a plugin, the easiest way to see what keys are missing is to run:

```
mvn test
```

If the build fails, it means that some keys are missing. Go to [target/l10n](#) to check the reports for each bundle.

Missing keys are listed under 'Missing translations are:'

### Report

```
Missing translations are:
code_viewer.no_info_displayed_due_to_security=Due to security settings, no information can be displayed.
comparison.version.latest=LATEST
...
```

Each time you add a new bundle or update an existing one, please create a JIRA ticket on the corresponding L10n component in order to track changes.

## Localizing a Plugin

*This section applies if you are developing a closed-source plugin, or an open-source plugin that is not part of the SonarSonarQube Community Plugins forge.*

If your plugin falls in this category, it must embed its own bundles. Bundle must be defined in `src/main/resources/org/sonar/l10n/<plugin key>_<language>.properties`

The default bundle is mandatory, and must be English. For example the plugin with key "mysonarplugin" must define the following files in order to enable the French translation:

- `org/sonar/l10n/mysonarplugin.properties`
- `org/sonar/l10n/mysonarplugin_fr.properties`