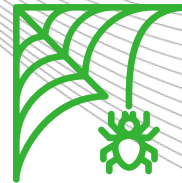


UNIVERSITY OF TWENTE

FACULTY OF GEO-INFORMATION SCIENCE AND EARTH OBSERVATION

URBAN AND REGIONAL PLANNING AND GEO-INFORMATION MANAGEMENT

# Writing documentation process



DR. ROSA AGUILAR

25 APRIL 2023

UNIVERSITY  
OF TWENTE.

# OUTLINE



About me



The documentation process



Issues: what, where, how



QA session

# ABOUT ME

- ✓ Computer System Engineer
- ✓ R&D professional
- ✓ Master in Computer Science and Geoinformatics
- ✓ CTO at the Geographic Institute – Venezuela
- ✓ Researcher in Machine Learning – Crops/Cities
- ✓ PhD in Urban Planning (UTwente)
- ✓ Translator and QGIS documenter
- ✓ GEO AI Developer (UTwente)



# QGIS, A DYNAMIC AND GROWING PROJECT

- Processing
  - Feature: Additional options for XYZ Tile exports when using Leaflet html output
  - Feature: Support data defined parameter values when using qgis\_process tool
  - Feature: New "load\_layer" function
  - Feature: Add user interface for extent definition in GDAL Raster Calculator
- Application and Project Options
  - Feature: Add option to store selected GPS component in geometry M values
  - Feature: Make GPS track destination layer an explicit user choice, remember in project
- Profile Plots
  - Feature: New elevation profile canvas item for QGIS Quick
  - Feature: Elevation profile plots in print layouts
- Browser
  - Feature: Add dataset relationship editing and creation capabilities in browser
- Data Providers
  - Feature: Removal of Native GeoNode Provider
  - Feature: In data source manager, allow users to directly add an XYZ tile layer without having to create a connection first
  - Feature: SQL Logging for OGR Provider
  - Feature: S3 Cloud Storage Support
  - Feature: Resolution aware WMTS layers with automatic upscaling
  - Feature: Drop unmaintained SAGA provider from QGIS installations
  - Feature: Improve support of layers with unknown geometry type for WFS provider
- QGIS Server
  - Feature: QGIS\_APPLICATION\_FULL\_NAME environment variable
  - Feature: GeoJSON support for WFS DescribeFeatureType
- Plugins
  - Feature: Topology checker rules enabling/disabling and filtering
- Programmability
  - Feature: QgsExifTools Improvements
  - Feature: Smart bracket autocomplete updates for Code Editors
  - Feature: Add "toggle comment" action to the integrated python console
- Breaking Changes
  - Feature: Drop project backward compatibility for symbology with QGIS 3.16 and older
- Map Tools
  - Feature: Raster MapTips
  - Feature: Identify on mouse move, no mouse click
- User Interface
  - Feature: Constraint based functionality for attribute tables
  - Feature: Additional GPS information panel and toolbar fields
  - Feature: GPS Information Panel UX and Refactoring
- Symbology
  - Feature: Improved SLD Export Options
- Rendering
  - Feature: Global map terrain shading
  - Feature: Add super and subscript support for text renderer
- 3D Features
  - Feature: Limit 2D extent of 3D scene
  - Feature: Improved camera control
- Print Layouts
  - Feature: Shortcuts manager in print layouts
  - Feature: Use text renderer in layout legends
- Expressions
  - Feature: Add feature\_id() function
  - Feature: New is\_feature\_valid() and is\_attribute\_v
  - Feature: Add x\_at, y\_at, z\_at, m\_at expression fun
- Data Management
  - Feature: DateTime Field editing: segregation of display format and field value format
  - Feature: Add option to directly log GPS points and tracks to a Geopackage or Spatialite db
  - Feature: Add an explicit "Offset from UTC" option for storing GPS feature timestamps
  - Feature: Raster Attribute Tables (RAT) Support
- Metadata and Metasearch
  - Feature: Add key dates to layer and project metadata
- Forms and Widgets
  - Feature: Audiovisual multimedia attribute attachments support
  - Feature: Data defined editable state for form widgets
  - Feature: Spacer widget for drag & drop attribute forms
  - Feature: Dynamic text widgets with current\_value support
  - Feature: Dynamic HTML widgets with current\_value support
  - Feature: Multiple selections with filtering in value relation widget
- Layer Legend
  - Feature: New layer ordering improvements





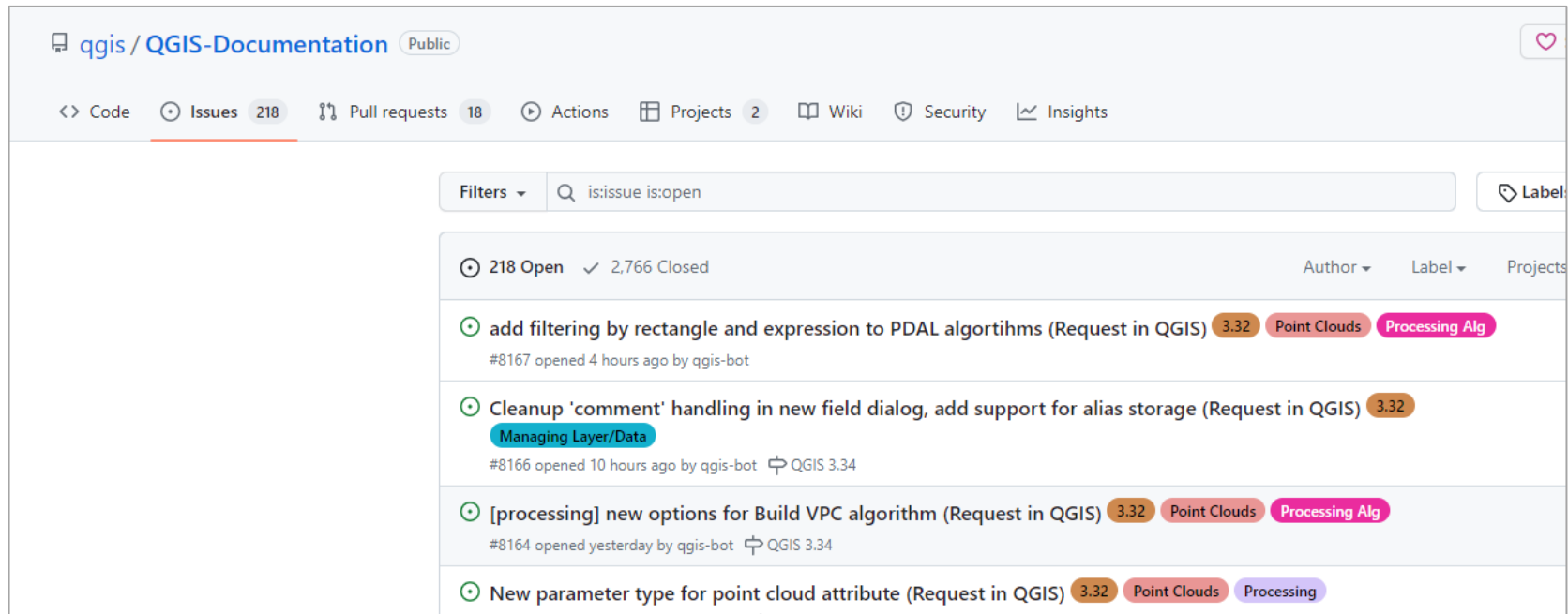
# QGIS, TONS OF FEATURES

- ✓ Developers produce tons of features
- ✓ Users need to know ***how to use*** QGIS features
- ✓ Documenters bridge developers and users
- ✓ QGIS route map → Documenters play a crucial role in the software cycle



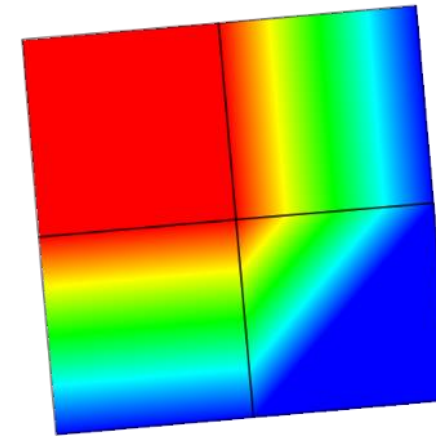
# WHAT TO DOCUMENT

- ✓ QGIS Documentation source files: <https://github.com/qgis/QGIS-Documentation>
- ✓ reStructuredText (reST) - .rst files
- ✓ 218 open issues → <https://github.com/qgis/QGIS-Documentation/issues>

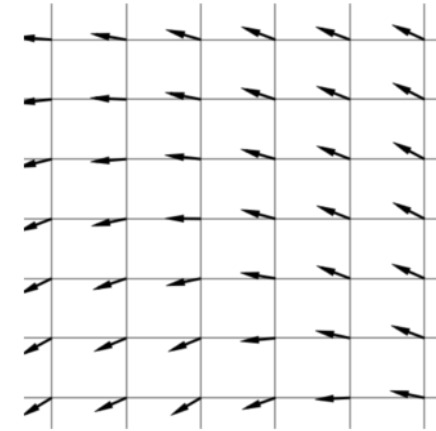


# WHAT TO DOCUMENT

- ✓ New features – early adopters
- ✓ Personal interest
- ✓ **Easy fix** issues: <https://github.com/qgis/QGIS-Documentation/labels/Easy%20fix>



Contours



Vectors

qgis / QGIS-Documentation Public

<> Code Issues 218 Pull requests 18 Actions Projects 2 Wiki Security Insights

Filters is:open is:issue label:"Easy fix" Labels 86 Milestones 6 New issue

Clear current search query, filters, and sorts

15 Open	214 Closed	Author	Label	Projects	Milestones	Assignee	Sort
Reverse wheel zoom (Request in QGIS)	3.32	Easy fix	Project/Configuration	3			
#8117 opened last month by qgis-bot QGIS 3.34							
Support filtering layout legends by multiple linked map items (Request in QGIS)	3.32	Easy fix	Print layout / Atlas / Report	1			
#8088 opened on Mar 8 by qgis-bot QGIS 3.34							
Expose field split policy choice in layer properties > form dialog (Request in QGIS)	3.32	Easy fix	Properties	Vector	1		
#8084 opened on Mar 5 by qgis-bot QGIS 3.34							
Renamed the QgsPenStyleComboBox Qt::NoPen entry to "No Line" (Request in QGIS)	3.30	Easy fix	Symbology	1			
#8079 opened on Mar 1 by qgis-bot QGIS 3.34							
[Feature] Add shortcuts manager to print layouts (Request in QGIS)	3.30	Easy fix	Print layout / Atlas / Report	1			
Project/Configuration							

# WHERE TO GET INFO FOR YOUR CONTRIBUTIONS

- ✓ Visual Changelog
- ✓ Try yourself → early adopter
- ✓ Information in the issue description → ask developers

Audio/video support for the attribute form's attachments editor widget (Request in QGIS) #8004 New issue

Open qgis-bot opened this issue on Jan 29 · 1 comment

qgis-bot commented on Jan 29 Collaborator

**Request for documentation**

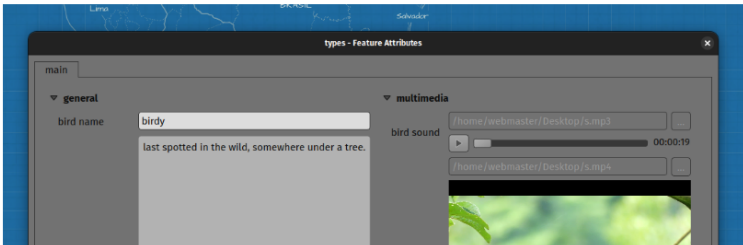
From pull request [qgis/QGIS#51594](#)  
Author: @nirvn  
QGIS version: 3.30

Audio/video support for the attribute form's attachments editor widget

**PR Description:**

**Description**

This PR implements an audio and video viewer to the external resources widget (aka attributes form' Attachments widget):



The screenshot shows the QGIS attribute form interface. It has a 'general' tab with a 'bird name' field containing 'birdy' and a text area with 'last spotted in the wild, somewhere under a tree.' There is also a 'multimedia' section with a 'bird sound' field containing a file path and a video player showing a green landscape.

**Assignees**  
No one assigned

**Labels**  
3.30 Properties

**Projects**  
None yet

**Milestone**  
QGIS 3.34

**Development**  
No branches or pull requests

**Notifications** Customize  
Subscribe  
You're not receiving notifications from this thread.

3 participants



# HOW TO MAKE YOUR CONTRIBUTIONS

## Using the Github web interface.. Three simple steps

1. Fork the QGIS/Documentation
2. Add your edits (reStructuredText - .rst files)
3. Create a pull request

[https://docs.qgis.org/3.28/en/docs/documentation\\_guidelines/first\\_contribution.html](https://docs.qgis.org/3.28/en/docs/documentation_guidelines/first_contribution.html)

Step-by-step video:

<https://www.youtube.com/watch?v=qh-6AnBcy-g>



# HOW TO MAKE YOUR CONTRIBUTIONS

## Using your local environment and git tools

Setting your local environment

Including images

How to build locally: <https://github.com/qgis/QGIS-Documentation>



**upstream**

<https://github.com/qgis/QGIS-Documentation>



**origin**

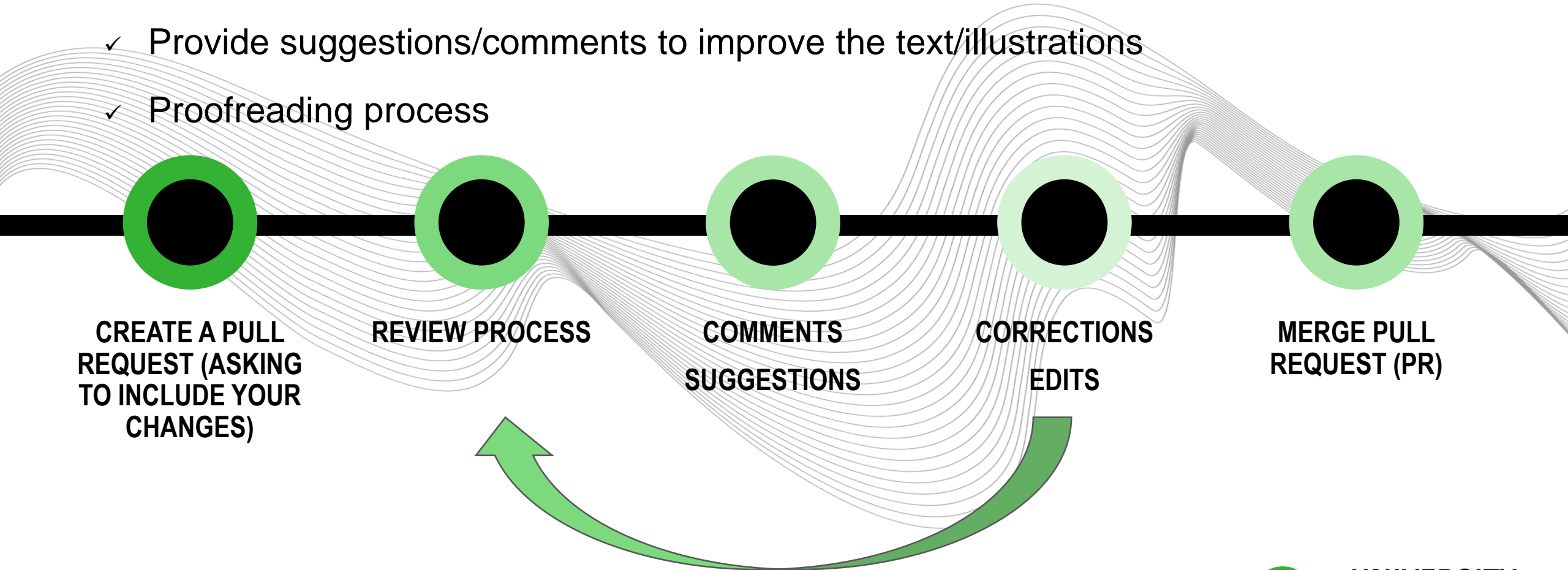
<https://github.com/<your name>/QGIS-Documentation>



**Locally**

# REVIEW PROCESS

- ✓ Reviewers ensure guidelines and style of QGIS documentation
- ✓ Provide suggestions/comments to improve the text/illustrations
- ✓ Proofreading process



# DOCUMENTATION GUIDELINES

[https://docs.qgis.org/3.28/en/docs/documentation\\_guidelines/writing.html](https://docs.qgis.org/3.28/en/docs/documentation_guidelines/writing.html)

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2.2. Managing Screenshots

2.3. Documenting Processing algorithms

3. Writing code in the PyQGIS Cookbook

4. Translation Guidelines

5. Substitutions

FOR DEVELOPERS

PyQGIS Cookbook (QGIS 3.28)

/ Documentation Guidelines / 2. Writing Guidelines

Previous

## 2. Writing Guidelines

- Writing Documentation
  - Headlines
  - Lists
  - Indentation
  - Inline Tags
  - Labels/references
  - Figures and Images
    - Pictures
    - Replacement
    - Figure
    - Tables
  - Index
  - Special Comments
  - Code Snippets
  - Footnotes
- Managing Screenshots
  - Add new Screenshots
  - Translated Screenshots
- Documenting Processing algorithms

# DOCUMENTATION GUIDELINES

## 2.1. Writing Documentation

### 2.1.1. Headlines

To each webpage of the documentation corresponds a `.rst` file.

Sections used to structure the text are identified through their title which is underlined (and overlined for the first level). Same level titles must use same character for underline adornment. In QGIS Documentation, you should use following styles for chapter, section, subsection and minisec.

```
*****  
Chapter  
*****  
  
Section  
=====
```

Subsection  
-----

Minisec  
.....

Subminisec  
^^^^^^^^



[https://docs.qgis.org/3.28/en/docs/documentation\\_guidelines](https://docs.qgis.org/3.28/en/docs/documentation_guidelines)



# DOCUMENTATION GUIDELINES

## 2.1.2. Lists

Lists are useful for structuring the text. Here are some simple rules common to all lists:

- Start all list items with a capital letter
- Do not use punctuation after list items that only contain a single simple sentence
- Use period ( . ) as punctuation for list items that consist of several sentences or a single compound sentence

## 2.1.3. Indentation

Indentation in ReStructuredText should be aligned with the list or markup *marker*. It is also possible to create block quotes with indentation. See the [Specification](#)

```
#. In a numbered list, there should be  
   three spaces when you break lines  
#. And next items directly follow
```

```
* Nested lists  
* Are also possible  
* And when they also have  
  a line that is too long,  
  the text should be naturally  
  aligned  
* and be in their own paragraph
```

```
However, if there is an unindented paragraph, this will reset the numbering:
```

```
#. This item starts at 1 again
```

# DOCUMENTATION GUIDELINES

## 2.1.4. Inline Tags

You can use tags to emphasize items.

- **Menu GUI:** to mark a complete sequence of menu selections, including selecting submenus and choosing a specific operation, or any subsequence of such a sequence.

```
:menuselection:`menu --> submenu`
```

- **Dialogs and Tab titles:** Labels presented as part of an interactive user interface including window titles, tab titles, button and option labels.

```
:guilabel:`title`
```

- **Filenames and directories**

```
:file:`README.rst`
```

- **Icons with popup text**

```
|icon| :sup:`popup_text`
```

(see [image](#) below).

- **Keyboard shortcuts**

```
:kbd:`Ctrl+B`
```

[https://docs.qgis.org/3.28/en/docs/documentation\\_guidelines](https://docs.qgis.org/3.28/en/docs/documentation_guidelines)

# DOCUMENTATION GUIDELINES - IMAGES

## 2.1.6. Figures and Images

### Pictures

To insert an image, use

```
.. figure:: /static/common/logo.png
   :width: 10 em
```

which returns



### Replacement

You can put an image inside text or add an alias to use everywhere. To use an image inside a paragraph, first create an alias in the `source/substitutions.txt` file:

```
.. |nice_logo| image:: /static/common/logo.png
   :width: 1 em
```

and then call it in your paragraph:

```
My paragraph begins here with a nice logo |nice_logo|.
```



# SUBSTITUTIONS

[https://docs.qgis.org/3.28/en/docs/documentation\\_guidelines/substitutions.html](https://docs.qgis.org/3.28/en/docs/documentation_guidelines/substitutions.html)

Search docs

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5. Substitutions

5.1. Usage

5.2. Common Substitutions

5.3. Toolbar Button Icons

5.4. Other basic icons

5.5. Attribute Table

5.6. Projections and Georeferencer

5.7. Print Layout

5.8. Layer Properties

5.9. Plugins

## 5. Substitutions

- Usage
- Common Substitutions
  - Platform Icons
  - Menu Items
- Toolbar Button Icons
  - Manage Layers and overview
  - Project
  - Edit
  - Identity result
  - Digitizing and Advanced Digitizing
  - Mesh
  - Map Navigation and attributes
  - Selection and Expressions
  - Labels and Diagrams
  - Decorations
  - Help
  - Colors
- Other basic icons
- Attribute Table
- Projections and Georeferencer
- Print Layout
- Layer Properties
- Plugins
  - Processing
  - Various Core Plugins
  - Grass integration






### 5.1. Usage

# SUBSTITUTIONS














## 5.2. Common Substitutions

Below are given some icons and their substitution to use when writing documentation. Can be used/found in many places in manuals.

### 5.2.1. Platform Icons

Icon	Substitution	Icon	Substitution
	<code> logo </code>		
	<code> kde </code>		<code> nix </code>
	<code> osx </code>		<code> win </code>
































### 5.2.2. Menu Items

Icon	Substitution	Icon	Substitution
	<code> checkbox </code>		<code> unchecked </code>
	<code> radioButtonOn </code>		<code> radioButtonOff </code>
	<code> selectNumber </code>		<code> selectString </code>
	<code> selectColor </code>		<code> selectColorRamp </code>
	<code> tab </code>		<code> degrees </code>
	<code> inputText </code>		<code> slider </code>
	<code> hamburgerMenu </code>		



































# SUBSTITUTIONS

## 5.3.1. Manage Layers and overview

Icon	Substitution	Icon	Substitution
	dataSourceManager		
	addOgrLayer		
	addRasterLayer		addMssqlLayer
	addDelimitedTextLayer		addSpatialiteLayer
	addPostgisLayer		addOracleLayer
	addAfsLayer		addAmsLayer
	addMeshLayer		
	addVectorTileLayer		addXyzLayer
	addVirtualLayer		addWmsLayer
	addWfsLayer		addWfsLayer
	addPointCloudLayer		addGpsLayer
	newVectorLayer		newSpatialiteLayer
	newGeoPackageLayer		createMemory
	newVirtualLayer		newMeshLayer
	dbManager		gdal
	geoPackage		spatialite
	virtualLayer		layer

## 5.9.1. Processing

Icon	Substitution	Icon	Substitution
	processingAlgorithm		processingModel
	processingHistory		processingResult
	processSelected		editHelpContent
	saveAsPython		modelOutput
	qgsProjectFile		addToProject
123	fieldInteger		
	meanCoordinates		extractLayerExtent
	selectRandom		vectorGrid
	convexHull		buffer
	intersect		union
	symmetricalDifference		clip
	difference		dissolve
	checkGeometry		exportGeometry
	delaunay		centroids
	polygonToLine		extractVertices
	lineToPolygon		nearestNeighbour
	splitLayer		heatmap

# PROCESSING ALGORITHMS

The screenshot shows a web browser with the URL `docs.qgis.org/3.28/en/docs/documentation_guidelines/writing.html#writing-documentation`. The left sidebar contains a navigation menu with the following items: Training Manual, A Gentle Introduction to GIS, FOR WRITERS, Documentation Guidelines, 1. A Step By Step Contribution, 2. Writing Guidelines (selected), 2.1. Writing Documentation (expanded), 2.1.1. Headlines, 2.1.2. Lists, 2.1.3. Indentation, 2.1.4. Inline Tags, 2.1.5. Labels/references, 2.1.6. Figures and Images, 2.1.7. Index, 2.1.8. Special Comments, 2.1.9. Code Snippets, 2.1.10. Footnotes, 2.2. Managing Screenshots, 2.3. Documenting Processing algorithms, 3. Writing code in the PyQGIS Cookbook.

## 2.3. Documenting Processing algorithms

If you want to write documentation for Processing algorithms, consider these guidelines:

- Processing algorithm help files are part of QGIS User Guide, so use the same formatting as User Guide and other documentation.
- Each algorithm documentation should be placed in the corresponding **provider** folder and **group** file, e.g. the algorithm *Voronoi polygon* belongs to the QGIS provider and to the group *vectorgeometry*. So the correct file to add the description is: `source/docs/user_manual/processing_algs/qgis/vectorgeometry.rst`.

**Note**

Before starting to write the guide, check if the algorithm is already described. In this case, you can enhance the existing description.

- It is **extremely** important that each algorithm has an *anchor* that corresponds to the provider name + the unique name of the algorithm itself. This allows the Help button to open the Help page of the correct section. The anchor should be placed **above** the title, e.g. (see also the [Labels/references](#) section):

```
.. _qgisvoronoipolygons:

Voronoi polygons
-----
```

To find out the algorithm name you can just hover the mouse on the algorithm in the Processing toolbox.

- Avoid using “This algorithm does this and that...” as the first sentence in the algorithm description. Try to use more general expressions like:

```
Takes a point layer and generates a polygon layer containing the...
```

Check if the algorithm is already described → enhance the existing description.

# PROCESSING ALGORITHMS

Here is an example of an [existing algorithm](#) to help you with the layout and the description:

```
.. _qgiscountpointsinpolygon:
```

Count points in polygon

-----  
Takes a point and a polygon layer and counts the number of points from the point layer in each of the polygons of the polygon layer.  
A new polygon layer is generated, with the exact same content as the input polygon layer, but containing an additional field with the points count corresponding to each polygon.

```
.. figure:: img/count_points_polygon.png
   :align: center
```

The labels in the polygons show the point count

An optional weight field can be used to assign weights to each point. Alternatively, a unique class field can be specified. If both options are used, the weight field will take precedence and the unique class field will be ignored.

```
``Default menu``: :menuselection:`Vector --> Analysis Tools`
```

Parameters

.....

```
.. list-table::
   :header-rows: 1
   :widths: 20 20 20 40
```

* - Label
- Name
- Type
- Description
* - <b>Polygons</b>
- ``POLYGONS``
- [vector: polygon]
- Polygon layer whose features are associated with the count of points they contain
* - <b>Points</b>
- ``POINTS``
- [vector: point]
- Point layer with features to count
* - <b>Weight field</b>

Optional

- ``WEIGHT``
- [tablefield: numeric]
- A field from the point layer.
The count generated will be the sum of the weight field of the points contained by the polygon.
* - <b>Class field</b>

Optional

- ``CLASSFIELD``
- [tablefield: any]
- Points are classified based on the selected attribute and if several points with the same attribute value are within the polygon, only one of them is counted.
The final count of the points in a polygon is, therefore, the count of different classes that are found in it.
* - <b>Count field name</b>
- ``FIELD``
- [string]

Default: 'NUMPOINTS'

- The name of the field to store the count of points
* - <b>Count</b>
- ``OUTPUT``
- [vector: polygon]

Default: [Create temporary layer]

- Specification of the output layer type (temporary, file, GeoPackage or PostGIS table).
Encoding can also be specified.

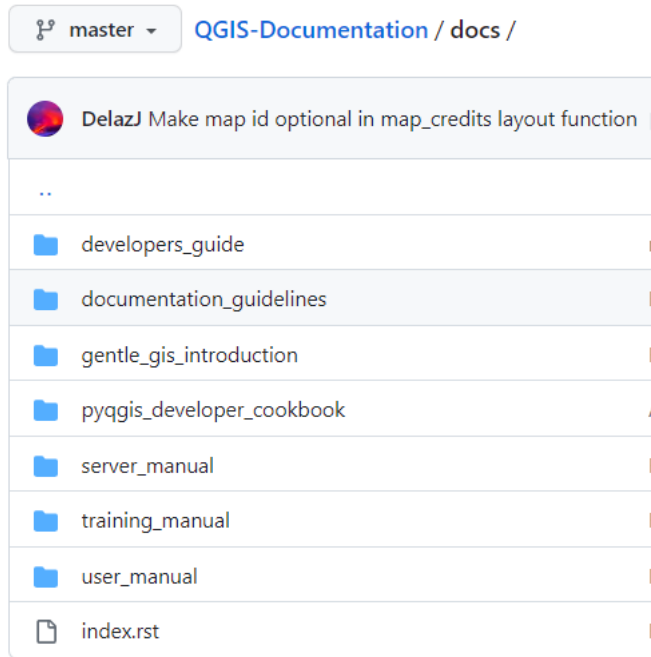
Outputs

.....

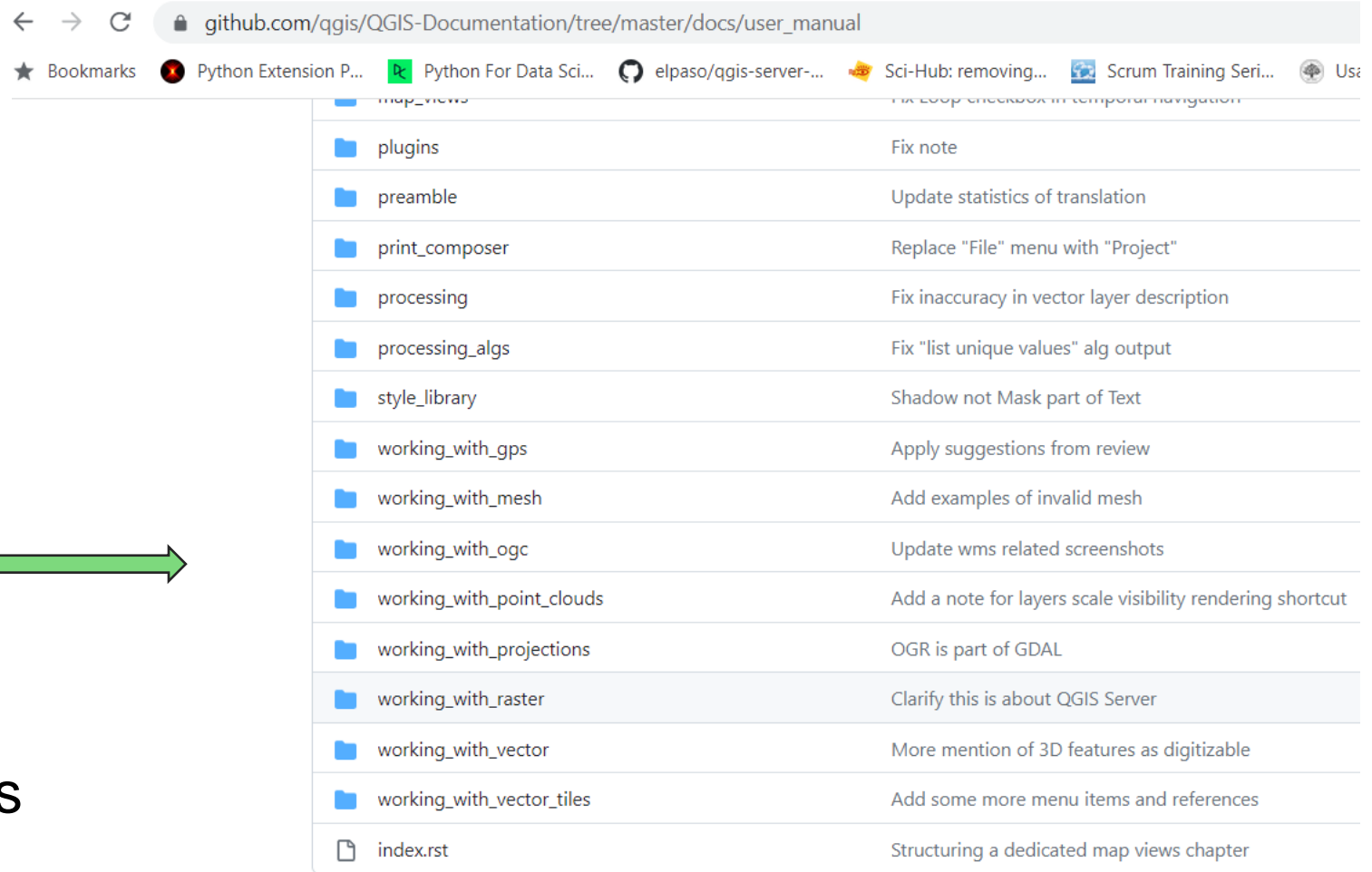
```
.. list-table::
   :header-rows: 1
   :widths: 20 20 20 40
```

* - Label
- Name
- Type
- Description
* - <b>Count</b>
- ``OUTPUT``
- [vector: polygon]
- Resulting layer with the attribute table containing the new column with the points count

# FINDING THE SOURCE FILES



master	QGIS-Documentation / docs /
DelazJ Make map id optional in map_credits layout function	
..	
developers_guide	
documentation_guidelines	
gentle_gis_introduction	
pyqgis_developer_cookbook	
server_manual	
training_manual	
user_manual	
index.rst	

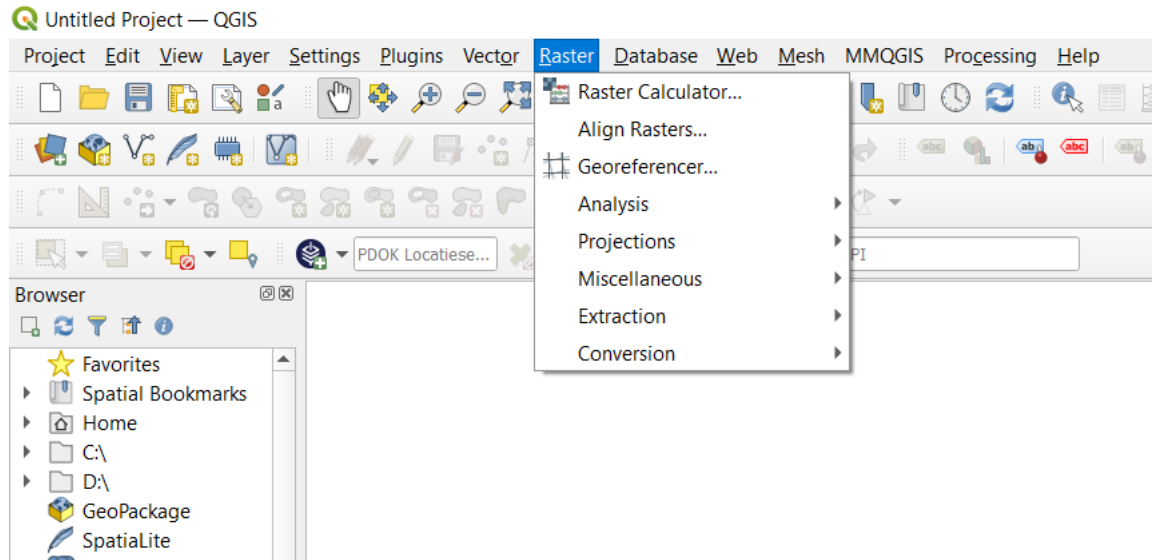


map_views	Fix loop checkbox in temporal navigation
plugins	Fix note
preamble	Update statistics of translation
print_composer	Replace "File" menu with "Project"
processing	Fix inaccuracy in vector layer description
processing_algs	Fix "list unique values" alg output
style_library	Shadow not Mask part of Text
working_with_gps	Apply suggestions from review
working_with_mesh	Add examples of invalid mesh
working_with_ogc	Update wms related screenshots
working_with_point_clouds	Add a note for layers scale visibility rendering shortcut
working_with_projections	OGR is part of GDAL
working_with_raster	Clarify this is about QGIS Server
working_with_vector	More mention of 3D features as digitizable
working_with_vector_tiles	Add some more menu items and references
index.rst	Structuring a dedicated map views chapter

<https://github.com/qgis/QGIS-Documentation/tree/master/docs>

[https://github.com/qgis/QGIS-Documentation/tree/master/docs/user\\_manual](https://github.com/qgis/QGIS-Documentation/tree/master/docs/user_manual)

# FINDING THE SOURCE FILES



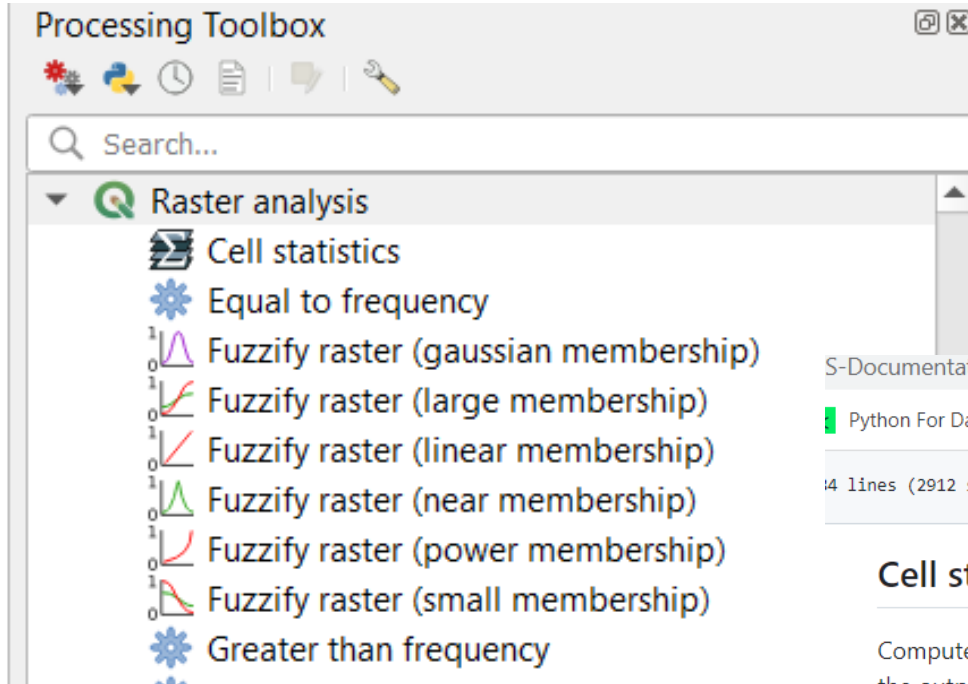
[https://github.com/qgis/QGIS-Documentation/tree/master/docs/user\\_manual/working\\_with\\_raster](https://github.com/qgis/QGIS-Documentation/tree/master/docs/user_manual/working_with_raster)

QGIS-Documentation / docs / user\_manual / working\_with\_raster /

 DelazJ Clarify this is about QGIS Server	
..	
 img	Add elevation properties for raster layers
 georeferencer.rst	Place an anchor and reorder substitutions item
 index.rst	Move georeferencer docs (#5551)
 raster_analysis.rst	More consistency between substitution and file naming,
 raster_properties.rst	Clarify this is about QGIS Server



# FINDING THE SOURCE FILES



[https://github.com/qgis/QGIS-Documentation/blob/master/docs/user\\_manual/processing\\_algs/qgis/rasteranalysis.rst](https://github.com/qgis/QGIS-Documentation/blob/master/docs/user_manual/processing_algs/qgis/rasteranalysis.rst)

S-Documentation/blob/master/docs/user\_manual/processing\_algs/qgis/rasteranalysis.rst

4 lines (2912 sloc) | 90.5 KB

Raw Blame

## Cell statistics

Computes per-cell statistics based on input raster layers and for each cell writes the resulting statistics to an output raster. At each cell location, the output value is defined as a function of all overlaid cell values of the input rasters.

By default, a NoData cell in ANY of the input layers will result in a NoData cell in the output raster. If the `:guilabel:'Ignore NoData values'` option is checked, then NoData inputs will be ignored in the statistic calculation. This may result in NoData output for locations where all cells are NoData.

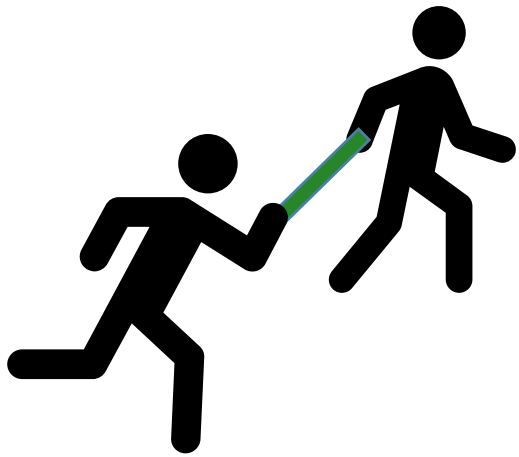
The `:guilabel:'Reference layer'` parameter specifies an existing raster layer to use as a reference when creating the output raster. The output raster will have the same extent, CRS, and pixel dimensions as this layer.

**Calculation details:** Input raster layers that do not match the cell size of the reference raster layer will be resampled using `nearest neighbor resampling`. The output raster data type will be set to the most complex data type present in the input datasets except when using the functions `Mean`, `Standard deviation` and `Variance` (data type is always `Float32` or `Float64` depending on input float type) or `Count` and `Variety` (data type is `Int32`).

# QGIS, A COMMUNITY EFFORT

- ✓ Developers, documenters, users
- ✓ Get yourself involved and *write the doc*

<https://www.qgis.org/en/site/getinvolved/index.html>



# QUESTIONS/ ITS ABOUT PRACTICE



- ✓ Two more doc sessions:
  - ✓ Writing from the github interface (follows)
  - ✓ Building the environment in your local machine (afternoon)

# GET IN CONTACT



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