Release Notes Documentation

Release 18

AdaCore

Dec 11, 2018

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Release Date: October 2017

The main goal for the development cycle of GPS 18 was to improve stability, and a better experience for newcomers. It includes a number of new features as well.

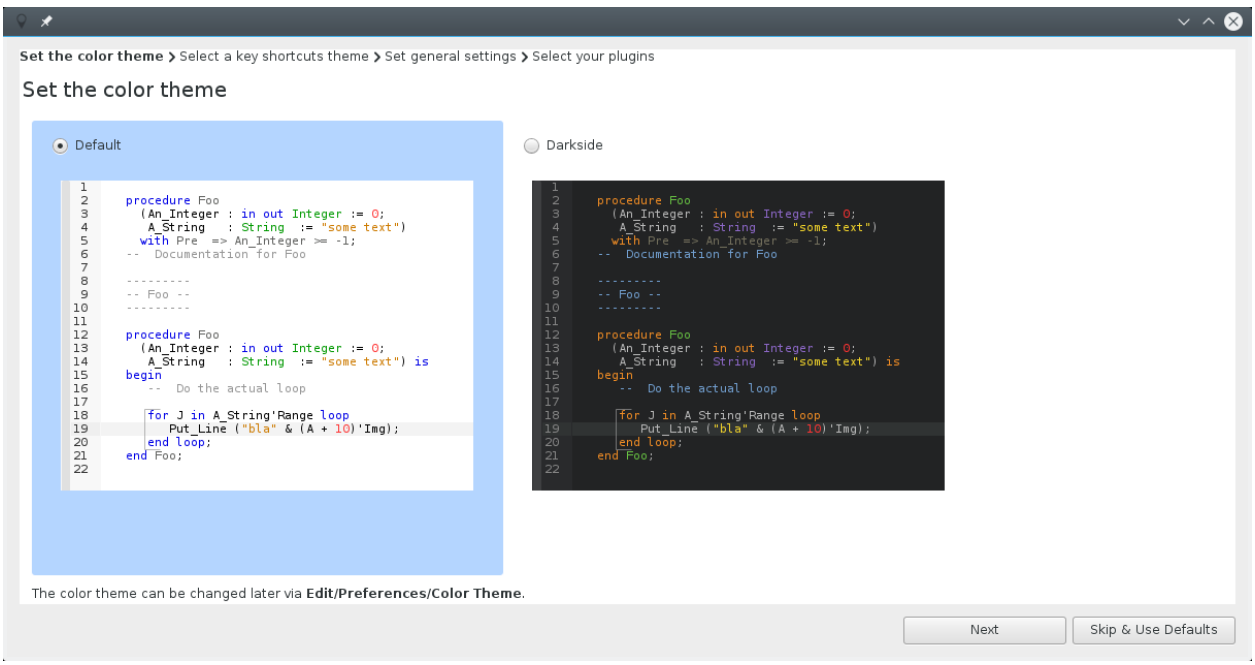
CHAPTER

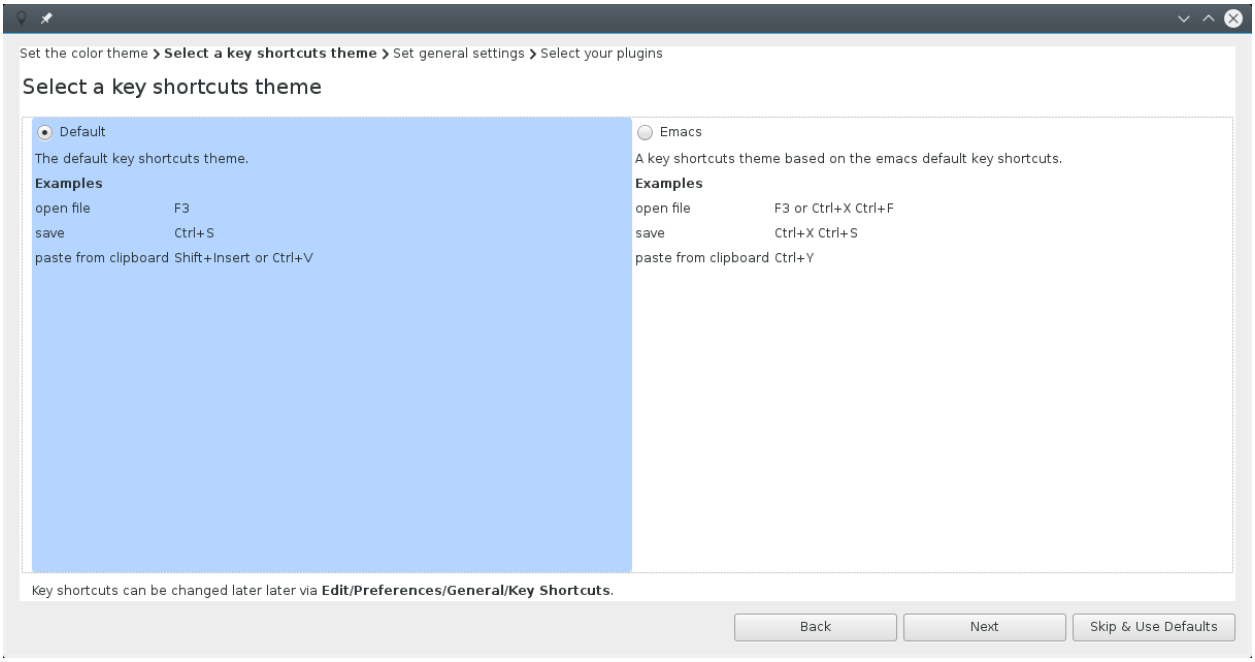
ONE

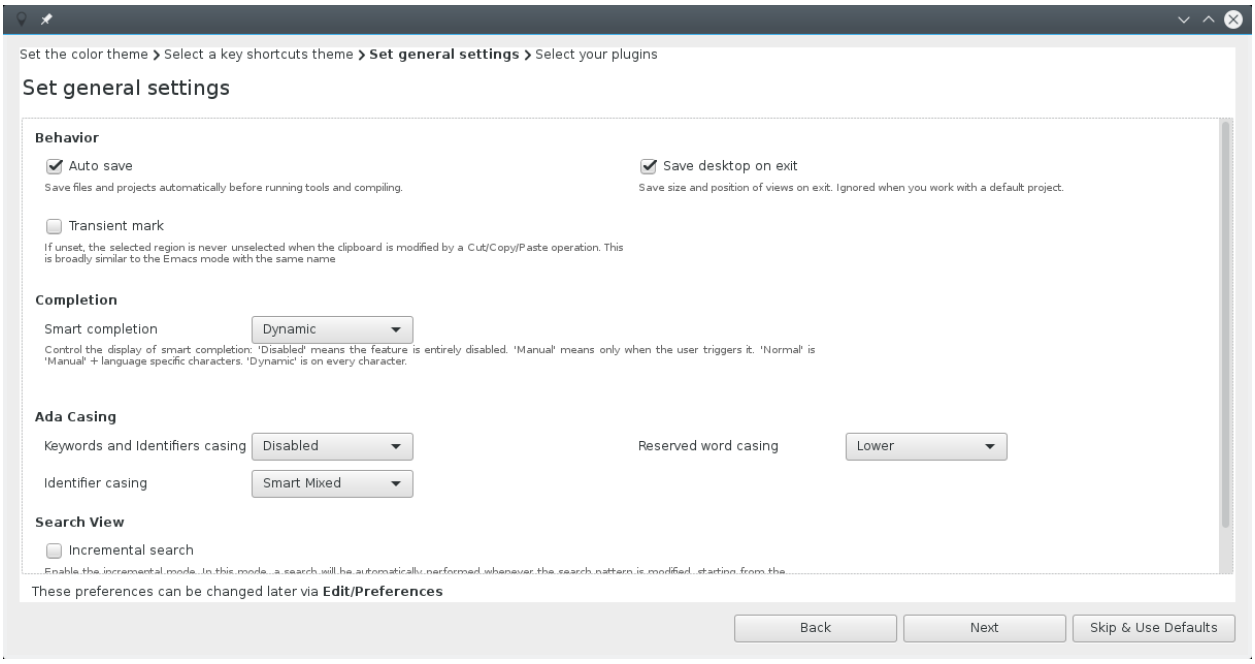
PREFERENCES ASSISTANT & WELCOME DIALOG

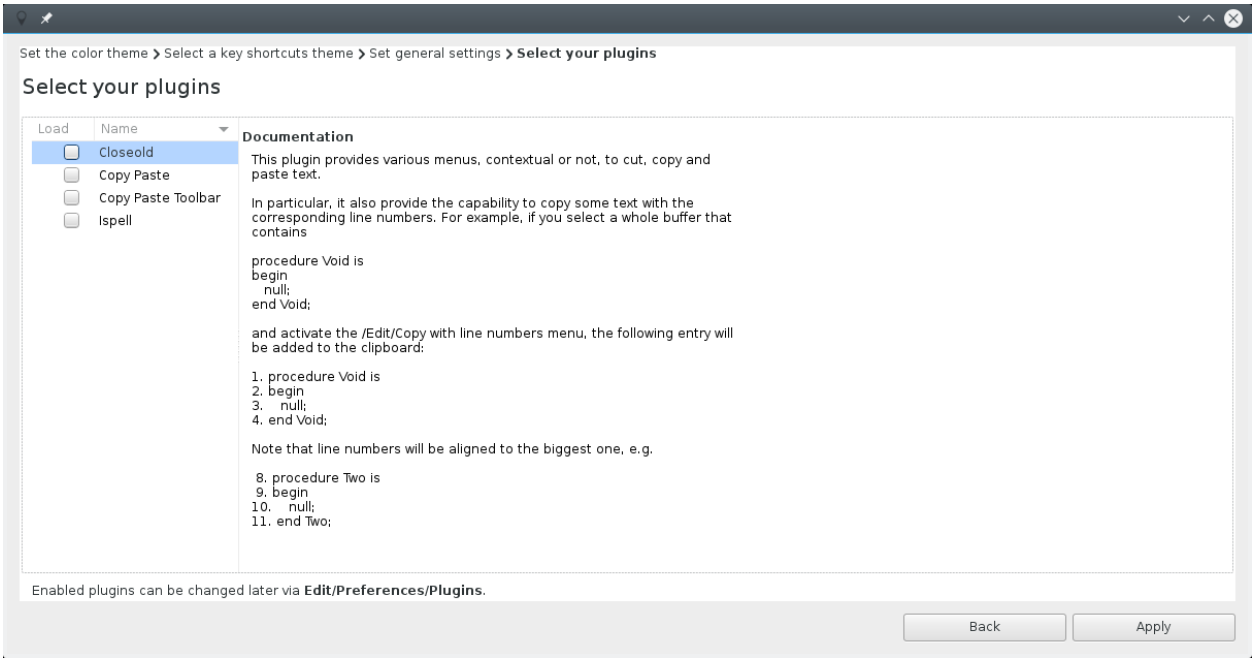
When starting GPS for the first time, a preferences assistant wizard allows you to quickly customize GPS to your preferred way of working. You'll be able to change the following settings through this dialog:

- color themes
- key shortcuts theme
- general settings
- plugins

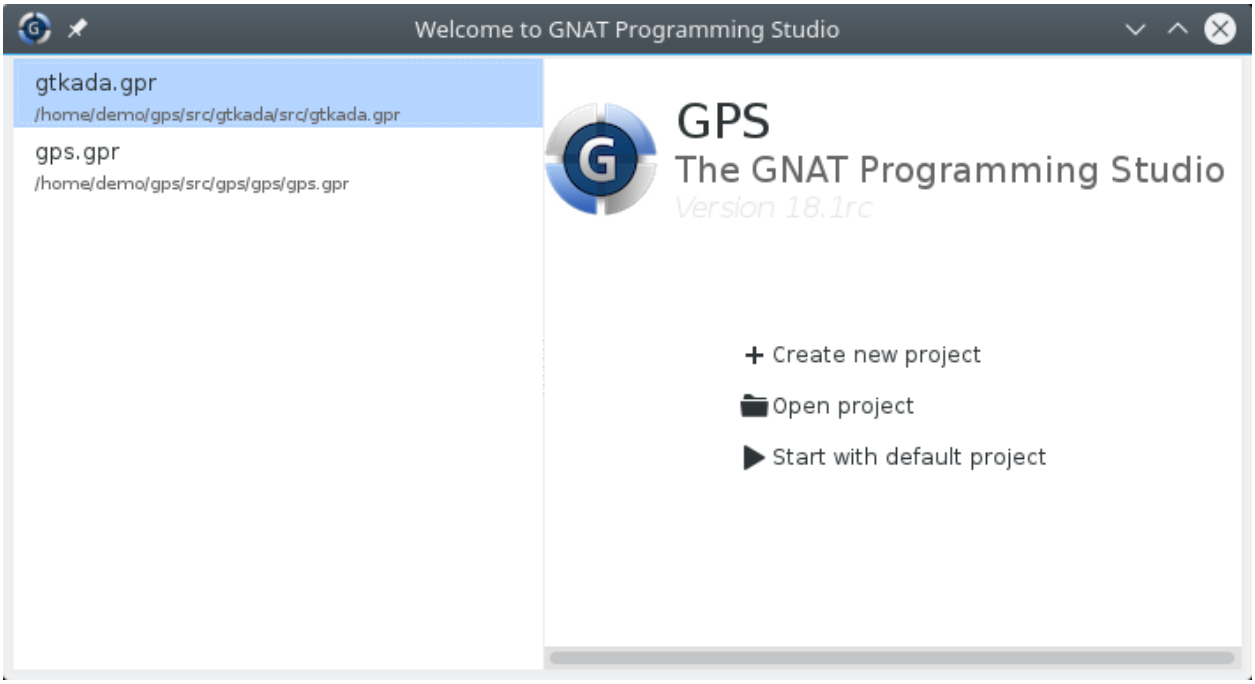



Set the color theme › Select a key shortcuts theme › Set general settings › Select your plugins
Select a key shortcuts theme
Default
The default key shortcuts theme.
Examples
open file F3
save Ctrl+S
paste from clipboard Shift+Insert or Ctrl+V
Emacs
A key shortcuts theme based on the emacs default key shortcuts.
Examples
open file F3 or Ctrl+X Ctrl+F
save Ctrl+X Ctrl+S
paste from clipboard Ctrl+Y
Key shortcuts can be changed later later via Edit/Preferences/General/Key Shortcuts.
Back
Next
Skip & Use Defaults


Set the color theme › Select a key shortcuts theme › Set general settings › Select your plugins
Set general settings
Behavior
Auto save
Save files and projects automatically before running tools and compiling.
Save desktop on exit
Save size and position of views on exit. Ignored when you work with a default project.
Transient mark
If unset, the selected region is never unselected when the clipboard is modified by a Cut/Copy/Paste operation. This is broadly similar to the Emacs mode with the same name
Completion
Smart completion
Dynamic
Control the display of smart completion: 'Disabled' means the feature is entirely disabled. 'Manual' means only when the user triggers it. 'Normal' is 'Manual' + language specific characters. 'Dynamic' is on every character.
Ada Casing
Keywords and Identifiers casing
Disabled
Reserved word casing
Lower
Identifier casing
Smart Mixed
Search View
Incremental search
These preferences can be changed later via Edit/Preferences
Back
Next
Skip & Use Defaults



The GPS welcome dialog has been reworked: a list of recently opened projects is now displayed on the left side.

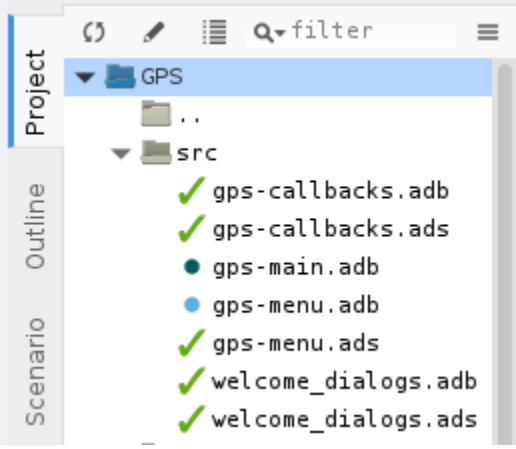


CHAPTER

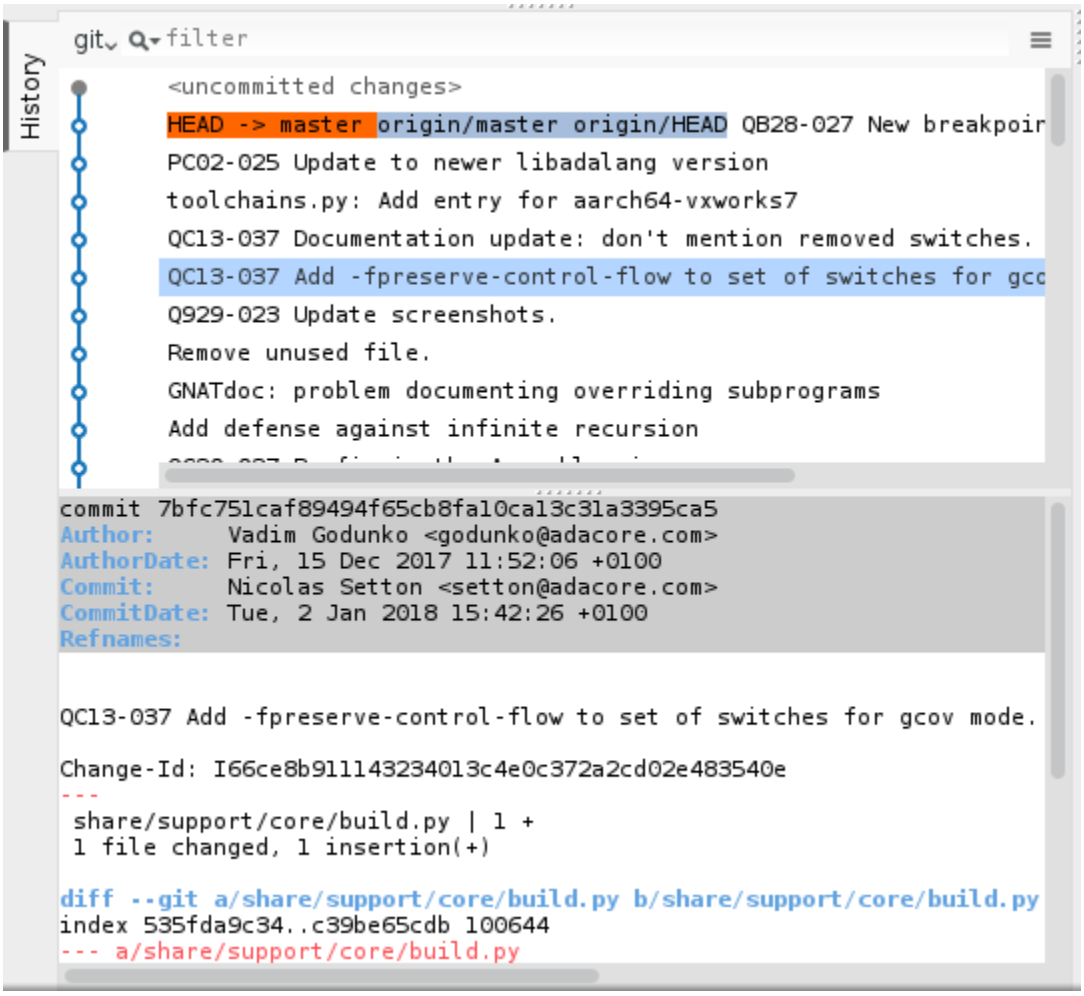
TWO

VERSION CONTROL SUPPORT

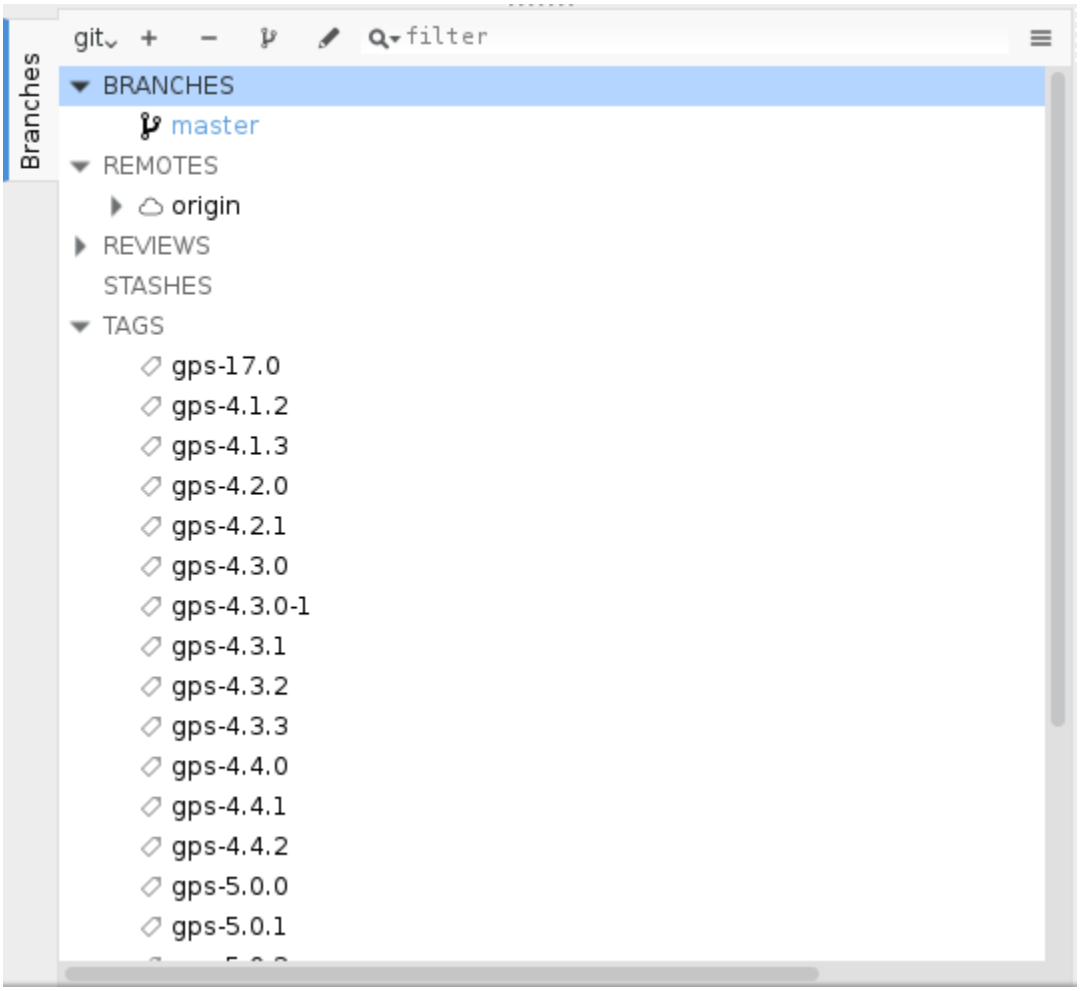
The support of the version control system has been rewritten from scratch. Multiple version control systems and repositories are supported within the loaded project tree. The VCS Explorer and VCS Activities views have been replaced with new views. The Project and Files views now show the VCS status for files.



The History view shows the set of commits that were done in the repository in the past, along with a graphical diagram showing how branches were created or joined. This makes it easier to understand how the commits relate to one another.



The Branches view lets you view and switch between existing branches, to create new branches, and to delete branches. If you are using git, you can also use this view to apply view stashed commits.



Support has been added to execute special VCS operations when a file needs to be made writable (which is useful for ClearCase, for instance).

All VCS operations are now performed much more efficiently, and getting the status for objects is almost instantaneous on most working directories.

CHAPTER

THREE

DEBUGGER

The *Assembler* view highlights assembler instructions, registers and addresses. It has a local toolbar for quick access to disassembly operations.

The *Debugger Variables* view allows to control format (display base) of variables via the contextual menu.

The *Debug* → *Print* contextual menus have been reintroduced in GPS.

The Debug section of the contextual menu provides entries to control breakpoints (set, remove, disable, enable).

The GDB/MI protocol is supported and can be activated via the *Debugger* section of the Preferences dialog.

CHAPTER

FOUR

TEST VIEW

A new dedicated *Test* view' was added to present tests, test cases and corresponding sources available in the project.

CHAPTER

FIVE

OUTLINE

The expanded/collapsed state of the “withs” node is now preserved when switching between sources.

The *Outline View* is now able to present entities grouped by categories. This is enabled via a new preference *Group by category*, and works only in flat view mode.

CHAPTER

SIX

CODEFIXES

Code fixing capabilities was enchanced to handle more messages from the compiler:

- loop expression is replaced by Range attribute when compiler detects that Range attribute should be used to loop over the content of an array
- removing of redundant “with” clauses now removes any accompanying “use” clauses
- incorrect prefix of Result attribute replaced by the expected one

CHAPTER

SEVEN

WORKFLOWS

A *Build & Run* and a *Build & Debug* toobar button have been introduced. Clicking on these buttons has for effect to build the selected executable, and perform the second action (either *Run* or *Debug*) if the build was successful.

CHAPTER

EIGHT

PROJECTS SUPPORT

The *Interfaces* attribute is now editable from the *Library* → *Standalone* page of the *Project Properties* editor.

GPS no longer offers to edit project properties of a read-only project file.

A new attribute *Read_Only* can be placed in the IDE package of a project to prevent GPS from displaying the graphical editor on this project.

When applying changes made in *Project Properties* to all the possible values of a given scenario variable, no useless switch case is written in the resulting .gpr file.

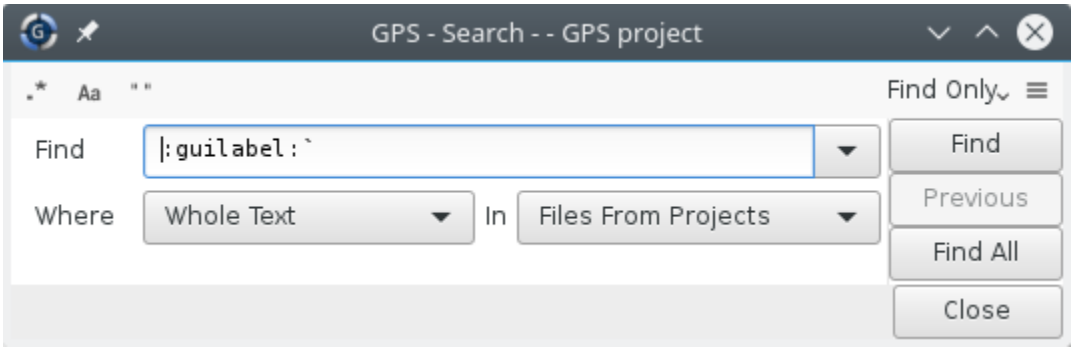
We no longer display the list of entities defined in a file, in the *Project* view. This information is already available in the Outline, whenever a file is selected in the Project view. Removing it allowed us to speed up the display of the tree view.

CHAPTER

NINE

SEARCH & REPLACE

The GPS *Search* view has been completely revamped. The usability has been improved and an interactive mode has been added.



Every Search/Replace action is now available from the keyboard.

The number of entries in the *Search* view combobox is now limited to 5 when the view is spawned. A separator has also been added between the predefined regexps and the previously searched patterns.

GPS now reports in the *Messages* window the number of occurrences that have been replaced when *Replace All* button of the *Search* view is clicked.

CHAPTER

TEN

SOURCE EDITOR

A new status indicator has been placed in the bottom-right corner of source editors, showing whether the editor has been modified.

A new action *insert extended character* has been added, allowing one to enter an extended character in the editor by its unicode number.

CHAPTER

ELEVEN

GNATDOC

GNATdoc is now able to process bodies, and extract documentation from bodies and generate separate pages for these bodies in the resulting HTML output. This is activated via the command-line switch '-d'.

GNATdoc now supports processing Ada 83 and Ada 95 codebases, in addition to Ada 2005 and 2012.

Detailed information is generated for task and protected objects, including their subprograms and entries.

CHAPTER

TWELVE

MISCELLANEOUS UI IMPROVEMENTS

Key shortcuts are now displayed in GPS contextual menus.

The menu separators have been made more visible in dark themes.

Icons were added in the Window menu for editors. This allows displaying which editors are currently modified.

The labels containing the base name and directory of a file in the *Properties* dialog are now selectable, which means you can copy/paste from them.

GNAT runtime menu items for cross platforms have been moved into a separate submenu of *Help* → *GNAT* runtime instead of placing them after Help/About submenu.

GPS now includes a new button to the right of the main toolbar, to let users easily switch perspectives.

The *Go declaration* ... item is no longer shown when the subprogram does not have a declaration. Instead, the contextual menu only shows *Goto body* ....

The local configuration menu of the *Locations* view now contains an item *Preserve message* to control whether to keep build messages for files that are not being recompiled.

The *Files* view now reuses the same preference as the Project view to hide some files (those starting with "." by default, although this can be configured in the preferences dialog).

Creating *Projects* and *Files* views is now much faster, in particular on large projects where a directory contains several thousands of files.

A *File* → *Project* → *Add Complex File Naming Conventions* menu has been added to run GNATname on project loaded by GPS.

The *Memory Usage View* has been improved. It is now able to display the static memory usage for memory regions, sections and object files, even when the link has failed.

If the *Metrics* view is already present, GPS will reuse it when computing metrics of a file/project.

Deployment of examples: GPS now asks to specify a directory for deploying GNAT examples via the HELP/GNAT/Examples menus, rather than opening examples in the location where they are installed.

New contextual menus have been added to create new files from templates (e.g: 'New Ada Package' contextual menu in the Project View). These templates are derived from the aliases mechanism and a Python API has been introduced to allow users to create their own templates.

CHAPTER

THIRTEEN

GPS CUSTOMIZATION

13.1 Python API

A new method GPS.Message.create_nested_message has been added to create nested messages.

It is now possible to create Tasks from the Python API, and to create tasks that monitor a workflow. This can conveniently replace some uses of the *GPS.Timeout* API, and integrates within the GPS Task Manager, allowing to provide progress indication for background tasks.

Python API of Libadalang is available for plugins, and can be used in GPS plugins to implement custom code checkers.

The *GPS.Debugger* provides new methods to manipulate frames - *current_frame*, *frame_down*, *frame_up*, *frames*, *select_frame*.

The scripting API has been enhanced with an *add_debounce* method which can be used to schedule callbacks to be called as soon as GPS is idle.

CHAPTER

FOURTEEN

PLATFORM SPECIFIC IMPROVEMENTS

14.1 Mac OS

A Mac OS Key shortcuts theme has been introduced in GPS, using the Command key instead of the control key in many places, and defines common Mac OS (e.g: 'control + a' to go to the beginning of the current line).

14.2 Windows

The colors used for selected items have been improved to make them more readable by default.

14.3 Linux

Electing an item now deselects any other unless the user is pressing a modifier key.