

# Developer Corner Home

FreePBX Development

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FreePBX is a *true* Open Source development effort. Providing GNU [GPL v2](#), [GPL v3](#) or [AGPL v3.0](#) (or equivalent) licensing is all that is required to make a project *Open Source*. However, obtaining true community involvement is what makes a good project become great. This means transparent access to the project's activities and a development community with access to the project that is not limited to a sponsoring organization. These values are what fuel a really successful project.

The FreePBX Project uses the [Atlassian JIRA](#) (Issue Tracker) and [Atlassian Bitbucket](#) (Version Control System) applications in order to tightly integrate the GIT Activity, Ticket system and Development Wiki. We have integrated this system with our main site ([freepbx.org](#)) so that you are able to sign on to both sites when you create an account (<https://www.freepbx.org/user/register>). Without an account, you will not be able to submit tickets but you will still have access to all development tools and viewing privileges

To participate in the FreePBX project you must agree and submit a filled out copy of our code submission agreement: <http://literature.schmooze.com/EUA/CodeSubmissionsAgreement.pdf> (For more information on this Please see our FAQ). This is only required to submit code back to the FreePBX project

## Getting Started

### Accessing The source

Please take a look at our development documentation for setting up a development environment here: [Setting Up a Development Environment](#)

### Code Quality

Code quality is very important when it comes to things such as security, maintainability. PHP tends to get a bad rap because it allows bad behavior. Just because you can do something doesn't make it the right thing. The following 3rd party links discuss quality coding practices. These guidelines can help both new and seasoned programmers when developing for FreePBX.

- [Clean Code concepts adapted for PHP](#)
- [PHP: The Right Way](#)

### Browsing The Source

You can take a quick look at our source code:

- [Core Modules](#)
  - <https://git.freepbx.org/projects/FREEPBX>
- [Contributed Modules \(Non-core\)](#)
  - <https://git.freepbx.org/projects/FPBXC�>
- [FreePBX Libraries \(FreePBX Components/libraries or generators\)](#)
  - <https://git.freepbx.org/projects/FL>

## Community Design and Development

In addition to taking input and feedback from the community at large, FreePBX tries to keep its design and road map plans transparent and accessible. This means ideas are discussed in the Forum, in the Wiki and in the [#freepbx-dev IRC channel](#). Live interaction can also be

extremely beneficial, so many phone conversations do take place (after all we are all about phones...). We try hard to document the content of these conversations into the Wiki to further benefit from community review and input.

Project roadmaps are provided on this wiki under: [Roadmap](#)

## Getting Involved

The easiest way to get started is to simply take a look at our bug tracker. We have over [697 issues](#) currently open for FreePBX alone.

The wiki lists many ways to get involved. If you want to develop for FreePBX a good way to start is to contact one of the active developers. You can message them on <https://community.freepbx.org> them, or you can get onto the [Development IRC channel #freepbx-dev](#) on Freenode and make contact.

## Module Creation

If you'd like to jump in and get your hands dirty by creating your own FreePBX module you can do so by utilizing our [FreePBX Module Generator](#).

We also have a couple of php example modules you might find of interest.

What?	FreePBX Versions	Link
FreePBX Hello World Module	12 (For 13+ use below)	<a href="https://github.com/jfinstrom/FreePBX-HelloWorld">https://github.com/jfinstrom/FreePBX-HelloWorld</a>
FreePBX Hello World Module	13+	<a href="https://github.com/jfinstrom/helloworld">https://github.com/jfinstrom/helloworld</a>
FreePBX Hello World for UCP	13 (For 14+ use below)	<a href="https://github.com/jfinstrom/ucphelloworld">https://github.com/jfinstrom/ucphelloworld</a>
FreePBX Hello World for UCP	14+	<a href="https://git.freepbx.org/projects/FL/repos/freepbx-hello-world-ucp-14/browse">https://git.freepbx.org/projects/FL/repos/freepbx-hello-world-ucp-14/browse</a>

## Bug Fixes

The FreePBX team's Bitbucket allows developers who wish to assist in bug fixes and improvements to fork projects into their personal account on the FreePBX team's Bitbucket server. To sign up for an account on the FreePBX team's Bitbucket server, [register for an account here](#). Once registered, a developer can fork any of the sub modules found on the FreePBX team's BitBucket at <https://git.freepbx.org/projects/FREEPBX> or <https://git.freepbx.org/projects/FPBXCN>.

Once you have your code tested and working you can submit a pull request in the FreePBX team's BitBucket server after you have fully completed our [CSA](#) on file. Also, please make sure to modify your permissions on your forked project so that the 'freepbx-dev' team has at least read permissions. This is so we can checkout your code and makes the code review process easier on us.

NOTE: All bug fixes and feature requests should relate to a ticket at <https://issues.freepbx.org>. If you have written a module you would like included in our contributed repo (<https://git.freepbx.org/projects/FPBXCN>) simply create a repo for your module in the FreePBX team's Bitbucket server and then open a ticket in the bug tracker to make us aware of it and we can mirror your repo. Remember all code submissions through the bug tracker or through git require a [CSA](#) on file. If you are new to GIT please see our [wiki](#) for a general overview.

## Patches Welcome

We have also created a tag in our issue tracker called "patches welcome" for items that seem like solid ideas but we do not have official resources for. A good place to get your feet wet may be in working on one of these issues. Our "Patched Welcome" issues are listed below.

Key	Summary	Type	Created	Updated	Due	Assignee	Reporter	Priority	Status	Resolution
	Jira project doesn't exist or you don't have permission to view it.									
	<a href="#">View these issues in Jira</a>									

## Translating

Beyond code development there are many ways that you can help. Translations are important and you do not need to be a developer to help in this area. For information on translating go [here](#).

## Documentation, Documentation, Documentation

The more quality documentation that exists in a project, the more useful and valuable it becomes. This includes creating original content whether it be How-To Guides, Module Documentation or other forms. It also includes editing existing documentation for correctness and completeness and helping to get the site into a more standardized and organized form. If you have expertise in this area and would like to help drive it, please contact us.

Development Documentation is critical as well. If you are a developer, you probably know that this can be a weak point for many. There is a lot of information on the [Development Wiki](#) but it is also a priority of ours to put some effort into cleaning and updating the documentation, organizing it and augmenting it to make it easier for new developers to get involved.

- [External FreePBX Development](#)
  - [Bootstrap](#)
- [FreePBX Chown Conf](#)
- [FreePBX Internals](#)
  - [A note about security](#)
  - [BMO Logging](#)
  - [FreePBX 2.10 and Higher](#)
  - [FreePBX 2.11 and Higher](#)
  - [FreePBX 12 and Higher](#)
  - [FreePBX 13 and Higher](#)
  - [FreePBX 14 and Higher](#)
  - [FreePBX 15 and Higher](#)
  - [Module Hooking](#)
  - [Module Layout](#)
  - [Throwing Exceptions](#)
  - [Turning off FreePBX Error Handling](#)
- [FreePBX Menu Conf](#)
- [Packaging Modules](#)
- [Translating FreePBX](#)
  - [Minimum Modules to Translate for End User Functionality](#)
  - [Translating FreePBX Manually](#)
  - [Translating FreePBX with Weblate](#)
- [UCP Development](#)
  - [Developing for UCP 14+](#)
- [Unit Testing](#)
- [Using GIT](#)
  - [GIT Branching and Merging](#)
  - [GIT Usage Notes](#)
- [vscode snippets](#)

## A Note about Third Party Module Development

New module submissions are a regularly occurring event and you will find many modules that have been submitted as tarballs in the Ticket system that are not available in the online system. Why is that?

The FreePBX project is designed as a Framework that can easily accommodate new modules and for that reason, new modules get written and submitted. This does not mean that we put every module that comes along into the project. As the project has matured and stabilized, we are putting a lot more thought into the architecting of the FreePBX as it continues to evolve and mature into a world class product. In order to do that, we need to carefully evaluate what officially enters the system since adopting a module has many implications. We try very hard once something becomes part of the project to take on the commitment of maintaining and supporting it and making sure that future upgrades of the project will continue to work with the Modules that are part of it. If you are thinking about writing a module that you would like to be part of the core project, you should talk with one of the active developers in advance.

This does not mean that the other modules are less valuable or inferior in any way, if we don't adopt them. If you have written a module you would like included in our contributed repo simply create a repo for your module on github. Open a ticket in the bug tracker to make us aware of it and we can mirror your repo. Remember all code submissions through the bug tracker or through git require a [CSA](#) on file. If you are new to git please see our [wiki](#) for a general overview