



PLATFORM FOR DEVELOPING AND SHARING FREE SOFTWARE TO COLLECT DATA ONLINE



Developers Guide for the Survey™ Project Web Application

Survey[™] Project Developers Documentation

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Introduction

This guide applies to the development of the Survey™ Project webapplication v.2.4 and higher.

Survey™ Project is a free, open source webapplication to create, publish and administer surveys and webforms in an easy-to-use way without any restrictions or limitations on useage or features.

This guide is written for *developers* who want to contribute to the development of the Survey™ Project webapplication by forking the SP™ repository and submit changes through Pul Requests.

The instructions are based on the installation of the latest stable SP^{TM} web application's sourcecode. More detailed information and instructions on other subjects are available from help sources that are listed in the Further Reading and Links section.

The SP™ 2.4 webapplication is not designed to be used on mobile devices or tablets/ lpads: surveys and webforms can best be created on a PC or laptop. To answer and submit a survey other devices (mobile, tablet, pc etc) are supported as well.

Requirements

- 1- Windows OS, .NET 4.5, IIS webserver 7.5, Mssql Database 2014 or 2016, SMTP account
- 2- ASP Full Trust Level (required in case of using third party hosting)
- 3- Administrator privilages needed
- 4- IDE for C# .NET development e.g. MS Visual Studio Community (free)
- 5- Version control system: Git or Github desktop and a Github.com account

If these conditions are not met take care of them first before continuing.

How to read and use this Guide

The quickest way to get started is to **follow the actions** in the order as described in this guide.

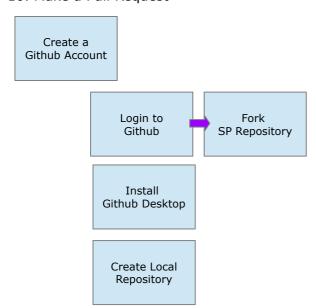
- o Actions are written in the texboxes with a BLUE lining.
- o **Screenprints** from SP™ v.2.4 are added to illustrate the intended action and result. Numbered **yellow** stars are added and referenced in the **Action** text to direct to the correct location.
- o Notes indicating additional advise or warnings are written in separate (pastel) textboxes
- o General information and comments are written as regular text in black.

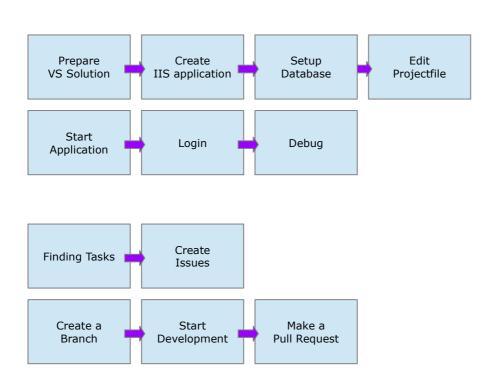




FLOWCHART

- 1. Create a Github Account
- 2. Fork the SP™Repository
- 3. Installing Github Desktop
- 4. Create a local Repository
- 5. Preparing & Opening the Solution
- 6. Starting the Application & Debugging
- 7. Finding & assigning Development Tasks
- 8. Create a Development Branch
- 9. Starting Development
- 10. Make a Pull Request







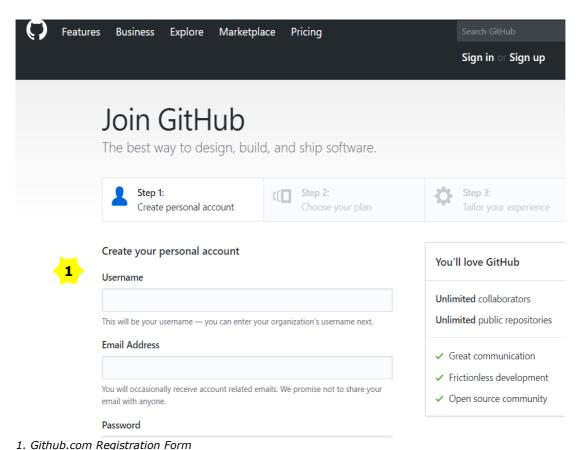


1. Create a Github Account

- o To be able to contribute to the development of the Survey™ Project web application a (free) Github account is needed.
- o The account will give access to the GIT version control system (VCS) and the options to create forks, make commits and pull requests.
- o A Github Desktop version is available to avoid having to work with the command line.

Actions

- 1. Go to https://github.com/join?source=header
- 2. Fill out the **registration form** [1] to create a Github account



1. Gitnub.com Registration Form

Note: Extensive information and help on using Github and GIT features is provided by the Github site itself. E.g. Check https://help.github.com/





2. Fork the Repository

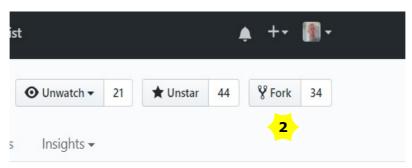
Quote

"A fork is a copy of a repository. Forking a repository allows you to freely experiment with changes without affecting the original project. Most commonly, forks are used to either propose changes to someone else's project or to use someone else's project as a starting point for your own idea."

Quote from Github: https://help.github.com/articles/fork-a-repo/

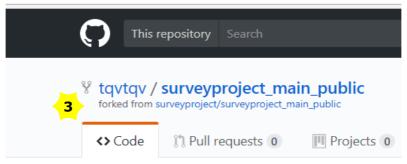
Actions

- 3. Log in with the Github account
- 4. Go to the **SP™ repository** at: https://github.com/surveyproject/surveyproject_main_public
- 5. Click the **Fork button** [2] to create a copy of the Repository [3]



2. Fork button to create copy of Repository

. [US] | https://github.com/tqvtqv/surveyproject_main_public



Survey Project main branche for public developn

3. Result of Fork action



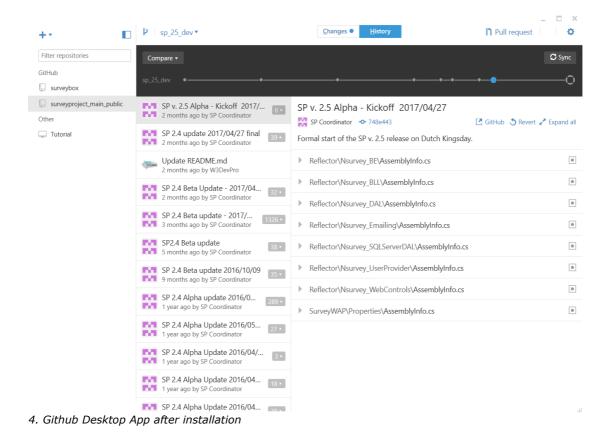


3. Installing Github Desktop

o Instead of using the GIT command line features of Github the GitHub Desktop application can be used to connect to repositories, synchronize and make commits.

Actions

- 6. Go to https://desktop.github.com/ to download and save the Desktop application
- 7. Further instructions: https://help.github.com/desktop/guides/getting-started/installing-github-desktop/



Note: If the Github Desktop app is not installed GIT must be installed (see https://help.github.com/articles/set-up-git/). This guide assumes using the Desktop app.



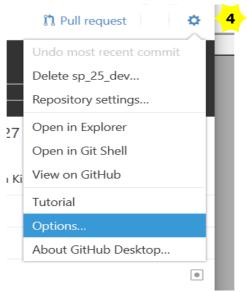


4. Create a Local Repository

o A local repository is needed against which the development changes are made first. The local repository is a copy (or "clone") of the fork that was created earlier on Github.com of the original SP sources.

Actions

- 8. Start the Github Desktop app, click the Settings icon [4] and click Options
- 9. Set the Clone Path [5] to where the SP repository will be created, Save changes, close Options page



5. Github Desktop Settings Icon and Options menu

o Default directory where all Clones will be created.

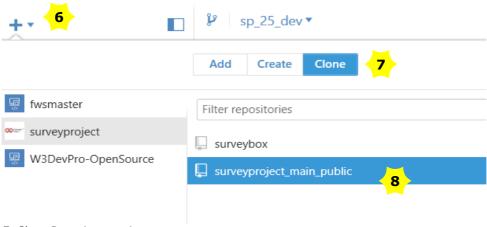






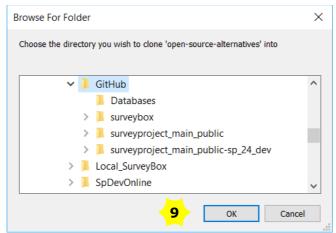
Actions

- 10. Click the + Icon [6] and click the Clone button [7] to open the Github Account and Repository list
- 11. Select the (forked) SP repository [8] and click the Clone button (page bottom)



7. Clone Repository options

Note: An explorer window will open the default directory for clones (see Settings) asking for the directory to copy the clone into. If no other directory is selected an SP^{TM} Repository subdirectory is created automatically.



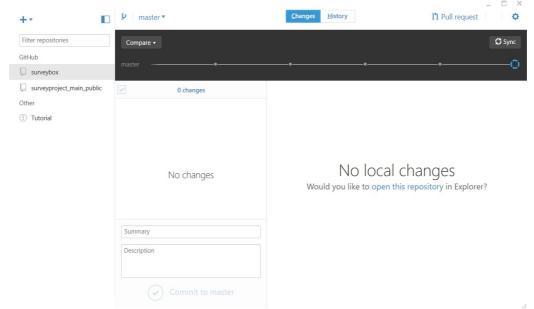
8. Repository Subdirectory setting

Actions

- 12. Click the **OK button** [9] to create the subdirectory for the forked SP Repository
- o A copy of the forked SP™ repository source files is downloaded from Github to the local subdirectory.
- o The Github Desktop will keep track of all changes and differences between the local and online version.







9. Github Desktop Repository changes screen





5. Preparing & Opening the Solution

o As an IDE (integrated Development Environment) the (free) MS Visual Studio Community 2017 edition is used. It can be downloaded at: https://www.visualstudio.com/vs/community/

- o Before starting the IDE and running the solution in Visual Studio several changes are needed:
- 1. Create a webapplication in IIS
- 2. Create a new Mssql database and run the SP Sql script
- 3. Connect to the database
- o Detailed instructions on these steps can be found in the SP™ Installation Guide.

Actions

- 13. Go to http://www.surveyproject.org/Support/Helpfiles/GuidesManuals/tabid/300/Default.aspx
- 14. Download the latest Installation Guide and execute the actions in chapters 2, 3 and 4
- o Once the IIS webapplication is created its URL must be added to the SurveyWAP.projectfile.

Actions

- 15. Go the SurveyWAP/... directory and open the file SurveyWAP.csproj in a texteditor (e.g. Notepad)
- 16. Find the **IISURL** and replace/edit it with the URL of the local SP webapplication
- 17. Save the changes and close the file

Example

- <WebProjectProperties>
- <UseIIS>True</UseIIS>
- <AutoAssignPort>True</AutoAssignPort>
- <DevelopmentServerPort>4976</DevelopmentServerPort>
- <DevelopmentServerVPath>/</DevelopmentServerVPath>
- <IISUrl>http://localhost/[NameofSPWebApplication</IISUrl>
- <NTLMAuthentication>False</NTLMAuthentication>
- <UseCustomServer>False</UseCustomServer>
- <CustomServerUrl>
- </CustomServerUrl>
- <SaveServerSettingsInUserFile>False</SaveServerSettingsInUserFile>
- </WebProjectProperties>

Note: Other chapters of the SP™ Installation Guide contain relevant information. The advise is to check these pages as well.

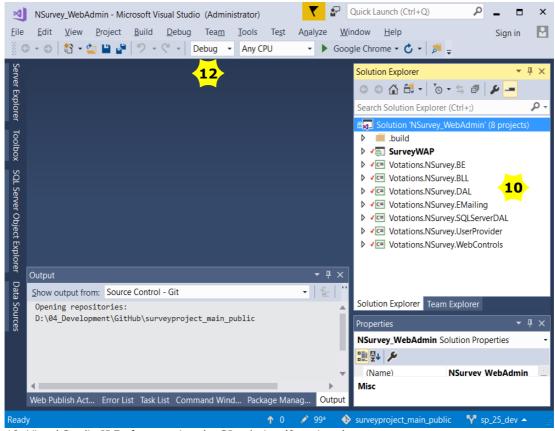
o After preparing the solution and setting up the webapplication and database the IDE can be started.



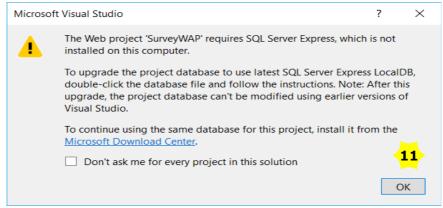


Actions

- 18. Start the Visual Studio 2017 application as an **Administator** (right click Run as Administrator)
- 19. Select menu File Open Project/ Solution ... and browse to the Nsurvey_Webadmin.sIn file
- 20. Click the Open button to start loading the solution including 8 projects [10]
- 21. Click **OK** if a Popup message [11] occurs concerning SQL Express and **check** 'dont ask for every project'
- 22. Set the Solution (all projects) into Debug mode [12] (menu Build Configuration Manager)



10. Visual Studio IDE after opening the SP solution (8 projects)



11. Popup Warning concerning SQL server

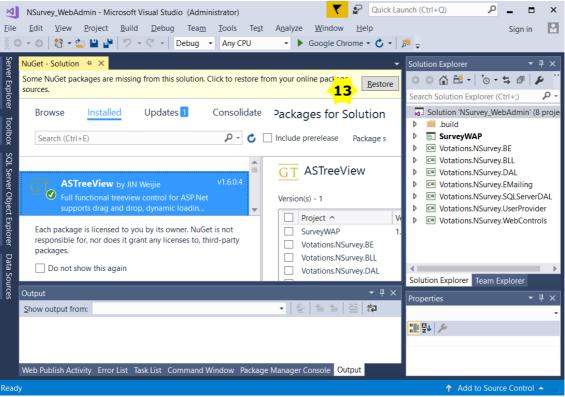




Note: SP™ makes use of different Packages that can be downloaded from NuGet. These are not part of the Github Repository and should be downloaded locally.

Actions

- 23. Go to menu Tools Nuget Packagemanager Manage Nuget Packages for Solution
- 24. Click **Restore button** [13] at the top of the Package Manager page to download **missing packages**
- 25. Check the 'packages' directory in the windows File Explorer and close the Package Manager if done



12. Package Manager - Restore message and button

Note: The Packages directory contains the repositories.config file that list the packages.config files in use by the solution. These .config files list the actual packages and versions being used by the solution.

Warning

Upgrades to newer versions of packages than the ones mentioned in the .config files will not be accepted by the project.

If there are reasons an upgrade is needed contact the project first (<u>mail@surveyproject.org</u> or use the SP™ Community Forums).





o Once all packages are in place and all projects are in Debug mode the solution can be compiled.

Actions

- 26. Select Solution Nsurvey_WebAdmin in the Solution Explorer, right click for menu Build Solution
- 27. Click Build Solution to compile the solution and all projects
- 28. Check the **Output** message: 'Build: 8 succeeded, 0 failed, 0 up-to-date, 0 skipped'
- 29. Click the Refresh button in the Solution Explorer and check the 'bin' directory containing 28 items





6. Starting the Application & Debugging

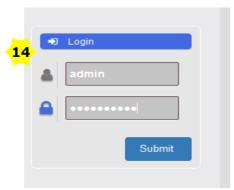
o The webapplication can now be started to check the correct working and database connections.

Actions

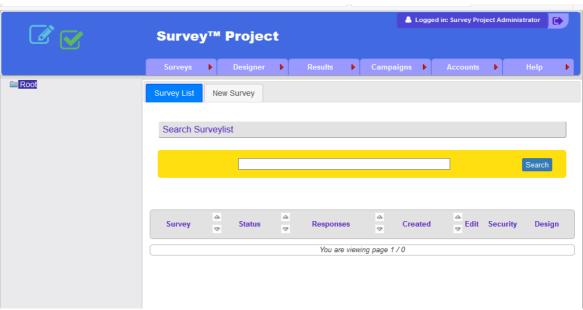
- 30. Open a webbrowser and enter the URL to the local website as used in the Solution
- 31. Login [14] with the default administrator account (see Installation Guide)

Note: On running the SQL script a default Administrator account [Admin] has been created to access the webapplication. Use this account to enter SP^{TM} initially.

Username: admin Password: SP_admin01



13. Login form to access SP



14. Opening screen on first login as an Admin





o To start Debugging the web application can be started from within Visual Studio.

Actions

- 32. Select the SurveyWAP project in the Solution Explorer
- 33. Click the **F5** keyboard button to start running the webapplication in a webbrowser in **Debug** mode.
- 34. Click the **Shift + F5** keyboard buttons to stop the debugging session or close the webbrowser.

Note: In Visual Studio there are multiple options to start the webapplication either in Debug mode or without Debugging.

In Debug mode multiple metrics are available for analyzing the working of the application.

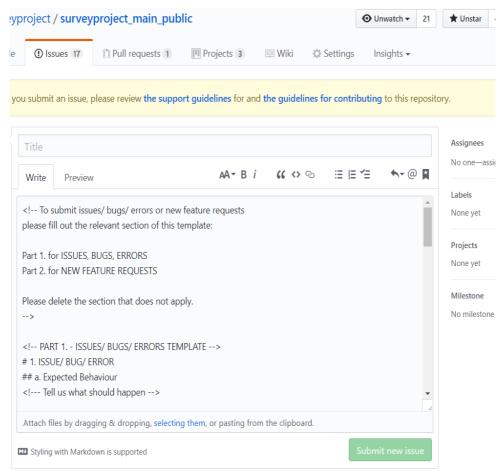
o Once the webapplication starts correctly and can be accessed regularly or through the Debugging features of Visual Studio technically everything is in place to start working locally.





7. Finding & Assigning Development Tasks

- o At the start of the developing process is the question what to contribute and what to work on? Basically Github projects like Survey™ Project offer two options:
- a- Issues/ Errors/ Bugs
- b- New features/ Proposals
- o In both cases it's possible to work on existing items or create new ones.
- o The existing Issues and New Features are registered on Github in the Issues section of the Survey™ Project Repository: https://github.com/surveyproject/surveyproject/surveyproject/surveyproject main public/issues.
- o Different issue types can be recognised by their labels.
- o New Feature Requests or Errors/ Bugs can be added to the Issue List.
- o Instructions on how to add/ create a new item (Issue or Feature):
- https://help.github.com/articles/creating-an-issue/
- o On opening an issue a template will show that can be used to submit relevant information
- o Links to Support and Contributing Guidelines will show to go to for more information.



15. Issues Template and Guideline links

o Before starting work on a new or existing item it is advised to contact the project to avoid duplicate work.





Actions

- 35. Go to https://github.com/surveyproject/surveyproject main public/issues
- 36. Search for an open Issue or Feature request to work on or click the New Issue button
- 37. **Contact** the Survey™ Project about assigning the Issue to work on.

Note: To contact Survey™ Project on making development contributions:

- send a mail to mail@surveyproject.org
- use the Contactform at the Community site: http://www.surveyproject.org
- use the Forums at the Community site: http://www.surveyproject.org





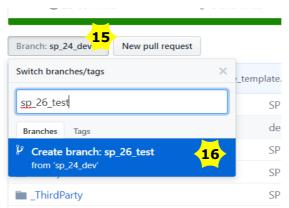
8. Create a Branch

Actions

- 38. Go to Appendix I. of this Guide to read and study the information on Branching setup and rules
- o Once its clear what issue or feature will be worked on a new 'Issue branch' can be created for the edits and changes.
- o Branches can be created on Github.com or with the Github Desktop App.

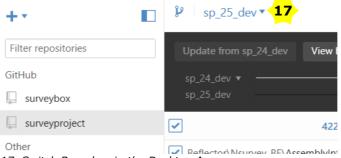
Actions

- 39. Go to the **forked repository** of surveyproject on **Github.com**
- 40. Click the **Branch** [*sp_24_dev*] **button** [15] to open the search and branchlist
- 41. Type a **branche name** for the new Issue development in the **Search textbox** (e.g. *sp_25_issuexx*)
- 42. Check the blue confirmation screen [16] to create the branch from 'sp_24_dev' and Click it.



16 Create a New Branche

o New branches added to the repository on Github.com will show in the Github Desktop app.



17. Switch Branches in the Desktop App

Actions

- 43. To start developing on the new branch locally, switch branches [17] with the Github Desktop app.
- 44. Open Visual Studio as an administrator and open the SP solution file from the local repository





9. Starting Development

- o Besides 'basic' coding its important to be aware of several other task and principles that are important to get changes accepted into the Survey™ Project main branches and releases.
- o The Pull Request template (see *appendix II*.) will give a good idea of what (information) is asked. Ideally the following list of items will be met during the Review.

List of Development Tasks and Principles

Coding

- "Clean coding" conventions apply e.g. https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/inside-a-program/coding-conventions
- Starting point: follow the conventions used in the current code and/ or try to improve on them (!)
- Most importatn: don't forget others should be able to read, understand and maintain the code as well

Architecture

- The SP™ solutions consists of 8 separate projects and is (historically) set up as a WAP (web application project) (no MVC options!)
- A brief description of the architecture can downloaded: http://www.codeplex.com/download?ProjectName=survey&DownloadId=208061 (to be updated soon)
- Architectural changes and deviations from current techniques, languages/ scripts or structures are not acceptable without the prior consent of the project.

Licensing

- Using third party components is only possible and acceptable if licences are compatible with the project's open source GNU GPLv.3 licensing
- In case of doubt send a request beforehand to the project including proper information/ documentation

Testing

- Thorough testing is required and different test methods, test levels and test types may be required depending on the issues at hand and the changes made.

See https://en.wikipedia.org/wiki/Software_testing for a reference and terminology used.

- Minimum (dynamic) test levels should include
- * unit tests
- * system testing
- Test types & criteria
- * Security
- * Useability
- * Internationalisation & Localisation: switch languages in browser settings
- * Performance: no degradation accepted
- * Installation: create a release package to make a fresh test installation preferrably online
- * Compatibility: try different browsers ie. Chrome, IE/Edge, Firefox
- * Functional testing

More information on testing as applied by the Survey Project:





https://www.owasp.org/index.php/OWASP_Testing_Project

As part of the review proces the project will

- a. Review the documented test results
- b. Run functional, regression and acceptance tests

Documentation

- Technical and functional documentation is required:
- a. Technical:
- * description of technical changes made
- * (special) techniques used (if any)

Note: use comments in the codefiles as much as possible

- b. functional:
- * end user documentation
- * added/ adjusted inregrated helpfiles (part of the SP application)

In case of any questions, uncertainties contact the project: mail@surveyproject.org

Better safe than sorry!



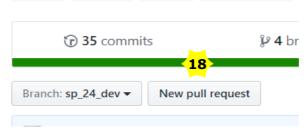


10. Make a Pull Request

- o General information on making Pull Requests can be found in the *Contributing Guidelines* (part of the SP repository docs). Also check the *Further Reading & Links* chapter of this guide.
- o After finishing development and debugging/ testing on the local repository/ development branche (eg sp_24_issueXX) all changes must be committed to the Github repository (fork/ sp_24_issueXX branche) before the Pull Request can be made.
- o Pull Requests can only be made from the Github site not from the Desktop app.

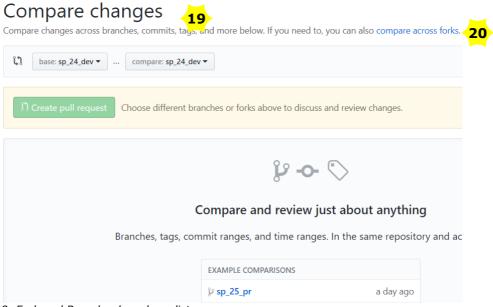
Actions

- 45. Go to the forked repository on Github to start a Pull Request.
- 46. Click the grey New pull request button [18] to open the Compare Changes screen [19]



18. New pull request button

Note: Pull requests can also be made by clicking the Pull Requests menu Tab and use the green New Pull Request button on the PR page.



19. Fork and Branche drop down lists





o The changes must be compared accross forks: SP repository and forked SP repository.

Note: Explanation of terminology used on Github screen:

Base fork: original SP™ Repository

Head fork: forked copy of the SP™ Repository

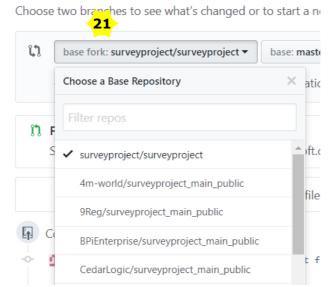
Base: original production branch of the SP™ repository

Compare: dev branch containing the new changes of the forked SP™ repository

Actions

- 47. Click the 'compare accross forks' text link [20] to open the option to selects different forks
- 48. Click base fork button to open a drop downlist to select the surveyproject/surveyproject fork [21]
- 49. Click the base (branch) button to open a DDL and select the sp_25_pr branche
- 50. Click the head fork button to open a drop downlist to select the forked SP repo with the changes
- 51. Click the head (branch) button to open a DDL and select the sp_25_issue# branche

Companing changes



20. Drop Down list of Forks

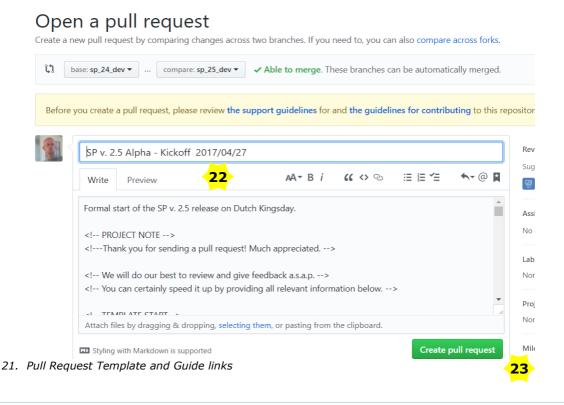
o After selecting the base and head fork and branches a list of (changed) files is presented to compare and check the changes where green = insertions and red = deletions.

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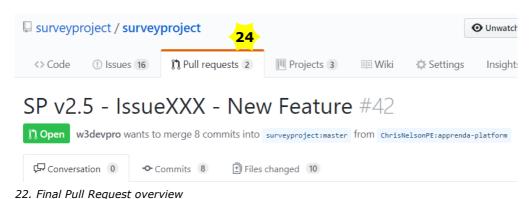


- o A template is shown to submit all relevant information concerning the changes.
- o Links to Support and Contributing Guidelines become visible.



Actions

- 52. Fill out the **PR Template** [22] and add a descriptive title incl. version, issue number and issue type 53. Click the green **'Create pull request' button** [23] to submit and add it to the list of PR's [24]
- o The Pull Request including all information from the template is opened and added to the Pull Requests webpage to be reviewed and commented on.



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Note: The reviewing proces will start right away with a quick scan and confirmation comment.

The proces of accepting/rejecting may take (much!) longer and could even be postponed untill a next release.

This should not discourage anyone picking up new issues to work on!

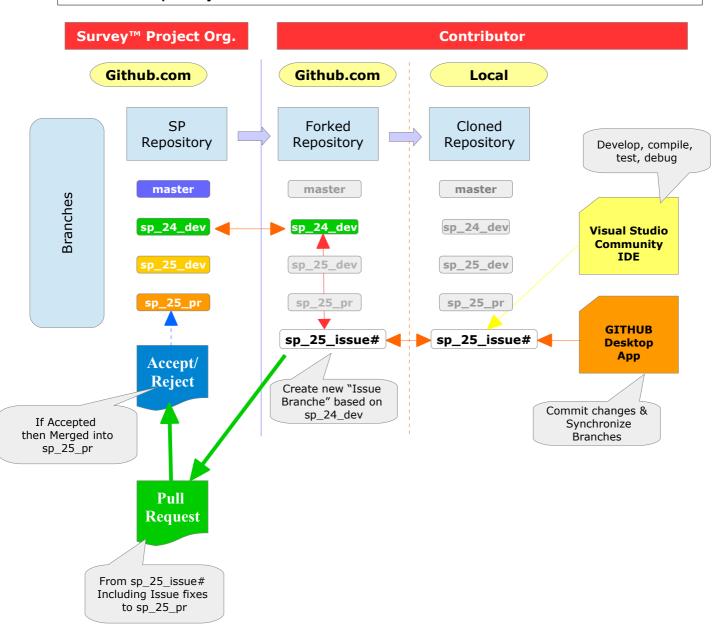
o Once accepted the changes will be merged into the special branche for Pull Request (sp_xx_pr). This is where all changes from both project and other contributors will be merged and collected before being merged into a final test branche.

o Already on merging to the PR branche conflicts may arise from previous merges. Should this happen the project will look into a solution and keep contributors informed.





APPENDIX I. Repository Branches



SP Repository branches

- Branches contain "isolated copies" of the SP™ source code against which changes can be made without affecting the original source, other copies or branches.
- Branches are an ideal way of making separate changes that can be merged to the "master" branche (or any other branche) once the changes have been properly tried and tested and finalised.
- To enable development contributions to the SP™ webapplication by anyone interested a "branching strategy" is created:

Key Assumptions





1.

- * The main (production) branche is properly tested and stable at all times
- * Maximum flexibility to allow contributions from all parties through Pull Requests
- * Project development will occur from a separate branch that is regularly updated to give insight to all

2.

- * Project development and (accepted) third party contributions will be merged into a test branche
- * A new verions of the main production branche will be created from the testbranche once testing is finished

3.

* Development of a new release and/or any changes will always start from the latest stable production branche published on Github.

4.

- * Releases are created from (stable and finalised) main production branches only.
- * Once released the production branche will be closed (frozen) for further editing.

Branches Overview

a. Current

- master: Initial repository branche containing the SP™ v2.3 production source code
- sp 24 dev: SP[™] v2.4 production source code, current default branche for forking (name is confusing!)
- sp 25 dev: Project development branche based on sp 24 dev
- sp_25_pr: branche based on sp_24_dev created for Pull Requests from third parties

b. Future

- sp 25 test: branche to be created based on sp 24 dev to merge sp 25 dev and sp 25 pr into and test
- sp 25 prod: branche to be created based on sp 25 test once fully tested and accepted for production
- sp 26 dev: branche to be created based on sp 25 prod for project development of SP v. 2.6
- sp 26 pr: branche to be created based on sp 25 prod for Pull Requests from third parties





APPENDIX II. Pull Request Template

o The Pull Request Template is shown when creating a Pull Request on Github. The template contains different sections to send all relevant information along with the request to be able to review the code and accept or reject the request.

o Provide as much information as may be relevant to the changes submitted.

```
Template
<!-- PROJECT NOTE -->
<!---Thank you for sending a pull request! Much appreciated. -->
<!-- We will do our best to review and give feedback a.s.a.p. -->
<!-- You can certainly speed it up by providing all relevant information below.
-->
<!-- TEMPLATE START-->
<!--- Provide a summary of your changes in the Title above -->
## Description
<!--- General description and overview of the Pull Request (PR) including
relevant notes/ remarks for the review -->
## Related Issue
<!--- This project only accepts pull requests related to open issues -->
<!--- If suggesting a new feature or change, please discuss it in an issue
<!--- If fixing a bug, there should be an issue describing it with steps to
reproduce -->
<!--- Please link to the issue here: add title and number -->
Issue| Nr.
-----
- Title [#00](/../../issues/00)
## Related Pull Requests
<!-- List related Pull Requests against other branches: -->
branch | PR
-----
some other PR | [link]()
## Status
- [ ] IN DEVELOPMENT
- [ ] TESTING
- [ ] ON HOLD
- [ ] REVIEWING
## How Has This Been Tested?
<!--- Please describe how you tested your changes. -->
<!--- Include details of your testing environment, and the tests you ran to -->
<!--- see how your change affects other areas of the code, etc. -->
## How to Test & Review
<!-- Outline the steps to test or reproduce the PR here. -->
<!-- Any reviewing advise on how and where to start -->
```

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```
## Screenshots/ Demo:
<!-- if available please add or link -->
## Types of changes
<!--- What types of changes does your code introduce? Put an `x` in all the
boxes that apply: -->
- [ ] Bug fix (non-breaking change which fixes an issue)
- [ ] New feature (non-breaking change which adds functionality)
- [ ] Breaking change (fix or feature that would cause existing functionality
to change)
## Checklist & Todos
<!--- Go over all the following points, and put an `x` in all the boxes that
apply. -->
<!--- If you're unsure about any of these, don't hesitate to ask. We're here to
help! -->
- [ ] My code follows the code style of this project
- [ ] My change requires a change to the documentation
- [ ] I have added documentation accordingly
- [ ] I have read the **CONTRIBUTING** document
*other...*
- [ ] Tested and working locally
- [ ] Tested and working online
- [ ] Write/ update documentation
- [ ] Review and approve
- [ ] ....
## How to deploy
<!--- Notes about how to deploy this work. For example, running a DB update or
upgrade, replacing or editing files, changing system setttings in web.config
etc.-->
## Impacted Areas in Application
<!--- List general components/ projects of the application that this PR will
affect: -->
## If this code breaks in production, then...
<!--- What's the worst-case scenario? -->
<!-- TEMPLATE END-->
```





Further Reading & Links

Project Docs

https://github.com/surveyproject/surveyproject/tree/sp_24_dev/docs

- Readme & Branches
- Contributing
- Code of Conduct
- Support
- Issue Template
- Pull Request Template

General Github Help

https://help.github.com/ https://quides.github.com

Set up GIT

https://help.github.com/articles/set-up-git/

Github Desktop

https://help.github.com/desktop/

Create a Fork

https://help.github.com/articles/fork-a-repo/https://quides.github.com/activities/forking/

Pull Requests

General instructions Overview

https://help.github.com/articles/proposing-changes-to-your-work-with-pull-requests/

Main Subsections

https://help.github.com/articles/creating-a-pull-request/

https://help.github.com/articles/requesting-a-pull-request-review/

https://help.github.com/articles/about-pull-request-reviews/

Available Help Sources

The first integrated helpfiles were added to version 2.0 of the Survey™ Project webapplication:

- o An index of helpfiles is available at menu Help/ Helpfiles.
- o Tooltip helptexts can be found on several webpages of the SP tool.
- Some of these Helpfiles have been published on the Survey Wiki of the Community website also.
- Through the Articles Menu of the Survey™ Project Community site additional articles can be found based on specific Survey related issues and themes

http://www.surveyproject.org/Support/Helpfiles/Articles/tabid/194/Default.aspx





- At the Survey™ Project YouTube Channel subtitled movies can be found with basic instructions on several subjects: https://www.youtube.com/user/TheSurveyProject
- Technical information can be found at
- o the former Survey Sourcecode website at http://survey.codeplex.com
- o the new site at https://www.github.com/surveyproject
- Visit the Forums section of the Community website to ask any questions http://www.surveyproject.org/Forums/tabid/107/Default.aspx

Contributions to the projects documentation and helpfiles are most welcome. If you have any experience in this field or if you feel like joining the team please let us know: mail@surveyproject.org

Survey™ Project

http://www.surveyproject.org/ - SP™ Community site & Forums

<u>http://www.surveyproject.biz</u> – SP™ Business Services

http://www.surveyproject.net/ - SP™ Test & Demo site

https://www.github.com/surveyproject/ - Downloads, Releases, Sources, Development

SurveyBox DNN® module

https://github.com/surveyproject/surveybox - Downloads, Releases, Sources, Development