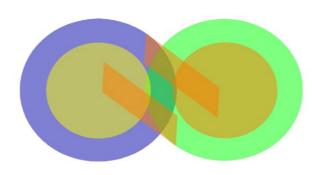




## PLATFORM FOR DEVELOPING AND SHARING FREE SOFTWARE TO COLLECT DATA ONLINE



# Installation Guide for the Survey™ Project Web Application



Survey™ Project Administrator Documentation

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#### Introduction

This guide applies to the installation of the Survey<sup>™</sup> Project v. 2.5 webapplication.

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 *administrators* who are authorised to install websites and databases on a server, PC or laptop.

The instructions are limited to the default installation of a new SP™ webapplication. More detailed information and instructions on other features or upgrade scenarios are available from help sources that are listed in the *Further Reading and Links* section.

The SP™ 2.5 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 4.6, IIS webserver 7.5, Mssql Database 2016, SMTP account
- 2- ASP Full Trust Level required in case of third party hosting
- 3- Administrator privilages needed

If these conditions are not met contact the person or organisation responsible.

## How to read this Guide

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

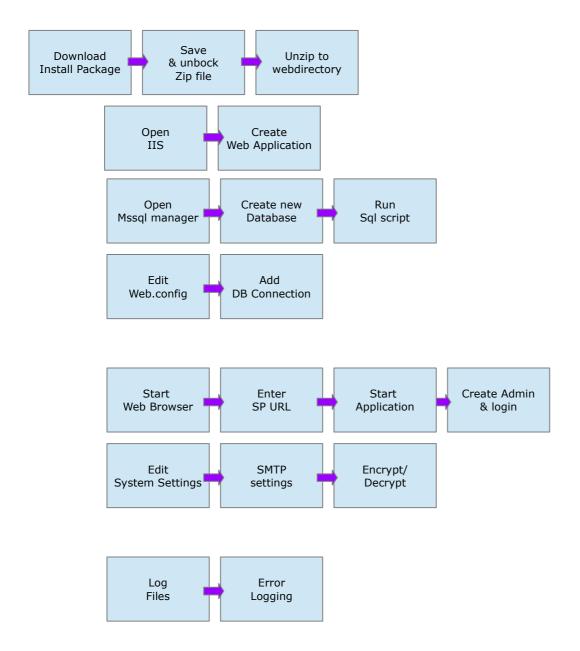
- o Actions are written in the texboxes with a BLUE lining.
- o **Screenprints** from SP™ v.2.5 (and 2.4) are added to illustrate the intended action and result. Numbered **yellow** stars are added and referenced in the **Action** text to direct to the correct location.
- o Notes indicating additional advise or warnings are written in separate (pastel) textboxes
- o General information and comments are written as regular text in black.





#### **FLOWCHART - Overview of Installation**

- 1. Downloading the SP™ Install package
- 2. Create an IIS Webapplication
- 3. Create the Database and run the SQL script
- 4. Set the Database Connection manually
- 5. Start the webapplication
- 6. Create administrator account on first login
- 7. System Settings & encryption (manually or through webapp)
- 8. Logfiles and error logging





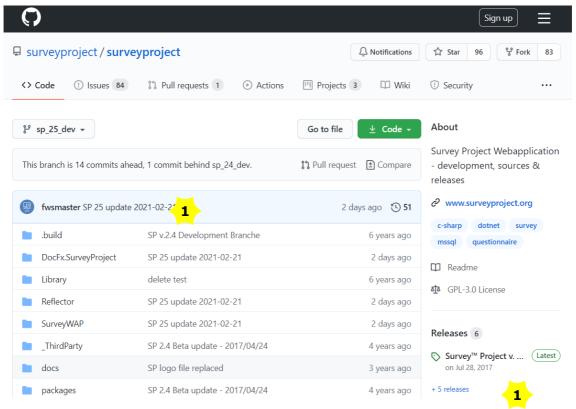


## 1. Downloading the Install Package

o The latest release package of SP™ can be downloaded from the development site at Github. Source files are available from the same site.

#### **Actions**

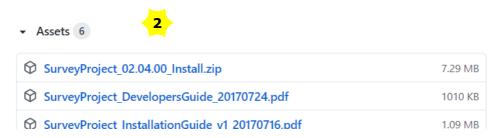
- 1. Go to <a href="https://github.com/surveyproject/code">https://github.com/surveyproject/surveyproject/releases</a>
- 2. Find the Latest Release [1] and download the zipped install files from the Assets [2] section
- 3. Save the **Zip file** to a location on your computer to unpack
- 4. Right click the Zip file: open **Properties** and click the checkbox to 'unblock' [3] the file and click **Apply**
- 5. Unzip the files to the **location** [4] of the file and webdirectory for SP



1. Github webpage with SP Releases



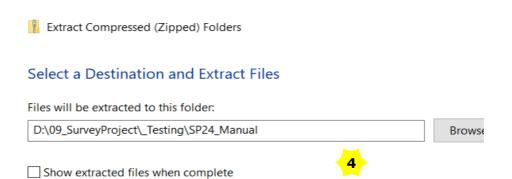




2. Downloads section of Latest SP Release



3. Zip file properties screen to Unblock



4. Unzip SP files to file and webdirectory

**Note**: In case of making use of a (third party) hosting provider first download the files locally, unzip and unblock. Next upload (e.g. through FTP) the files to the proper directory on the webserver.



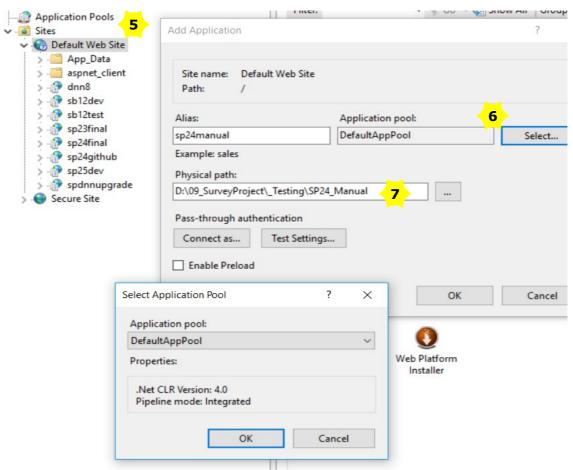


# 2. Create an IIS Webapplicaton

o In case of third party hosting different instructions may apply.

#### **Actions**

- 6. Open the **IIS Manager** to add a new **Application** [5] to the *Default Website*
- 7. Enter an Alias for the website,
- 8. Select the proper **Application pool** (including Pipeline Mode Integrated) [6]
- 9. Select/enter the file directory of the unzipped SP files as the **Physical Path** [7]
- 10. Click **OK** to save the results



5. IIS manager to add new SP Application

**Note**: The Application Pool selected to run the Application should support the Pipeline mode: Integrated. Also .NET framework 4.6 must be installed. In IIS it will be called 4.0.

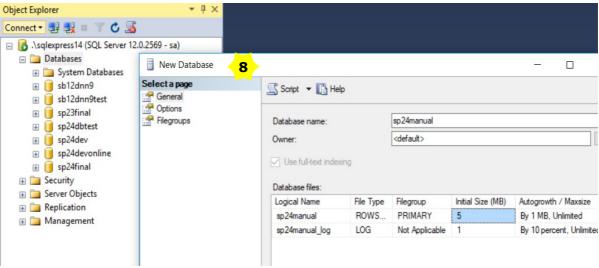




# 3. Create the MS Sql Database

#### **Actions**

- 11. Open MS Sql server Management Studio
- 12. Connect to a server instance to create a new Database
- 13. Click **Databases** and right click to open the menu for addding a **New Database** [8]
- 14. Enter a Databasename
- 15. Click **OK** to save the results and check the list of Databases for the new database



6. MsSql Server to create new SP Database

**Note**: The SP v2.5 webapplication requires a **2016** Mssql database. Use the 2016 SQL script to run on 2016 or higher Mssql versions.

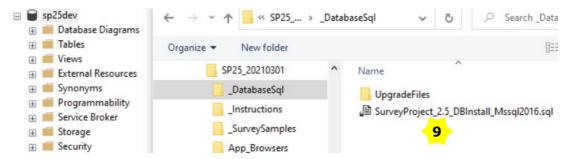
Default settings can be used to create the new database (e.g. Initial Size, Owner etc.). Depening on the further use of SP adjustements can be made afterwards (e.g. Recovery model: Simple to Full or larger files sizes).

#### **Actions**

- 16. Select the newly created database
- 17. Go to menu File Open File and browse to the SP webfile directory \_DatabaseSql
- 18. Use the correct **SQL file** (2016) [9]
- 19. Click **Open** to open the file in the **Query window**







7. Opening SP SQL file to run in Query window

#### **Actions**

- 20. Go to the Query window and make sure it is connected to the correct database;
- 21. Optional set: USE [yourdatabasename] to the name of the newly created database [10]
- 22. Click the Execute button (F5) to run the query and wait for Query Executed Successfully message

Note: The (warning) messages can be ignored unless in 'red' in which case remove DB and redo.

```
SurveyProject_2.4_...p24manual (sa (52))* → ×

USE [sp24manual] (10)

GO

/****** Object: UserDefinedTableTy

□CREATE TYPE [dbo].[IntTableType] AS
```

8. Edit SP Database name in SQL scripts

```
Messages
  The module 'vts_spAnswerMatrixAddNew' depends on the missing
  The module 'vts spAnswerMatrixUpdate' depends on the missing
  The module 'vts_spAnswerTypeAddNew' depends on the missing
  The module 'vts_spAnswerTypeSetBuiltIn' depends on the miss:
  The module 'vts spAnswerUpdate' depends on the missing object
  The module 'vts_spAnswerUpdate' depends on the missing object
  The module 'vts_spAnswerUpdate' depends on the missing object
  The module 'vts_spFileAddNew' depends on the missing object
  The module 'vts_spFolderDelete' depends on the missing object
  The module 'vts_spQuestionCloneByID' depends on the missing
  The module 'vts spQuestionCloneByID' depends on the missing
  The module 'vts_spQuestionCopy' depends on the missing object
  The module 'vts_spQuestionCopyToLibrary' depends on the mis:
  The module 'vts_spQuestionCopyToSurvey' depends on the miss:
  The module 'vts_spQuestionGetResults' depends on the missing
  The module 'vts_spRegularExpressionAddNew' depends on the module
100 %
      + 41
Query executed successfully.
```

9. Results of running SQL Query including warnings

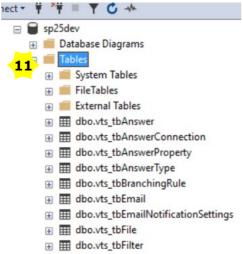
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## **Actions**

- 23. Check the SP database by clicking the Tables list and/ or Stored Procedures (Programmabilty)
- 24. Verify a list of new Tables / Stored Procedures have been created correctly [11]



10. New SP Database Table view result after running script

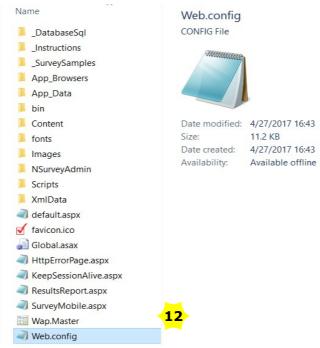




#### 4. Connect to the Database

#### **Actions**

- 25. Go to the webfile **root directory** of the SP webapplication
- 26. Open the **web.config** [12] file in a text editor (e.g. notepad)
- 27. Search the ConnectionStrings Section [13] to edit



11. SP Root directory with web.config file





**Note**: There are [3] connectionstrings to connect to different databases (e.g. Development, Test, Production) to choose from.

To set the connectionstring that will be actually used the '*Default Database*' setting has to match the '*Name*' of the ConnectionString.

#### **Actions**

- 28. Go to the **ConnectionString** to connect to the SP db (e.g. *SurveyProjectProdConnectionString*)
- 29. Edit and enter the sqlserver name and DB credentials (dbname, username, password) [14]
- 30. Check the dataConfiguration 'Default Database' setting matches the Name of the ConnectionString
- 31. Save the changes and close the web.config file

## **Example**

<add name="SurveyProjectProdConnectionString" connectionString="Data Source=.\sqlexpress16;Initial Catalog=sp25database;Persist Security Info=True;User ID=username;Password=mypassword" providerName="System.Data.SqlClient" />

</connectionStrings>

<!-- Survey Project database connection: to select connectionsetting options see connectionStrings--> <dataConfiguration defaultDatabase="SurveyProjectProdConnectionString"/>

**Note**: Once SP is installed the SP related system settings in the web.config file can be changed from within the application by the Admin through the Surveys/ System Settings menu.

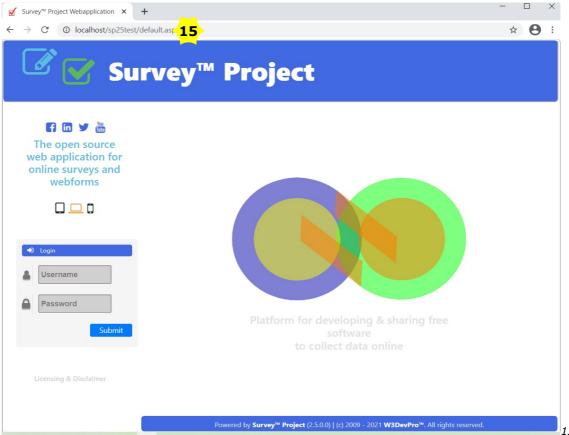




## 5. Start the Webapplication

#### **Actions**

- 32. Open a webbrowser to start the webapplication
- 33. Enter the URL of the webapplication as created in IIS (E.g. Http://localhost/sp25website)
- 34. Click enter to start the application [15]



SP webapplication Opening Page

**Note**: On first login an Administrator account will be created from the username and password entered. Make sure to save the accountdetails. If lost it cannot be recovered from the database because of encryption.

Password rules apply: length min. 8 - max. 12; characters min. 1 small, 1 capital, 1 special, 1 number required

Example Password: SP\_admin01 [not secure, do not use!]





#### **Actions**

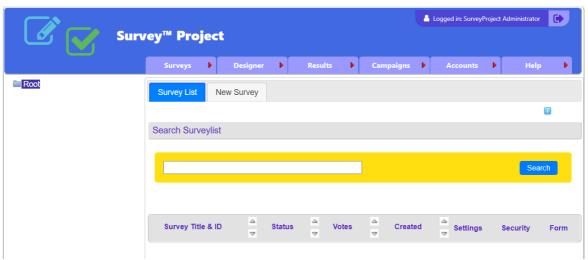
- 35. Enter the newly created administrator Username and Password in the Login form [16]
- 36. Click the **Submit** button to enter the application



14. Login form to access SP

**Note**: In case of errors on entering the application in most cases the cause is related to the database connection settings in the web.config file.

Check these settings, correct and retry.



15. Opening screen on first login as an Admin



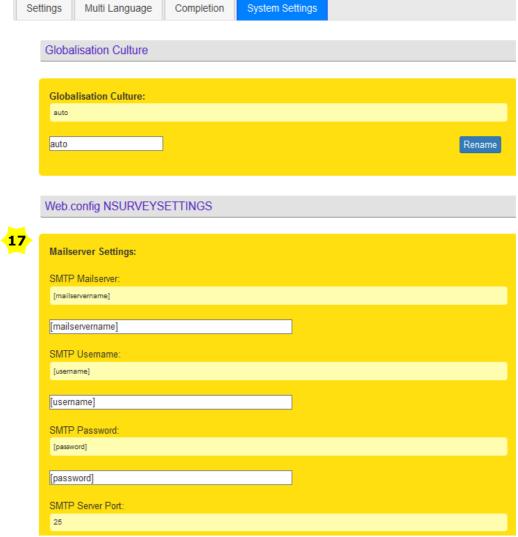


# 6. System Settings & Encryption

- o. Instead of using FTP and manually editing the web.config file in the root directory it is possible to make changes to the SP related settings through the **System Settings** webpage.
- o Making changes through the web interface is less error prone and more secure.
- o On submitting any changes the edited section in the web.config file will be automatically *encrypted* which makes it 'humanly unreadable'. The encryption can be reversed (decrypted) also.

#### **Actions**

- 35. Go to menu Surveys/ System Settings and scroll to the Mailserver Settings [17]
- 36. Enter the SMTP account details (server, username, password, port) in the textfields
- 37. Click the **Submit** button of the *SMTP section* to save the results and encrypt the web.config section
- 38. Check the **Confirmation** message at the top of the page.



16. Part of System Settings webpage options





**Note**: The SMPT account and mailserver settings are needed to use different mailing features of the webapplication e.g.:

- send admin notifications on survey submission
- send mailings and invitation messages
- send admin notifications on logging errors
- o The encrypted web.config NsurveySettings section including SMTP details will look like:

```
Example
       <nSurveySettings configProtectionProvider="RsaProtectedConfigurationProvider">
<EncryptedData Type="http://www.w3.org/2001/04/xmlenc#Element"</pre>
 xmlns="http://www.w3.org/2001/04/xmlenc#">
 <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#tripledes-cbc" />
 <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
 <EncryptedKey xmlns="http://www.w3.org/2001/04/xmlenc#">
  <EncryptionMethod Algorithm="http://www.w3.org/2001/04/xmlenc#rsa-1 5" />
  <KeyInfo xmlns="http://www.w3.org/2000/09/xmldsig#">
  <KeyName>Rsa Key</KeyName>
  </KeyInfo>
  <CipherData>
<CipherValue>HkctWa21IAJwUAJ5mEwFJKsSTfRrgzqpVF8yGDeXM9SBm9J4nGkGTY7/McD5cNkLiu78CTERo
Z+rAlLQSpt0yOQnNg5b0TIvo0jzI1QnZ/bwjFuE03ydQRH/Zk2Bf2AGV0GAeyqYhT64GILavnxYOKP3BBDkYNB
U6yLJe9R51zf5OQbWM+cRAjYVzB0t4HqQ6J53rbltbDuaR8Z4bnPiRQ6L+FrLyyDzdCIZIX4vsmkIa7NuKkRJtPR
N0Rkwk3wr1qNCemSmqldbpEiSyBg0FUCVrkqnmcG2MxrGNDIVLRbCj4z/
+BxtPUteoGKP2r+tJ1gp06VQmi2UZ1yqqzGZlA==</CipherValue>
  </CipherData>
 </EncryptedKey>
 </KeyInfo>
 <CipherData>
 .....
 </CipherData>
</EncryptedData>
</nSurveySettings>>
```

- o Encrypting web.config sections will make the webapplication more secure.
- o Especially when making use of a third party hosting provider it will prevent maintenance and other people from having access to secret information.
- o The encrypted sections can be decrypted at any time:

#### **Actions**

- 39. Go to menu Surveys/ System Settings and scroll to the bottom of the page
- 40. Click the **Decrypt** button [18] to decrypt the web.config file sections
- 41. Check the Confirmation message at the top of the page







- 17. Decrypt button to reverse web.config encryption
- o The decrypted web.config NsurveySettings section including SMTP details will look like:

```
Example
<nSurveySettings file="">
 <clear />
 <add key="NSurveyImagesPath" value="~/images/" />
 <add key="NSurveyXmlDataPath" value="~/XmlData/" />
 <add key="NSurveyLanguagesPath" value="~/XmlData/Languages/" />
 <add key="NSurveyHelpfilesPath" value="~/XmlData/Helpfiles/" />
 <add key="NSurveyCssXmlPath" value="~/XmlData/Css/" />
 <add key="NSurveyAddressPath" value="~/XmlData/Address/" />
 <add key="NSurveySMTPServer" value="test.mailservert.org" />
 <add key="NSurveySMTPServerPort" value="25" />
 <add key="NSurveySMTPServerAuthUserName" value="test@mailserver.org" />
 <add key="NSurveySMTPServerAuthPassword" value="test" />
 <add key="NSurveySMTPServerEnableSsl" value="false" />
 <add key="EmailingProviderAssembly" value="Votations.NSurvey.Emailing" />
 <add key="EmailingProviderClass" value="Votations.NSurvey.Emailing.SystemWebEmailing" />
 <add key="UserProviderAssembly" value="Votations.NSurvey.UserProvider" />
 <add key="UserProviderClass" value="Votations.NSurvey.UserProvider.FormUserProvider" />
 <add key="FormUserProviderSingleMode" value="false" />
 <add key="SqlBasedAnswerTypesAllowed" value="true" />
 <add key="WebDAL" value="Votations.NSurvey.SQLServerDAL" />
 <add key="UploadedFileDeleteTimeOut" value="24" />
 <add key="SessionUploadedFileDeleteTimeOut" value="336" />
</nSurveySettings>
```

**Note**: Information on the use of the other System Settings can be found in the helpfiles 'Installation Settings'.

Go to menu Help/ Helpfiles or click the light blue question mark square at the top of the System Settings page.

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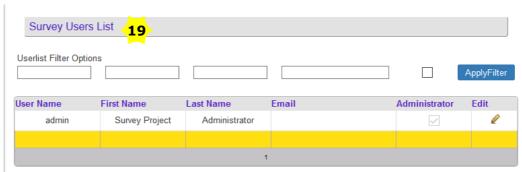


#### 7. Administrator Account

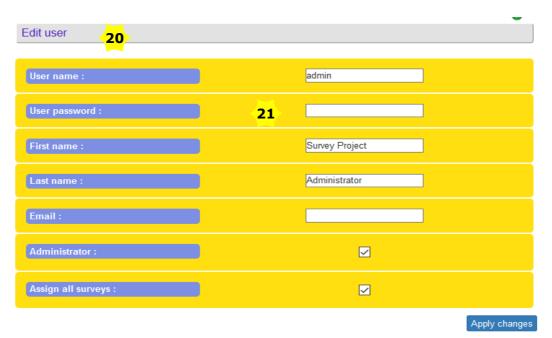
- o On first login a default administrator account 'admin' is created with which to login initially.
- o An administrator account has complete authorisation and access to all features and data (surveys, answers etc.) of the application including making changes to the system settings.
- o Save the account details to a secure place. Username/ password cannot be recovered from the database. After login the account can be edited through the Userlist options.

#### **Actions**

- 42. Go to menu Accounts/ Userlist and scroll to Survey User List [19]
- 43. Click the **Username** or the **pencil icon** to open account details in the **Edit User** screen [20]



18. User List including the admin account to open account details to edit



19. Admin user account details to edit





- o Password rules apply that are checked on saving a new password.
- o Rules: length min. 8 max. 12; characters min. 1 small, 1 capital, 1 special, 1 number required
- o A warning message will show is the password does not comply.

#### **Actions**

- 44. Go to the **User Password** field [21] to enter a new password
- 45. Click the **Apply Changes** button to save the new password
- 46. Check the **Confirmation** message at the top of the page.

**Note**: The User password field is left 'empty' when the Edit form is opened even if a password is already set and saved to the database or after saving a new password.

Passwords are saved to the Database vts\_tbuser table *encrypted*. If a User password is lost or forgotten is cannot be recovered. A new password can be set by the administrator





# 8. Logfiles & Errorhandling

o A logfile has been added to the SP webapplication to register technical Application Errors. Mail notifications are sent in case of logging and if SMTP settings are set in the web.config file.

The logfiles content can be viewed and edited through the menu Surveys/SystemSettings/**Error Log** The fysical logfile can be found in the ../App Data/ directory of the webapplication

- o Errors (Http and .NET) are handled by:
- a. Web.config file customerrors section
- b. Global.asax file and codebehind Application Errors
- c. Errorpages and codebehind files in the ../Errors/ directory

**Note**: General information on Errorhandling and as applied in SP:

https://docs.microsoft.com/en-us/aspnet/web-forms/overview/getting-started/getting-started-with-aspnet-45-web-forms/aspnet-error-handling

## a. Web.config customerrors section:

```
<!-- permits errors to be displayed for remote clients: On, Off, RemoteOnly -->
```

<customErrors allowNestedErrors="true" defaultRedirect="~/Errors/DefaultRedirectErrorPage.aspx?
handler=customErrors%20section%20-%20Web.config" redirectMode="ResponseRedirect" mode="Off">

</customErrors>

When making use of the Global.asax Application\_Errors the web.config mode can be set to Off. Also see options to use the HttpErrors web.config section:

<httpErrors errorMode="Custom" existingResponse="Replace" defaultResponseMode="ExecuteURL">

## b. Global.asax Error handling

All errors caught by the application on .NET level are handled through the Application\_Errors section. The (default) ErrorPage.aspx page is displayed to the SP User. Error details are only shown if SP is installed on a local server (or PC/ Laptop) (http://localhost/).

#### c. Error pages

Can be found in the /Errors/ directory:

- \* ErrorPage.aspx default errorpage includes logging and notifying administrator
- \* HttpErrorPage.aspx not set or used (for test and development purposes)
- \* DefaultRedirectErrorPage.aspx not used; includes logging and notifying the administrator

#### Testing Error settings

For testing the errorsettings a testpage can be found in the /Errors/ directory: ErrorTestPage.aspx. Acces can be set through the web.config file:





Other options to trigger errors:

#### **Example**

To generate Application Errors try the following:

#### 1. Insecure Login

- On the starting page enter the following login details:
- \* username: admin \*password: <!%test%>
- Next click the Submit button

This will generate a server error [22] and lead to the default error [23] page. Logging and/ or mailing takes place.

#### 2. Viewstate - HttpError 500

- Open the SP login page and click F12 to go to the Html code;
- Find "Viewstate" and edit the value to corrupt is
- Next press the submit button on the login form to cause an error;

## 3 . Invalid XML

- Go to the XML language files directory ... XmlData\Languages\...
- Open the en-US.xml file (make sure this is used as default language in the browser)
- Edit one of the value entries and add non-handled characters e.g.

```
<data version="1.0" id="1" name="ControlCodeTitle"> 
<value> >>> Survey Webcontrol: Asp.net Code</value> 
</data>
```

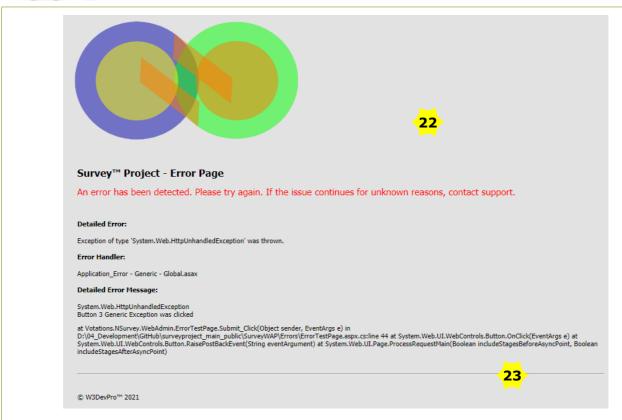
- Next save the file and start the webapplication.

This will generate a server error and lead to the default error page [23]. Logging [24] and mailing [25] takes place.

"Exception of type 'System.Web.HttpUnhandledException' was thrown. Name cannot begin with the '>' character, hexadecimal value 0x3E. Line 3587, position 14."







20. ErrorPage and Server Error generated by corrupted password (details only visible on localhost)

#### **Actions**

- 47. Go to menu Surveys/System Settings/Error log to check the error message
- 48. Open a mailclient to receive and read the Error message Mail [25] notification

## Example - Logged XML Error message

\*\*\*\*\*\* 3/5/2021 12:53:57 PM \*\*\*\*\*\*\*

Exception Type: System.Web.HttpRequestValidationException

Exception Message: A potentially dangerous Request. Form value was detected from the client

(ctl00\$LoginBox1\$PasswordTextBox="<!%test%>").

Source/ ErrorHandler: Detailed Error Page

Stack Trace:

- at System.Web.HttpRequest.ValidateString(String value, String collectionKey, RequestValidationSource requestCollection)
- at System.Web.HttpRequest.ValidateHttpValueCollection(HttpValueCollection collection, RequestValidationSource requestCollection)
  - at System.Web.HttpRequest.get\_Form()
  - at System.Web.HttpRequest.get\_HasForm()
  - at System.Web.UI.Page.GetCollectionBasedOnMethod(Boolean dontReturnNull)
  - at System.Web.UI.Page.DeterminePostBackMode()
  - at System. Web. UI. Page. Process Request Main (Boolean include Stages Before Async Point, Boolean





includeStagesAfterAsyncPoint)

at System.Web.UI.Page.ProcessRequest(Boolean includeStagesBeforeAsyncPoint, Boolean includeStagesAfterAsyncPoint)

- at System.Web.UI.Page.ProcessRequest()
- at System.Web.UI.Page.ProcessRequest(HttpContext context)
- at System. Web. Http Application. Call Handler Execution Step. System. Web. Http Application. IExecution Step. Execute()
- at System. Web. Http Application. Execute Step Impl(IExecution Step step)
- at System.Web.HttpApplication.ExecuteStep(IExecutionStep step, Boolean& completedSynchronously)



Survey Project Warning Message: Global Page Error details.

Inner Exception Type: System.Xml.XmlException

Inner Exception: An error occurred while parsing EntityName. Line 3587, positic

Inner Source: System.Xml

Inner Stack Trace: at System.Xml.XmlTextReaderImpl.Throw(Exception e) at System.Xml.XmlTextReaderImpl.ParseEntityName() at System.Xml.XmlTextReaderImpl.ParseEntityReference() at System.Xml.XmlTextReaderImpl.ParseEntityReference() at System.Xml.XmlLoader.LoadNode(Boolean skipOverWhitespace) at System.Xml.XmlLoader.LoadDocSequence(XmlDocument parentDoc) at System.Xml.XmlDocument.Load(XmlReader reader) at System.Xml.XmlDocum filename) at Votations.NSurvey.Resources.ResourceManager.LoadResources(\$Votations.NSurvey.Resources.ResourceManager.GetString(String name) at Votations.NSurvey.WobAdmin.NSurveyAdmin.SurveyList LocalizePage() at

23. Mail notification on logged Application Error





## **Further Reading & Links**

## 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.
- Through the Support/ Helpfiles menu of the Survey™ Project Community site additional information and documentation can be found on Survey related themes

http://www.surveyproject.org/Support/Helpfiles/

- At the Survey™ Project YouTube Channel subtitled movies can be found with basic instructions on several subjects: <a href="https://www.youtube.com/user/TheSurveyProject">https://www.youtube.com/user/TheSurveyProject</a>
- Technical information can also 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 <a href="http://www.surveyproject.org/Forums/tabid/107/Default.aspx">http://www.surveyproject.org/Forums/tabid/107/Default.aspx</a>

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: <a href="mail@surveyproject.org">mail@surveyproject.org</a>

## Survey™ Project

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

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

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

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

https://surveyproject.github.io/spdocs - Github SP™ Technical documentation

#### SurveyBox DNN® module

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