

## Novi Survey Installation & Upgrade Guide

### Introduction

This procedure documents the steps to create a new install of Novi Survey and to upgrade an existing install of Novi Survey. After an install is created, it is recommended to upgrade the install to the then current version of the software at least yearly.

**By installing or upgrading the software you agree to all the terms and conditions specified in the Novi Survey license agreement.** The license agreement is available as file `NoviSurvey Software License.html` in the `documentation` folder of the distribution of the software.

To install Novi Survey in a web farm or a web garden, see Appendix A (page 8). To move an existing install of Novi Survey to another server, see Appendix B (page 10). To upgrade an existing install of Novi Survey, refer to page 7.

**As of version 8.8, Novi Survey requires .NET 4.8.**

To maintain optimal compatibility with web browsers and with information system security best practices, Novi Survey recommends that software installs be updated at least once a year.

### Prerequisites

- A release of the software. Releases can be downloaded from your organization's account page on our web site: <https://novisurvey.net/ns/Login.aspx?ReturnUrl=%2fAccount.aspx>
- Windows Server version 2008 or greater with all important updates applied; A Win10 computer is suitable for a development or test deployment.
- IIS version 7 or greater
- IIS configured to run ASP.NET applications and to serve static content. The ASP.NET option under the 'Application Development' section for the IIS role configuration should be selected.
- IIS configured to allow "Anonymous Authentication" and "Forms Authentication"
- .NET framework 4.8 installed
- Session state enabled in IIS (session state is enabled by default)
- Either of the following databases
  - MS SQL Server version 2005 or greater. The freely available express edition of SQL Server is supported; the database server should be set up to allow for Mixed Mode authentication. If using, the express version, the TCP/IP network protocol should be enabled (the protocol is disabled by default for the express version). The network protocol can be enabled using the Configuration Manager for SQL Server.
  - Oracle 11g or greater (standard, enterprise or freely available [express](#) edition)

- If the server for the database is distinct from the web server, then communication should be allowed between the 2 servers for the ports and protocols required by the database. Hardware and software firewalls between the 2 servers should be adjusted to allow for this communication.
- SMTP server for sending emails
- Feature WCF Services with HTTP Activation installed
- If Novi Survey is deployed in a hosted environment, the hosted account must allow modification to the database.
- The user for the IIS process (usually: NT AUTHORITY\NETWORK SERVICE) has read/write access to the temp windows directory (usually: c:\windows\temp) and to the temporary ASP.NET directory(ies) (c:\windows\Microsoft.NET\Framework\v4.0.30319\Temporary ASP.NET Files and for 64-bit servers c:\windows\Microsoft.NET\Framework64\v4.0.30319\Temporary ASP.NET Files)
- Network firewall, if any, must be configured to allow loopback traffic from the public WAN address for the application (i.e., the webserver running the application must be able to access resources in the application using the public deployment URL for the application).

## Installation process – use for initial install

1. Unzip the archive for the release
2. Grant Full Control privileges to group Users (or group Everyone) to the physical directory IIS distribution\NoviSurvey under the root of the release.
3. Create a database for the application:
  - SQL Server:
    - Create a database NoviSurvey.
    - Create a local SQL Server login 'NoviSurvey'. Set the password for the login to never expire. Note that creating a domain login will not work. Alternatively, a windows login may be used to create in lieu of a local login. The connection string for the database configured in the application will need to reflect the type of login used.
    - In the User mapping for the login, grant role db\_owner to database NoviSurvey.

Note that with the exception of using the database creation, system configuration, and upgrade functions the application will function if the database privileges for the database user are db\_datareader and db\_datawriter. The db\_owner privilege is required only for the initial setup of the system, when the system configuration is changed, and when the system is upgraded.

- Oracle:
  - Create a schema NoviSurvey.
  - Grant roles CONNECT and RESOURCE to the schema.
  - Grant UNLIMITED table space for the tablespace that will contain the data. This tablespace is normally named 'USERS'

4. If Novi Survey is deployed in a web farm or a web garden, see Appendix A.
5. Create a new NoviSurvey application pool. The application pool should be created with options:

```
.NET Framework: v4.0.30319  
Managed pipeline mode: Integrated
```

Under section `Process Model` for the pool, set the property `Identity` to `ApplicationPoolIdentity`.

Under section `Process Model`, set property `Load User Profile` to `true` (IIS7 only).

Under section `Recycling` set property `Specific Times` to a time of expected low usage (e.g., 2 AM).

6. In IIS, create an application named NoviSurvey and map the application/directory to the physical directory `IIS distribution\NoviSurvey` under the root of the release.

Assign the application pool created in the previous step to the virtual directory. Alternatively, the files under `IIS distribution\NoviSurvey` can be copied to the root of the web site in IIS. If the files are copied to the root of the web site in IIS, then group `Users` (or group `Everyone`) must have `Write` privileges to the directory.

When deploying the system as an application, set property `Physical Path Credentials` to `Application User` (pass-through authentication).

When the system is deployed as an application under an ASP.NET web site, certain settings in file `web.config` for the parent site can conflict and interfere with the settings in file `web.config` for Novi Survey. When the initial login or setup configuration (see below) cannot be completed and the system is deployed as an application under an ASP.NET web site, it is recommended to deploy the system in its own dedicated web site.

7. Set bindings for web site containing the web application. If the application is run in secure mode (i.e., https), the bindings for the web site containing the application must include the https protocol. An SSL certificate corresponding to the domain name used to access the application should be loaded in IIS prior to setting the https binding. Use of a self-signed certificate is not recommended as it will trigger security warnings from the user's browser.
8. Point IE (v9 or greater), Chrome (v18 or greater) or Firefox (v3 or greater) to the application (e.g., <http://www.mydomainname.com/NoviSurvey>).

In the login page enter login:

- user name: admin
- password: admin2319

Upon login, the system will direct you to the system configuration page. **Refer to the online help for instructions on configuring Novi Survey (help page: System configuration).** You can access the online help by clicking on the help icon on the top right-hand side of the application ribbon.

**After the initial configuration is complete, you can log in as system administrator using the user name "admin" and the password set in the system configuration. Additional documentation regarding the configuration of the system, including sample connection strings is available at <https://novisurvey.net/ns/Help/en/index.html?ConfigureApp>. While configuring the system, no VPN connection should be opened from the server to another network.**

## **Activation, deactivation of licenses**

Novi Survey enforces and validates the license which defines its use. The system will deactivate if the license becomes invalid. Copying the web application files to a new server will invalidate the license. Installs that need to be moved from one server to another should first be deactivated. Once recreated on the new server, the install should be activated.

When the license is absent or invalid, the software provides only limited functionality. Installs that are no longer needed can be deactivated from the system configuration page to release the license.

## Upgrade process – use for an upgrade after an initial install

1. Pre-requisite: The version of ASP.NET installed on the server must be at least the version listed in the release download page.
2. Place application offline by renaming file `App_Offline.htm.save` to `App_Offline.htm` under the root directory for the application (as set in step 6 of the initial install). Do not locate the upgrade in a new root directory as doing will invalidate the license for the system.
3. Verify that the application pool is set for the correct version of ASP.NET. The required version of ASP.NET is listed at the beginning of this document. Adjust the application pool if necessary.
4. Delete all files and directories for the web application **except** directory `App_Data` and file `App_Offline.htm`.
5. Copy all files and directories under directory `IIS distribution\NoviSurvey` for the upgrade.
6. Paste the files and directories in the directory containing the application (as set in the initial install). **Files `App_Data\appSetting.config` and `App_Data\nsk.dmp` should not be overwritten.**
7. Delete file `App_Offline.htm` under the root directory for the application
8. From the browser, log in using the built-in account `admin`. Note that only this account can perform the upgrade. Follow further upgrade step, if any, as instructed by the user interface for Novi Survey.
9. In some instances, a message to the effect that the system is undergoing an upgrade will be displayed after logging in using account `admin`. In such cases, the browser can be pointed to directly to page `http[s]://domain and path/s/admin/UpgradeSystem.aspx` to proceed with the upgrade.
10. Verify that system version in 'About' box (available at the top right-hand side of the application ribbon) is the same as the version for the release (the file name for the release includes the version number as a three-part number).

## Appendix A – Configuring Novi Survey for use in a web farm or web garden

To deploy Novi Survey a web farm or a web garden, you should perform the installation as specified below. Note that you must have the multi-server option to deploy Novi Survey in a web farm or web garden environment.

1. Install the first node by following the standard installation procedure (see page 2).
2. To install all additional nodes in the web farm or web garden, follow steps for the standard installation procedure up to step 6 but before step 8 (create the web application in IIS but *do not try to access it from the browser*). Copy file `App_Data\nsk.dmp` from the initial install to the `App_Data` directory of the new node.
3. In a web farm configuration, the files for the web application for each of the nodes should not be modified in any way by any process. For example, replication schemes for distributed file systems should exclude the directories containing the web application files for each of the nodes.
4. The recommended session state configuration in a web farm or web garden deployment is to use In Process session state management and to configure the load balancer to enforce “sticky sessions”. Enforcing sticky sessions results in all requests for a given session being processed by the same node in the farm. With sticky sessions, the performance of Novi Survey will be optimal. This maximum performance results from the elimination of the overhead involved with serialization/deserialization of the data in the session and the over-the-wire data transfer from and to the application and the session state store.

Alternatively, the session state can be stored in a centralized store such as the ASP.NET state service or some other provider. Note that the use of SQL Server for storing session state is not recommended. To set up an install to use the ASP.NET state service for session state, open file `web.config` in directory `IIS distribution\NoviSurvey` under the root of the release. Locate element:

```
<sessionState timeout="15" cookieName="NoviSurveySessionCookie"
cookieless="AutoDetect" />
```

Modify the element to use an ASP.NET State Service (or another persistence store suitable for use with the session state):

```
<sessionState timeout="15" cookieName="NoviSurveySessionCookie" cookieless="AutoDetect"
mode="StateServer" stateConnectionString="tcpip=192.168.0.4:42424" />
```

Where attribute `stateConnectionString` references the computer where the ASP.NET State Service is running (192.168.0.4 in the example above). If NoviSurvey is installed in a web farm, all the nodes of the farm must reference the same ASP.NET State Service. If the ASP.NET State Service is not on the same computer as IIS (which will always be the case in a web farm, for at least one of the nodes), then the ASP.NET State

Service must be configured to accept remote connections. To allow remote connection open registry key

```
HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Services\aspnet_state\Parameters
```

and change the value of `AllowRemoteConnection` to 1 instead of 0.

5. Create a directory in a shared network location, accessible by all the nodes in the farm or garden. The permission on the directory should be set to allow all nodes to read, create and write files in the directory. In the system configuration page for each node, the network path to the directory should be specified in field `File Directory`.
  
6. Continue the standard installation procedure starting at step 8.

## Appendix B – Moving a Novi Survey install to another server

To move an existing installation to a new server, you **should not** copy the files from the prior install to the new server. Instead, perform the following steps:

1/ Create a new install as documented for an initial install, skipping the database creation step. Do not configure the new install using the configuration page until you have performed step 2 below.

2/ If your license allows for a single install you already have as many installs of Novi Survey as allowed by your license, deactivate the prior install. Deactivation of an install is performed in the system configuration page by pressing the “deactivate” button. If you have an older version of the software and do not see the “deactivate” button, contact Novi Survey support. When the install is deactivated, a deactivation code is displayed. The code should be recorded so that it can be provided back to Novi Survey support if needed.

3/ Activate and configure the new install. You can connect the software to the database by entering the connection string corresponding to the database for the prior install or to a copy of the database for the prior install. The database must be for the **same** release as the software. The release for the software is available from the “about” box. The release for a database is obtained by running the following query:

```
select PROPERTYVALUE from APPLICATIONPROPERTY where PROPERTYKEY = 'release'
```

If the release for the database is lower than the release for the software, you can follow the upgrade procedure to ensure that the database and software components are compatible.

## Appendix C – Configuration parameter file

Configuration information for Novi Survey is stored in file `~/App_Data/appSettings.config`. Most of the configuration parameters are managed directly through the system configuration page for the system (`~/s/ConfigureApp.aspx`). In some cases, it may be desirable to change some of the configuration parameters that cannot be modified from the system configuration page. These parameters are listed in the table below.

**Important:** any parameter in the file that is not listed in the table below should not be modified unless explicitly requested by Novi Survey support staff. **Failure to comply with this practice can result in a non-functional install of Novi Survey and induce corruption of user data.**

Parameter key	Value
BAD_EMAIL_DURATION_DAYS	The number of days after which a bad email is no longer considered bad. When the specified number of days has passed after an email is detected as bad, the email may be used again to send email invitations.
DEFAULT_PERSON_FIELDS	Defines the fields to show in the 'profile' page. Fields to include must be separated by character ' '. Fields <code>FirstName</code> , <code>LastName</code> , and <code>Email</code> must be included. Other fields that may be included are:  <code>Email,</code> <code>JobTitle,</code> <code>Phone1,</code>  <code>Country,</code> <code>Address1,</code> <code>Address2,</code> <code>City,</code> <code>State,</code> <code>ZipCode,</code>  <code>Company,</code> <code>CompanyEin,</code> <code>CompanyAddress1,</code> <code>CompanyAddress2,</code> <code>CompanyCity,</code> <code>CompanyState,</code> <code>CompanyZipCode,</code> <code>Phone2,</code>  <code>Department,</code> <code>Location,</code>  <code>PersonId,</code> <code>EmployeeId,</code>  <code>Custom1,</code>

	Custom2, Custom3
DISABLE_AUTHORING_ACCESS	If set to true, access is allowed only to the pages used to respond to surveys. Access to all of the pages included in the authoring section of the system is disallowed.
DISABLE_PERSON_LIST_SHARING	If set to true, then contact lists can only be accessed by owners of the lists. If set to false, contact lists can be used to generate invitations by users who are not owners of the lists.
DISALLOW_CRAWLERS	If set to true, instructions will be sent to crawlers to not index any page.
ENABLE_CDN	Specifies that all URL to resources should point to the install. This parameter should be set to 'True' for a server that does not have access to the internet.
ENABLE_DEV_MODE	Specifies if the install should operate in development mode. This parameter should be set to 'False' for all production or test installs. Developers working with the source code for the system may want to set the value of the parameter to 'True'. When set to true a log console and an additional button for triggering postbacks is shown on the client (web browser).
ENABLE_PASSWORD_RESET	Specifies if users can reset their password from the login screen
ENABLE_SSL_VALIDATION	Allows the system to check the availability of an SSL certificate when the "secure mode" option is enabled
INVITATION_MAILER_SLEEP_TIME_MIN	The number of minutes of inactivity (sleep time) between active cycles for the invitation mailer process.
INVITATION_MANUAL_SEND_INTERVAL_MIN	The minimum number of minutes between an invitation email sent manually (i.e., forced to be sent) from the invitation report and the prior email sent for the invitation.
INVITATION_MAX_COUNT	The maximum number of invitations that can be sent to a participant for an invitation group. The count includes the initial

	invitation. Changing the value for the parameter will affect the 'number of reminder' option in the invitation group screen.
INVITATIONS_MIN_INTERVAL	The minimum number of days between reminders emails sent for an invitation.
MAX_INITIAL_INVITATIONS_PER_DOMAIN	The maximum number of emails released by the invitation mailer for a given domain for an invitation group (e.g., gmail.com) when the invitation group is first processed.
INVITATION_INCLUDE_REPLY_TO	Enables the inclusion of the email addresses of invitation group and survey owners in reply to invitation emails. In addition, if a mailbox is configured for the system and this configuration parameter is set, then the email address for the mailbox is added as a recipient of replies to invitation emails.
MAX_DATA_TABLE_COLUMN_COUNT	The maximum number of columns in native excel files loaded in the system. It is recommended that $MAX\_DATA\_TABLE\_ROW\_COUNT * MAX\_DATA\_TABLE\_COLUMN\_COUNT < 100,000$
MAX_DATA_TABLE_ROW_COUNT	The maximum number of rows in native excel files loaded in the system. It is recommended that $MAX\_DATA\_TABLE\_ROW\_COUNT * MAX\_DATA\_TABLE\_COLUMN\_COUNT < 100,000$
MAX_PER_CYCLE_INVITATION_COUNT	The maximum number of invitation emails sent by the invitation mailer process per organization per active cycle.
MAX_RESPONSE_COUNT_TO_ITEMIZE	The maximum number of responses that are shown in a report section element when the option 'itemize responses' is selected. Large values for this parameter can result in extremely long HTML pages for the report.
MAX_SIZE_DESIGN_IMAGE	The maximum file size in kB for images that can be uploaded in the authoring screens or as answers to questions (e.g., files for image presentation elements).
MAX_SIZE_FILE_UPLOAD	The maximum file size in kB that can be uploaded in the authoring screens or as answers to questions. The size applies only to

	file that are not images.
MAX_SUBSEQUENT_INVITATIONS_PER_DOMAIN	The maximum number of emails released by the invitation mailer for a given domain for an invitation group (e.g., gmail.com) after the invitation group is first processed. This threshold applies to an invitation group for all cycles of the invitation mailer that follow the cycle in which the invitation group is first processed.
NORMALIZE_PERSON_NAMES	Disables the normalization and standardization of person names (e.g., consistent capitalization of first and last name). When the option is set, names are stored without modification as entered or loaded.
PDF_GENERATION_TIMEOUT_MIN	The maximum time in minutes allowed for the generation of a report as a PDF document.
REQUEST_EXECUTION_TIMEOUT	The maximum time in seconds for any web request (including calls to pages, static resources, and web services).
REQUEST_MAX_LENGTH	The maximum length in kB for a request. The value of the parameter should be adjusted when large files must be loaded in the system.
SECURITY_PROTOCOLS	The security protocols supported for HTTPS requests. One or more of the following values can be specified, separated with ' ': Tls12, Tls11, Tls.  The default value is "Tls12 Tls11 Tls".
XSS_PROTECTION_LEVEL	The level of cross-site scripting protection enforced by the system. Allowed values are "Low", "Medium", and "High". To allow embedding of videos from a VOD site into survey, the level must be set no higher than "Medium".

## Appendix D – Allow the web session to time out for respondents answering a survey

By default, the web session does not generally time out for respondents answering a survey. Not allowing the session to time out enables respondents to use as much time as they need to gather the information needed for their response. For most installs, not allowing the web session to time out is the preferred behavior.

In some specific situations, it may be desirable to disable this feature of Novi Survey and allow the session to time out after the respondent is inactive for a set period of inactivity. The session will be allowed to time out after the following configuration changes are made in file

~/App\_Data/appSettings.config:

To allow the web session to time out for respondents answering a survey after a set period of inactivity, do the following:

1/ set value of parameter TAKE\_SURVEY\_SESSION\_TIMEOUT to the number of minutes after which the session should time out:

```
<add key="TAKE_SURVEY_SESSION_TIMEOUT" value="15" />
```

2/ set value of parameter ALLOW\_TAKE\_SURVEY\_SESSION\_TIMEOUT to true:

```
<add key="ALLOW_TAKE_SURVEY_SESSION_TIMEOUT" value="true" />
```