



# Click Studios

## Passwordstate

## Installation Instructions

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## 1 System Requirements - General

Passwordstate has the following system requirements:

### Web Server

Your web server which will host the Passwordstate web site can be any of the following Operating System versions:

- Microsoft Windows Server 2008 & IIS 7.5
- Microsoft Windows Server 2008 R2 & IIS 7.5
- Microsoft Windows Server 2012 & IIS 8.0
- Windows 7 & IIS 7.5
- Windows 8 & IIS 8.0

**Note:** Microsoft **.Net Framework 4.5** must also be installed on your web server.

### Database Server

Your SQL Database which will host the Passwordstate database can be any of the following versions of SQL Server:

- Microsoft SQL Server 2005
- Microsoft SQL Server 2005 Express
- Microsoft SQL Server 2008
- Microsoft SQL Server 2008 Express
- Microsoft SQL Server 2008 R2
- Microsoft SQL Server 2008 R2 Express
- Microsoft SQL Server 2012
- Microsoft SQL Server 2012 Express

**Note:** If you would like to use the High Availability module of Passwordstate, your distribution and publication databases must reside on SQL Server 2005, 2008 or 2012 – SQL Express can only act as a subscriber to SQL Server replication.

**Important:** SQL Server must be configured for mixed-mode authentication, so the Passwordstate web site can connect to SQL Server using an SQL Account. **Active Directory Accounts cannot be used to authenticate against the database.**

### Email Server

If you would like to receive emails generated from Passwordstate, you must also have an email server which is capable of sending anonymous SMTP emails, or emails from an authenticated mailbox

## 2 Internet Information Services (IIS) Requirements

When installing Internet Information Services, the following component/roles are required as a minimum. If these IIS roles are not installed, Passwordstate will install them for you.

### Common HTTP Features

- Static Content
- Default Document
- HTTP Errors

### Application Development

- ASP.NET (or ASP.NET 4.5 on Server 2012 and Windows 8)
- .NET Extensibility (or .NET Extensibility 4.5 on Server 2012 and Windows 8)
- ISAPI Extensions
- ISAPI Filters

### Security

- Windows Authentication
- Request Filtering

### Performance

- Static Content Compression
- Dynamic Content Compression

### 3 What Information is required for the Initial Setup

Prior to installing Passwordstate and running through the initial Setup Wizard, you will require the following information:

- **An SQL Account (not an Active Directory account)** with sufficient permissions to create the database and tables – at a minimum the 'dbcreator' and 'securityadmin' SQL Server roles are required - dbcreator to create the database/tables, and securityadmin to create an SQL Account called 'passwordstate5\_user' which is used so the Passwordstate web site can connect to the SQL Server. The 'sa' account has these privileges, although some DBA's do not like to use this account due to its elevated privileges.
- Your **Registration Key** details for Passwordstate
- **Host Name** and **Port Number** of an **email server** capable of sending anonymous SMTP mail, or from an authenticated mailbox
- **SMTP Address** from which Passwordstate will send the emails from
- **Proxy Server Details** – Passwordstate can periodically check for the updates, and if your organization requires all internet access to go through a proxy server, you will need to specify the proxy host name and port number during the installation (this feature can also be disabled once you're using Passwordstate if required).

## 4 SQL Server Express, and SQL Port Number Considerations

If you intend to use SQL Server Express to host your Passwordstate database, please consider the following before installing Passwordstate:

1. If you're using SQL Server Express on a different server to where you installed Passwordstate, you may need to check if the TCP/IP Protocol is enabled (use SQL Server Configuration Manager -> SQL Server Network Configuration), and also the Windows Service 'SQL Server Browser' is set to 'Automatic' Startup Type and has been started. You will need to restart SQL Server Express after changing these settings
2. By default, SQL Server Express installs with an 'instance' name of SQLEXPRESS. When you're configuring Passwordstate for first time use, specifically the 'Database Settings' page, please ensure you have specified the name of the instance correctly i.e. HostName\SQLEXPRESS
3. If you intend to also install the High Availability instance of Passwordstate, SQL Server Express can only be used as the Subscriber for data replication, not the Publisher or Distribution database.

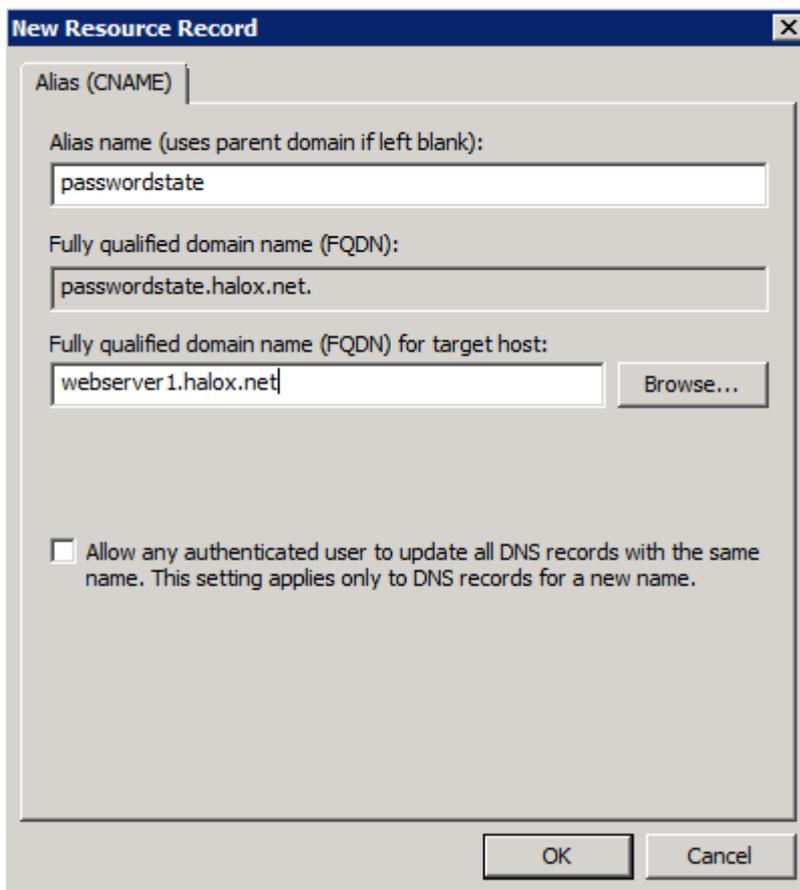
If you are running SQL Server on a non-standard port number, you will need to append the port number to the end of the Database Server Name during '10. Configuring Passwordstate for First Time Use' in the following way: ServerHostName,PortNumber i.e. sqlserver1,8484

## 5 Creating an Appropriate DNS Record

During the installation of Passwordstate, you have the option of using a URL which has the host name of the web server in it, or you can specify your own custom URL e.g. <https://passwordstate>

If you want to use your own custom URL, you will need to create a CNAME DNS entry as per the following instructions (please do not use host files for name resolution, as they do not work with Windows Authentication in IIS):

1. On your server hosting DNS, start 'DNS Manager'
2. Right click on the appropriate domain, and select 'New Alias (CNAME)'
3. As per the following screenshot, specify the name of your web server host name in the 'Fully qualified domain name (FQDN) for target host' text box, then click on the 'OK' button



**New Resource Record**

Alias (CNAME)

Alias name (uses parent domain if left blank):  
passwordstate

Fully qualified domain name (FQDN):  
passwordstate.halox.net.

Fully qualified domain name (FQDN) for target host:  
webserver1.halox.net

Allow any authenticated user to update all DNS records with the same name. This setting applies only to DNS records for a new name.

## 6 Installing Passwordstate

To install Passwordstate, run 'Passwordstate.exe' and follow these instructions:

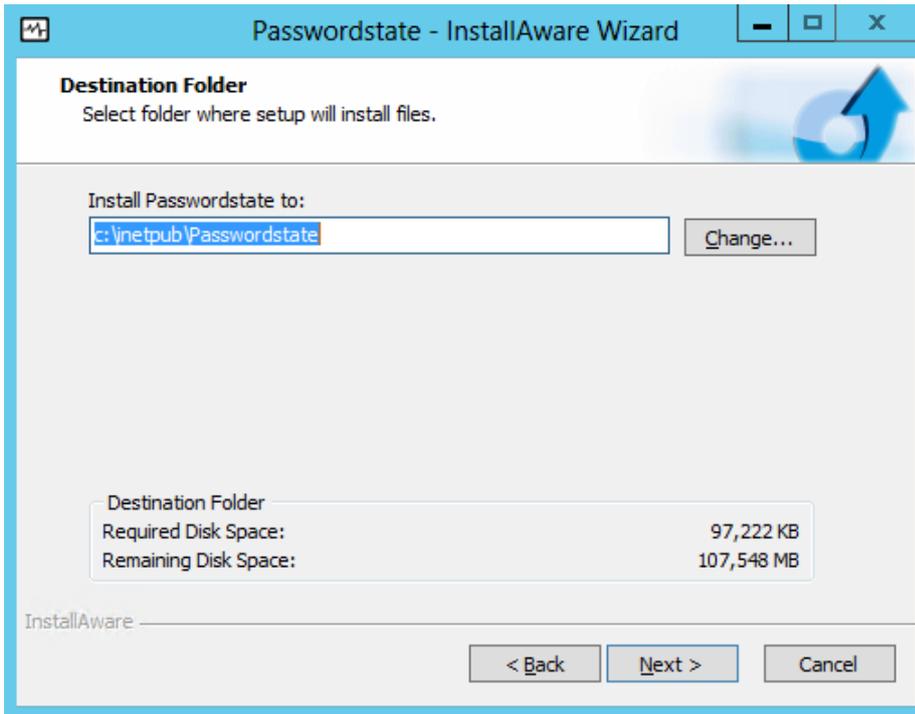
1. At the 'Passwordstate Installation Wizard' screen, click on the 'Next' button



2. At the 'License Agreement' screen, tick the option 'I accept the terms in the License Agreement', then click on the 'Next' button



- At the 'Destination Folder' screen, you can either accept the default path or change to a different location, then click on the 'Next' button



- At the 'Specify Authentication Options for Passwordstate' screen, select your preferred authentication method, and then click on the 'Next' button



- At the 'Specify Web Site URL and Port Number' screen, specify the URL you would like to use, then click on the 'Next' button



- At the 'Completing the InstallAware Wizard for Passwordstate' screen, click on the 'Next' button



- Once installed, click on the 'Finish' button

**Note:** When you first access the Passwordstate web site in your browser, you must type **HTTPS** into the address bar, otherwise you will receive a '**Page Not Found**' error. The web site is not configured to use Port 80, as HTTP alone does not encrypt traffic between your browser and the web site.

## 7 Active Directory Integrated Authentication & Browsers

If you choose to install the 'Active Directory Integrated' version of Passwordstate, the default settings for Internet Explorer and Chrome is to pass your domain credentials from the browser to the Passwordstate web site **without prompting you for authentication details**.

**Please Note:** It is recommended that once Passwordstate is installed, you run through the initial setup using your browser on a desktop computer or notebook, as using Internet Explorer on the server can cause prompting, regardless of the following recommendations – this is due to further restrictions Microsoft places on using browsers on server operating systems

Please use the following as a guide for troubleshooting browser prompting issues.

### Authentication Providers in IIS

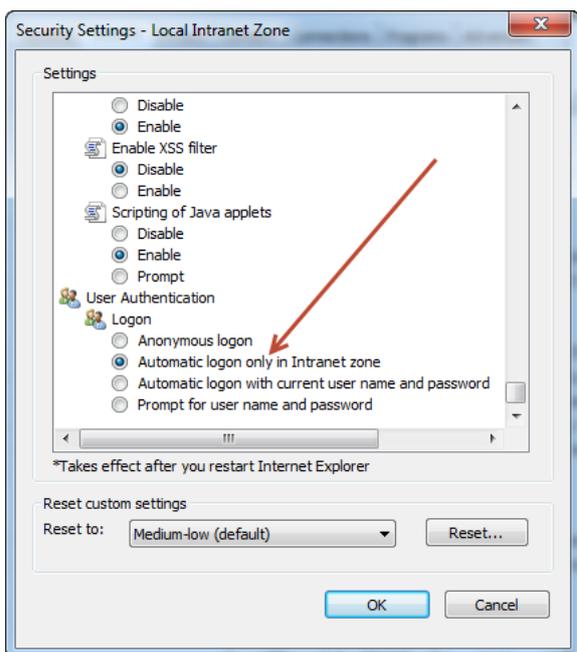
Order of authentication 'providers' for Windows Authentication in IIS. By changing the following setting, helps prevent the web site prompting for authentication:

- Open IIS and select the Passwordstate web site
- Double click on the "Authentication" option
- Right click the "Windows Authentication" item and select "Providers"
- Try moving NTLM to the top, then restart the web site

### Password Site being detected in Intranet Zone

The Passwordstate web site needs to be detected as being in the Local Intranet Zone, as the default settings in Internet Explorer for this zone is to 'pass through' credentials from the browser to IIS. In Internet Explorer, the option for 'User Authentication' is set to 'Automatic logon only in Intranet zone' for this zone

- Check the site is being detected in the Intranet Zone in Internet Explorer (IE9) by going to the 'File' menu and selecting 'Properties'
- Ensure 'Automatic logon only in Intranet zone' is selected for the 'Local Intranet Zone' as per the following screenshot:



**DNS Entry and IIS Site Bindings**

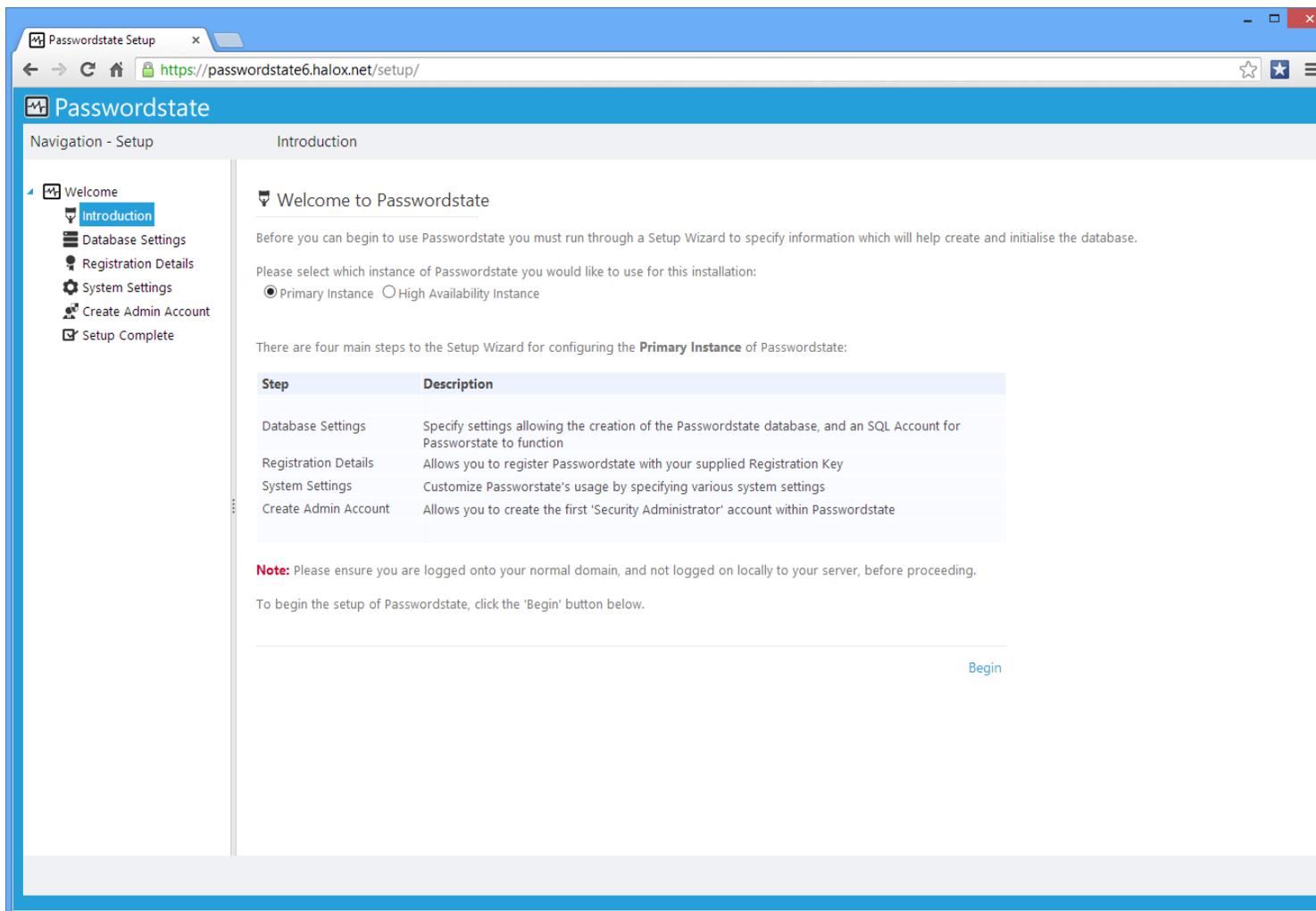
Other issues which can cause authentication prompting relates to the DNS entry created for the site URL, in combination with the IIS site bindings. The following is a guide, and you may need to test various settings to see if you can resolve the issue this way:

- A CNAME DNS entry needs to be created, where the 'Alias' name can be anything you like - generally most customers use the Alias 'passwordstate'. The Alias needs to point to the fully qualified domain name (FQDN) for the web server host i.e. servername.domain.com. We've seen some customer bind to the IP Address of the server, and this has caused issues
- For the IIS site 'Bindings', the hostname you specify should generally just be 'passwordstate', as per the DNS entry you created, and the IP Address you select should be 'All Unassigned'. Some customers have needed to specify the FQDN name as the Host Name i.e. passwordstate.domain.com, but generally you should not need to do this
- You should restart the web site if you make any changes with these settings

## 8 Configuring Passwordstate for First Time Use

**Introduction** - Now that Passwordstate is installed, you can direct your browser to the URL you specified during the initial install, and follow the initial Setup Wizard – this wizard will guide you through a series of questions for configuring Passwordstate for use.

**Please Note 1:** If using 'Active Directory Integrated' authentication, please ensure you are logged onto your normal domain, and not logged on locally to your server, before proceeding.



The screenshot shows a web browser window titled "Passwordstate Setup" with the URL "https://passwordstate6.halox.net/setup/". The page displays the "Introduction" step of the setup wizard. A navigation menu on the left includes "Welcome", "Introduction", "Database Settings", "Registration Details", "System Settings", "Create Admin Account", and "Setup Complete". The main content area features a "Welcome to Passwordstate" heading, followed by instructions to run the Setup Wizard and select an instance type. Two radio buttons are present: "Primary Instance" (selected) and "High Availability Instance". Below this is a table detailing the four main steps of the wizard. A red "Note" is provided, and a "Begin" button is located at the bottom right of the content area.

Navigation - Setup Introduction

Welcome

- Introduction
- Database Settings
- Registration Details
- System Settings
- Create Admin Account
- Setup Complete

### Welcome to Passwordstate

Before you can begin to use Passwordstate you must run through a Setup Wizard to specify information which will help create and initialise the database.

Please select which instance of Passwordstate you would like to use for this installation:

Primary Instance  High Availability Instance

There are four main steps to the Setup Wizard for configuring the **Primary Instance** of Passwordstate:

Step	Description
Database Settings	Specify settings allowing the creation of the Passwordstate database, and an SQL Account for Passwordstate to function
Registration Details	Allows you to register Passwordstate with your supplied Registration Key
System Settings	Customize Passwordstate's usage by specifying various system settings
Create Admin Account	Allows you to create the first 'Security Administrator' account within Passwordstate

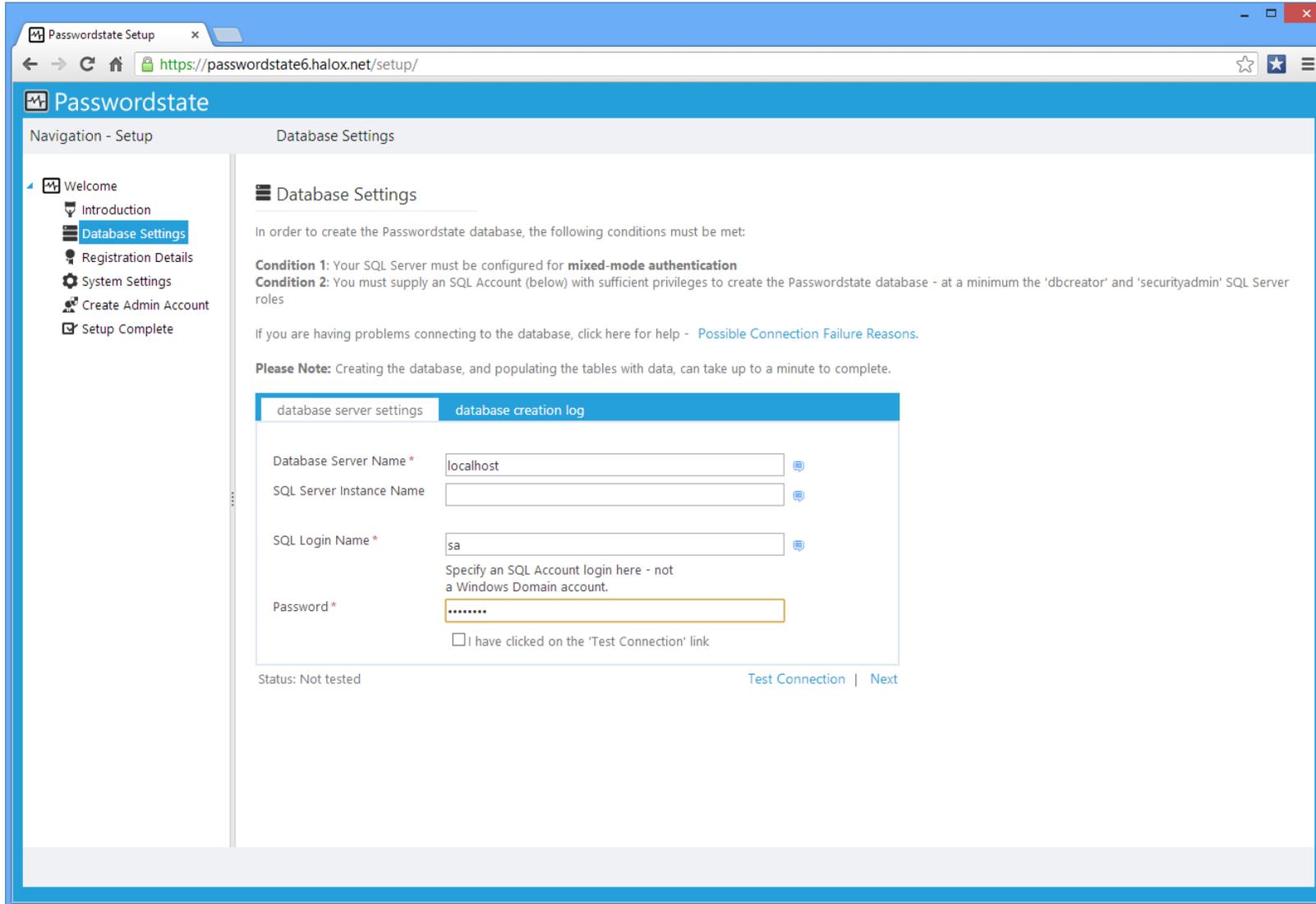
**Note:** Please ensure you are logged onto your normal domain, and not logged on locally to your server, before proceeding.

To begin the setup of Passwordstate, click the 'Begin' button below.

Begin

**Database Settings** – On this screen you will need to specify database settings for creating the Passwordstate database. Please use the onscreen instructions if you have any issues connecting to the database.

**Please Note:** Creating the database, and populating the tables with data, could take up to a minute to complete.



The screenshot shows the Passwordstate Setup web interface in a browser window. The browser address bar shows the URL <https://passwordstate6.halox.net/setup/>. The page title is "Passwordstate" and the navigation menu on the left includes "Welcome", "Introduction", "Database Settings" (highlighted), "Registration Details", "System Settings", "Create Admin Account", and "Setup Complete".

The main content area is titled "Database Settings" and contains the following text:

In order to create the Passwordstate database, the following conditions must be met:

- Condition 1:** Your SQL Server must be configured for **mixed-mode authentication**
- Condition 2:** You must supply an SQL Account (below) with sufficient privileges to create the Passwordstate database - at a minimum the 'dbcreator' and 'securityadmin' SQL Server roles

If you are having problems connecting to the database, click here for help - [Possible Connection Failure Reasons](#).

**Please Note:** Creating the database, and populating the tables with data, can take up to a minute to complete.

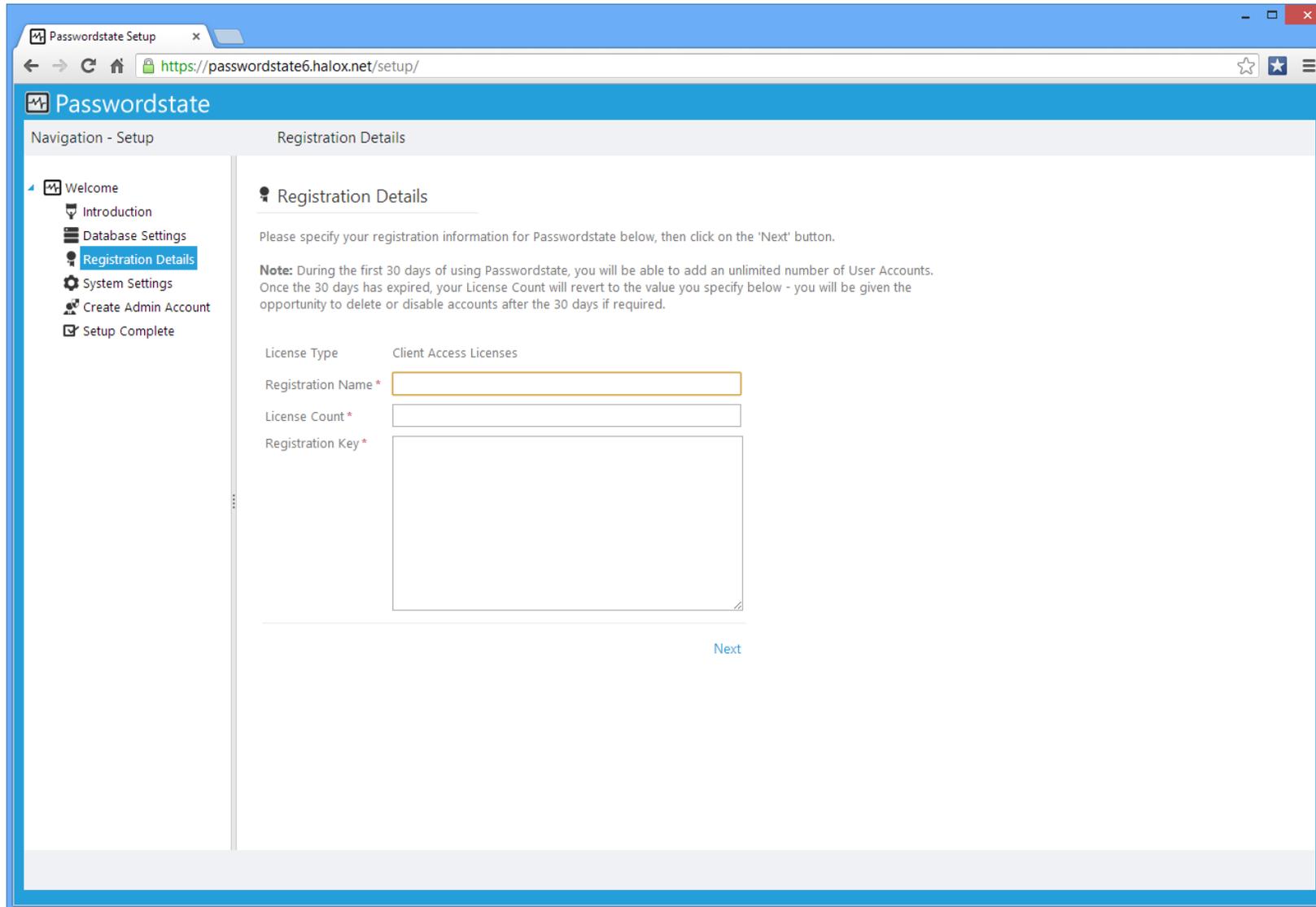
Below this text is a form with two tabs: "database server settings" (selected) and "database creation log". The form contains the following fields:

- Database Server Name \* (text input: localhost)
- SQL Server Instance Name (text input)
- SQL Login Name \* (text input: sa)
- Password \* (password input: masked with dots)

Below the password field is a checkbox labeled "I have clicked on the 'Test Connection' link".

At the bottom of the form, the status is "Status: Not tested" and there are two links: "Test Connection" and "Next".

**Registration Details** – On this screen you need to specify your Registration details for Passwordstate. If you have not received your registration details, please visit [www.clickstudios.com.au](http://www.clickstudios.com.au).



**System Settings** – On this screen you specify various system wide settings for Passwordstate usage. Please note that any of these settings can be changed after the initial Setup Wizard has completed. Explanation for each of these settings is detailed after this screenshot.

The screenshot shows the Passwordstate Setup application in a web browser. The browser address bar shows the URL <https://passwordstate6.halox.net/setup/>. The application interface has a blue header with the 'Passwordstate' logo. On the left is a navigation menu with the following items: Welcome, Introduction, Database Settings, Registration Details, System Settings (highlighted), Create Admin Account, and Setup Complete. The main content area is titled 'System Settings' and contains a sub-header 'System Settings' with a gear icon and the instruction: 'Please specify the appropriate System Settings below, then click on the 'Next' button.'

The settings are organized into four panels:

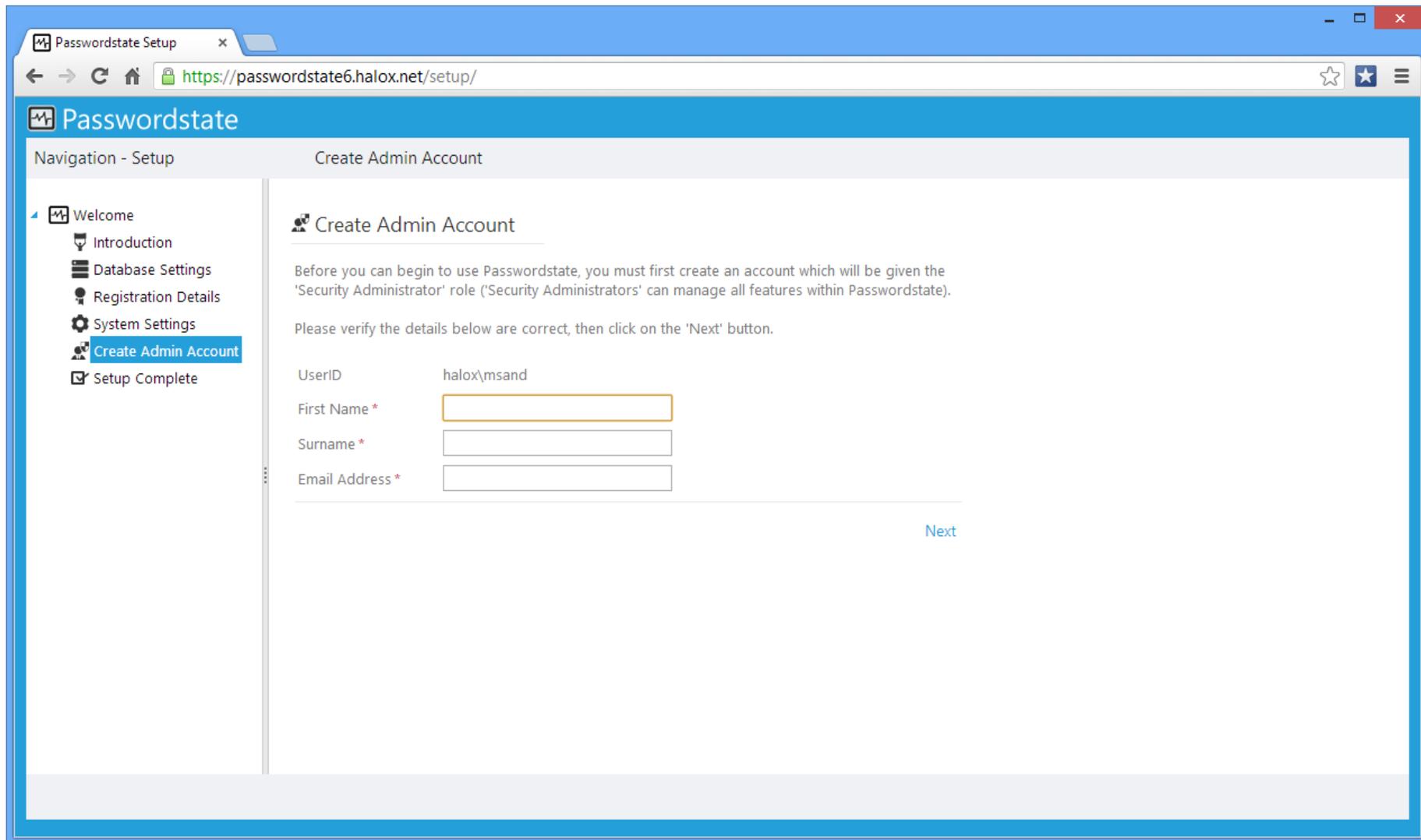
- Email Settings:** Includes fields for Email Server Host Name, Email Server Port Number (set to 25), Send From Email Address, Use Mailbox to Send (radio buttons for Yes/No), Send Mail via TLS (radio buttons for Yes/No), User Name, Password, and Domain Name.
- Miscellaneous Settings:** Includes a Locale (Date Format) dropdown menu set to 'English (Australia) - d/MM/yyyy', a Proxy Server field, and User Name/Password fields for proxy authentication. A note states: 'Only specify Username/Password if you need to authenticate'.
- Emergency Access Account:** Includes a text box for a password and a note: 'The Emergency Access login page can be accessed via the URL 'https://passwordstate6.halox.net/emergency''.
- Active Directory Options:** Includes fields for AD Domain NetBIOS Name (set to 'halox') and AD Domain LDAP Query String (set to 'DC=halox,DC=net').

A 'Next' button is located at the bottom right of the settings area.

## System Settings Detail

Action	Description
<i>Email Server Host Name</i>	The host name of a email server which is able to send either anonymous SMTP email, or authenticated email from a specify mailbox
<i>Email Server Port Number</i>	The port number in which your email server is configured to send mail (port 25 is generally the default port)
<i>SMTP Address</i>	The SMTP address you would like emails to be sent from when generated from within Passwordstate
<i>Use Mailbox to Send</i>	If you would like to send all email in Passwordstate from an authenticated mailbox, then select this option. If unselected, email will be send via anonymous SMTP
<i>User Name</i>	Domain user name for the authenticated mailbox
<i>Password</i>	Password for the authenticated mailbox
<i>Domain Name</i>	NetBIOS name for the domain the mailbox belongs to
Emergency Access Account	Specify a password for the Emergency Access Account feature of Passwordstate
<i>Locale</i>	Select the appropriate locale for your region. This will be the default Locale for all users. If you require different Locales for different users (as they cross different time-zones), you can set this for individual accounts after the initial setup is complete
<i>Proxy Server</i>	Passwordstate can check if new versions are available. If you require to specify some proxy server details to access the Internet, you can do so here (checks for updates can also be disabled once you've started Passwordstate)
<i>AD Domain NetBIOS Name</i>	The NetBIOS name for your Active Directory domain
<i>AD Domain LDAP String</i>	The LDAP Query String for your Active Directory Domain <b>(Please confirm these settings have been detected successfully before proceeding)</b>

**Create Admin Account** – On this screen you specify details for the first user account to be created in Passwordstate. This account will be granted Security Administrator privileges, and assign all Security Administrator roles.



The screenshot shows a web browser window titled "Passwordstate Setup" with the URL <https://passwordstate6.halox.net/setup/>. The page header is "Passwordstate" and the navigation menu on the left includes "Welcome", "Introduction", "Database Settings", "Registration Details", "System Settings", "Create Admin Account" (highlighted), and "Setup Complete". The main content area is titled "Create Admin Account" and contains the following text:

Before you can begin to use Passwordstate, you must first create an account which will be given the 'Security Administrator' role ('Security Administrators' can manage all features within Passwordstate).

Please verify the details below are correct, then click on the 'Next' button.

UserID: halox\msand

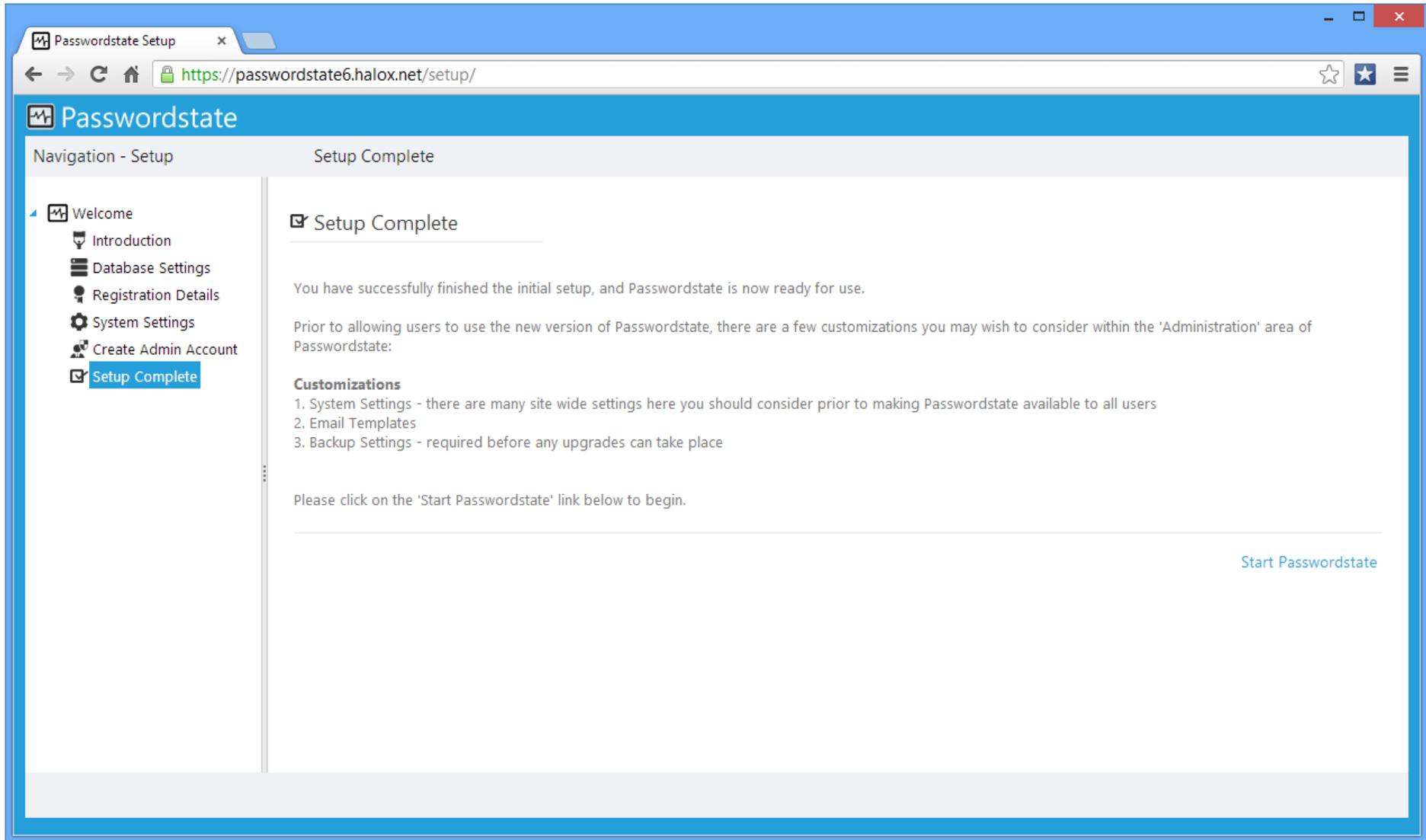
First Name \*:

Surname \*:

Email Address \*:

Next

**Setup Complete** – The installation is now complete and you can begin using Passwordstate. Prior to granting access, or informing users of the new version, you may wish to review some of the system wide settings found under the 'Administration' area of Passwordstate.

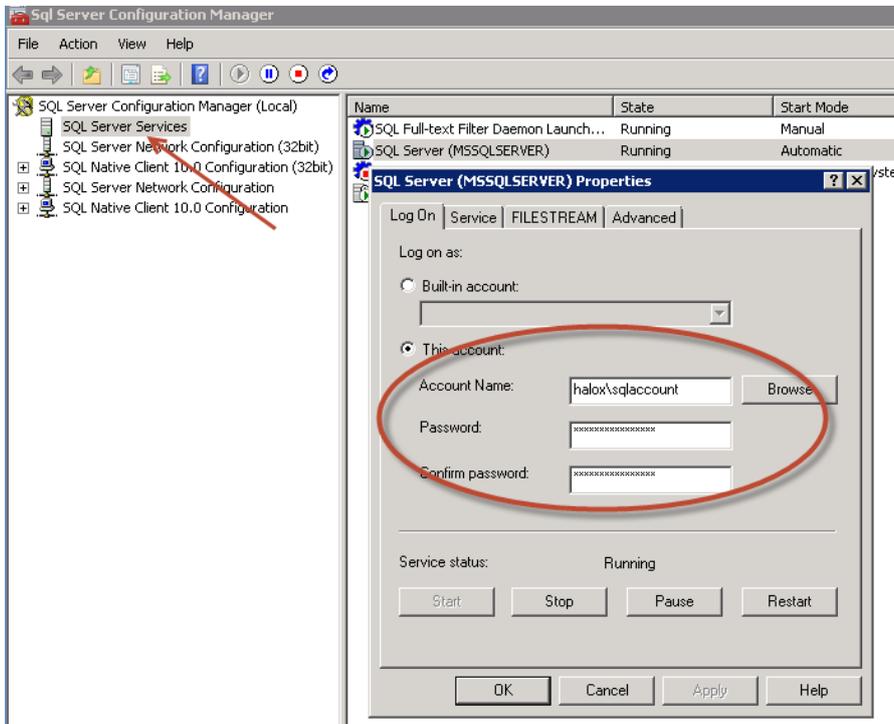


## 9 Passwordstate Backups

To allow backups to work through the Passwordstate web interface, you will need to specify an account (domain or Windows account), which has the following permissions:

- Permissions to write to the Backup path you've specified
- Permissions to stop and start the Passwordstate Windows Service on the web server
- Permissions to write to the Passwordstate folder.

In addition to this, you must configure the SQL Server service to use a domain or Windows account which has permissions to also write to the Backup Path. To do this, you need to open the 'SQL Server Configuration Manager' utility on your database server, click on 'SQL Server Services', and then specify an account as per the next screenshot:



1. Now you can navigate to the page Administration -> Backups & Upgrades
2. Click on the 'Backup & Upgrade Settings' button
3. Using the Windows/Domain account mentioned above, configure the options on the screen and click on the 'Test Permissions' button. If the Test Permissions is successful, you can return to the previous screen and run a manual backup by clicking on the 'Backup Now' button.

## 10 Encrypting the Database Connection String in the Web.config file

Whilst it's not entirely necessary to encrypt the database connection strings within the web.config file, it is recommended so the SQL Account credentials used to access the Passwordstate5 database is encrypted and unreadable from anyone who can read the file system on your web server.

To encrypt the database connections string, please follow these instructions:

### Encrypt Connection String

- Open a command prompt and change to the folder C:\Windows\Microsoft.NET\<Framework or Framework64>\v4.0.30319
- Type the following:
  - `aspnet_regiis.exe -pef "connectionStrings" "c:\inetpub\passwordstate5"` (change the path if you've installed Passwordstate to a different location)

### Decrypt Connection String

- Open a command prompt and change to the folder C:\Windows\Microsoft.NET\<Framework or Framework64>\v4.0.30319
- Type the following:
  - `aspnet_regiis.exe -pdf "connectionStrings" "c:\inetpub\passwordstate5"` (change the path if you've installed Passwordstate to a different location)

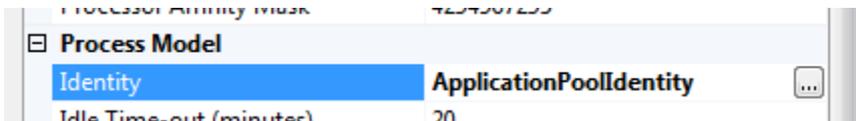
Note: If you intend to rename your server host name, you should decrypt these settings first, rename the server, then encrypt again.

## 11 Active Directory & IIS Application Pool

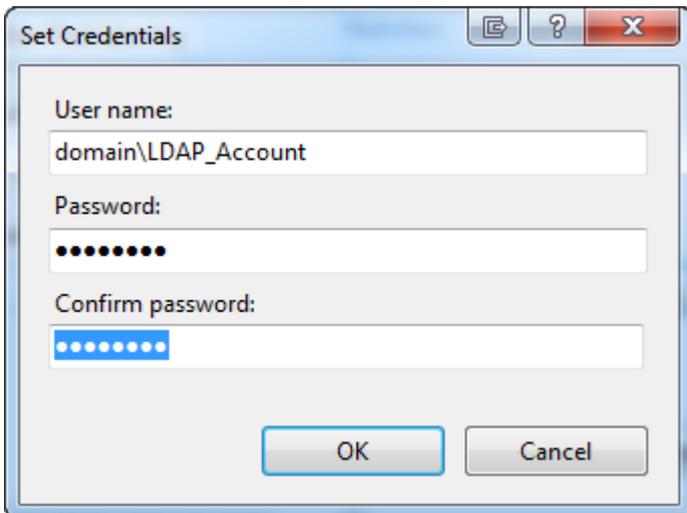
Passwordstate can query your Active Directory for the purpose of adding user accounts, and to synchronize memberships of domain security groups. By default, the account used is the 'NETWORK SERVICE' account which is part of Internet Information Services (IIS).

If you experience any errors when try to add users via Active Directory or query Security Groups, then it's likely your Active Directory setup only allows certain accounts to query it. If this is the case, then you will need to modify the IIS configuration to specify a different account. To do this, you can follow these instructions.

1. Open Internet Information Services (IIS) Manager on your web server
2. Click on 'Application Pools' in the 'Connections' panel
3. Right click on the application pool 'Passwordstate', and select 'Advanced Settings'
4. Look for the setting 'Identity' click on **ApplicationPoolIdentity**, and then on the ellipses button as per this screenshot:



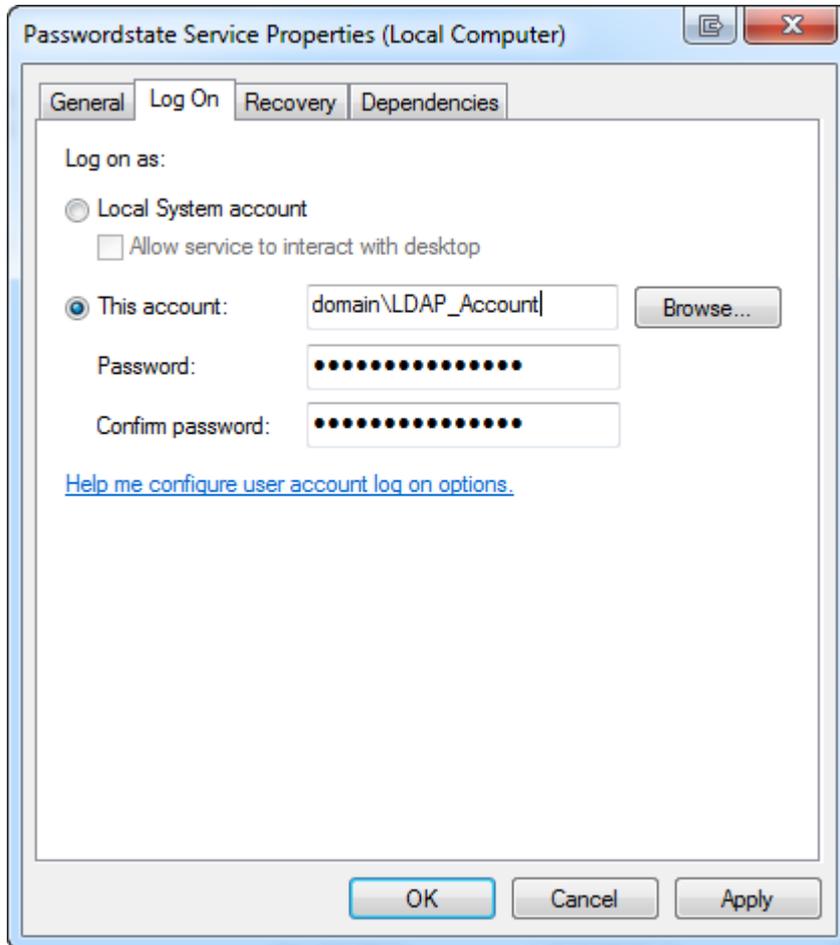
5. Select 'Custom account' and then specify the appropriate account details such as the example provided in the following screenshot:



6. Click on all the 'OK' buttons to close the windows, and then restart the Passwordstate site in IIS

## 12 Active Directory & Passwordstate Windows Service

In addition to modifying the Application Pool, you may need to also modify the 'Log On' rights for the Passwordstate Windows Service, as this service also queries Active Directory to synchronize accounts and Security Groups.



## 13 SSL Certificate Considerations

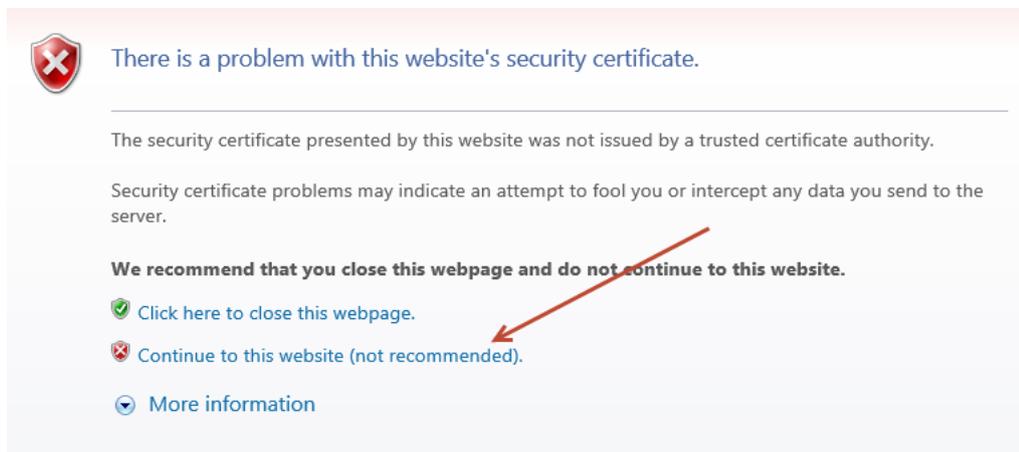
The installer for Passwordstate installs a self-signed SSL certificate on your web server, and binds it to the Passwordstate web site.

If you have your own SSL certificate installed on the web server you'd prefer to use, you can modify the bindings for the site in IIS, and select the appropriate certificate.

If you wish to continue using the self-signed SSL certificate, then you may want to instruct your users to "Install" the certificate on their computer, so the various Internet browsers don't complain about the certificate not being issued by a trusted authority.

To install the certificate, you can follow these steps:

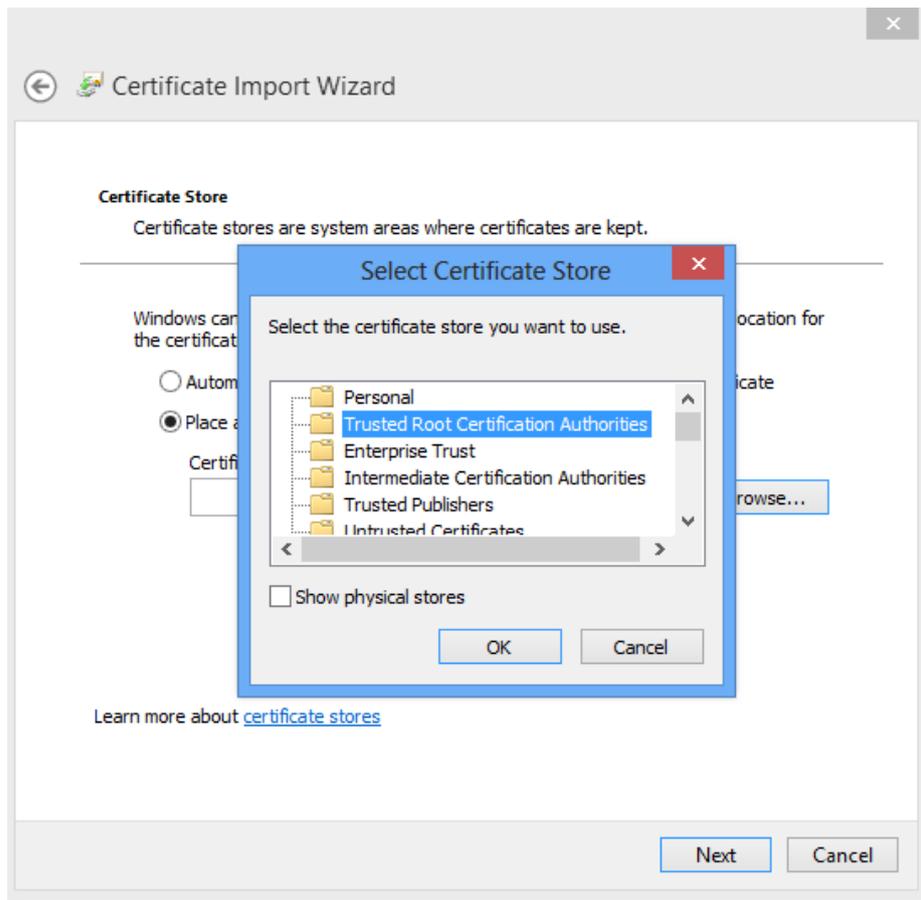
1. Using Internet Explorer, browser to the Passwordstate web site
2. When you see the following screen, click on the 'Continue to this website' link



3. Now click on the 'Certificate error' link at the top of your screen



4. The click on 'View Certificates', then on the 'Install Certificate...' button
5. Select the 'Local Machine' Store Location, then click on the 'Next' button
6. Select 'Place all certificates in the following store' option, click on the 'Browse' button, and select 'Trusted Root Certification Authorities' as per the next screenshot



7. Now click on the 'OK' button, then the 'Next' and 'Finish' buttons
8. After the certificate is installed, you can close and re-open your browser to the Passwordstate web site, and it should no longer complain about an untrusted certificate