



Professional Services Workbench

Installation Manual

Version 6.0

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Documentation

This guide is one of several which form a complete set of documentation for systems@work systems:

- The systems@work Reference Guides are complete statements of functionality and are structured by system function. The text for these manuals forms the basis of the online help available in systems@work Maintenance.
- The time@work Configuration Guide takes you through the process of setting up a simple system. It is not intended to describe each function in detail, but rather to explain the sequence of steps involved in system configuration.
- The systems@work Installation Guide explains the technical environment in which the system operates and the process of installing the system on your hardware.
- The time@work Client User Guide explains the ways in which your Employees will work with the system when recording time or expenses or examining reports.
- The systems@work Task Scheduler Guide explains how you can set up the Scheduler for periodic execution of systems@work Maintenance functions.

Throughout this module, where the term 'systems@work' is used, this refers to time@work, expense@work and forms@work.

Issue Notes

Version 6.0

If you are upgrading your system from an earlier version, please take note of the few specific points made below (see Upgrade Notes).

These are the changes in Version 6.0.

PSW Graphical Revision

The browser-based Professional Services Workbench (PSW) has been radically revised for the sake of modernity, and ease of use. Navigation pages are now responsive to the device you are using.

- The 'Home Page' is now the 'Today' tab. Each tabs contains panels where links to forms, or reports, or other functions are listed. Panels for which there are no current data or functions are not shown.
- The To Do panel on the Today tab lists tasks that you must perform on your own behalf – timesheets, forms, etc.
- An Employee's Current Timesheet can be opened with one click.
- The Approve panel on the Today tab lists tasks that you must perform on behalf of others – timesheets to authorise, forms to authorise or review, transactions to approve, etc.
- A Reports panel lists reports that have been specified as useful on this tab.
- A Shortcuts panel (shown on every tab) provides links to most-used Reports, to Skill searches and to Projects and Employees you are related to through a Role.
- News are no longer shown following Login, but the most recent item of News is shown in a separate panel on the Today tab.
- 'Selection' (opening forms, reports, etc.) is now consistently through the clicking of an icon. You will no longer open timesheets or forms by clicking on Timesheet Period or Form Reference.
- The Modify Password and Employee Details options are now accessed by clicking the small triangle, or the employee code or name, in the top right hand corner of the page (adjacent to the new Help button).
- Administration tools (Ledger Modification, Data Import, Ledger Export, Timesheet Control, Form Control) are listed in a panel on the Administration tab, where links to Reference Data (Employees, Clients, Projects, Tasks, etc.) can also be found.
- Inquiry Profiles (in Reports panels and in customisable panels in the Reporting tab) are now either profiles that present a grid of data, or profiles that present a report rendered by Crystal Reports or Microsoft Reporting Services, not both.

- All types of reports are listed in Reports panels or customisable panels in the Reporting tab without differentiation. You need no longer know in advance that a report is a Status Inquiry report, an Active Schedule report or any other type of report.
- Timesheet and Form History is available from a separate History tab, and All Timesheet History includes timesheets you have submitted, confirmed or authorised, and All Form History includes forms you have submitted, confirmed, authorised or reviewed.

Static Data Inquiries

A new type of report has been introduced. Static Data Inquiries enable you to report on Employees, Clients/Projects/Tasks, or Analysis Values, irrespective of whether transactions exist for any of these.

Static Data Inquiries may also be configured to export data into Excel spreadsheets, or CSV text files, so that these can be imported back into time@work or into other systems.

Static Data Inquiries may also be scheduled for execution by the Task Scheduler.

Timesheet Control

We have added a new function to the PSW – Timesheet Control – which allows you to reassign Timesheets waiting for authorisation to other eligible Employees. This is similar to Workflow Control, which has now been renamed as Form Control.

Invoicing

We have revised the way in which you may specify the email recipient for an invoice, using Roles. You may now specify (on System Parameters) the role or roles (a System, Company, Project or Client role to which an Employee or Client Employee may be assigned) that will determine the default recipient(s).

We have allowed (optionally) for the specification of additional Employees as recipients of emailed invoices at invoicing runtime (only in the PSW).

We have simplified the specification of Email Subject and Body so that these may be specified at System, Company, Client or Project level, defaulting 'upwards' towards System level if no values are found at a lower level.

Invoice Reversal is now available in the PSW (but partial reversal is not yet enabled).

Mobile Browser Interface

This is no longer available.

IMPORTANT UPGRADE NOTES

Experience with pre-release upgrades of time@work suggests that it is very important that you should inform your employees that in the new version of the PSW:

They must click an icon to open Timesheets, Forms, Profiles, etc. Clicking on Timesheet Period and Form Reference number will no longer open Timesheets and Forms.

Timesheet and Form history is now reached through the History tab, where All Timesheet History includes timesheets they have submitted, confirmed or authorised, and All Form History includes forms they have submitted, confirmed, authorised or reviewed.

Inquiry Profiles (in Reports panels and in customisable panels in the Reporting tab) are now either profiles that present a grid of data, or profiles that present a report rendered by Crystal Reports or Microsoft Reporting Services, not both.

time@work Maintenance can be used, as always, to upgrade your database. Note that Reports will initially be grouped on the Reporting tab by 'type - e.g. Active Schedules, Inquiries, Invoice Status Inquiries, etc.

There is also a small, but important change to the technical configuration of the time@work browser application.

So far, all Application pools used by systems@work software used the Classic Managed Pipeline Mode. From Version 6.0 all Application pools must use the default Integrated Managed Pipeline Mode. Any new installation of Version 6.0 will create the new Application Pools appropriately (when the 'IIS Configuration' option is chosen during installation), but if you want to continue using your existing Application Pools, you must switch them to the Integrated mode manually.

System Overview

Introduction

systems@work software is designed for organisations of any size and works in a multi-company, multi-lingual, multi-currency environment. Flexible system design allows each organisation to configure the software to suit its particular needs.

Interfaces are provided to a number of different accounting systems and other external systems.

Structure

systems@work software is designed for the internet and for mobile devices. Time, expense and form data may be gathered and analysed within a Client-server local area network, through a browser.

	Client-Server LAN	Browser	E-mail	Mobile
Data Maintenance	Yes	Some		
Time Recording	Yes	Yes		Yes
Expense/Form Recording	Yes	Yes		Yes
Billing	Yes	Yes		
Management Reporting	Yes	Yes	Yes	
Notifications			Yes	

Software/Hardware Environment

Software Components

systems@work software consists of a number of software components which in turn depend on an infrastructural software set:

Common Infrastructural Software Set:

- MS SQL Server
- Internet Explorer, Microsoft Edge, Safari, Chrome or Mozilla Firefox
- SAP Crystal Reports
- Microsoft Reporting Services
- MS Project (if the MS Project interface has been licensed)
- MS Exchange

Proprietary Components (for which there are specific underlying infrastructural requirements):

- systems@work Maintenance
- systems@work IIS Server application
- systems@work Task Scheduler
- systems@work DBCreator
- systems@work External Applications for XML processing

The software environment required for each of these is as follows:

COMMON INFRASTRUCTURAL SOFTWARE SET:

MS SQL Server

Software: MS SQL 2008 or
MS SQL 2008 R2 or
MS SQL 2012 or
MS SQL 2014 or
MS SQL 2016

(systems@work software operates independently of MS SQL Code Page or Sort Order)

This manual does not cover the installation of the database server.

Notes on MS SQL setup:

Ensure that protocols for Client-Server communication are consistent

Browsers

The systems@work browser interface is compatible with:

- Internet Explorer 11
- Microsoft Edge
- Mozilla Firefox 40 and later versions
- Chrome version 50 and later versions
- Safari iOS 9.0 and later version

SAP Crystal Reports

systems@work software uses Crystal runtime components for the creation and publishing of reports. However, for the creation of new report templates (from systems@work Maintenance) for reports and documents (invoices, timesheets, forms, etc.) a copy of Crystal Reports is required.

SAP Crystal Reports 2011, 2013

Microsoft Reporting Services

Microsoft Reporting Services are embedded in the product and can be used as an alternative to SAP Crystal Reports for formatting reports.

Software: MS SQL 2008 or
MS SQL 2008 R2 or
MS SQL 2012 or
MS SQL 2016

MS Project

systems@work Maintenance provides an interface to MS Project for the import and export of project plans, tasks and timesheet data. If you are licensed to use this option then you will need to install MS Project on the PC or server where you are using systems@work Maintenance.

MS Project 2000 or higher

MS Exchange

systems@work software can optionally update Outlook Calendars through MS Exchange.

- MS Exchange 2010
- MS Exchange 2013
- MS Exchange 2016

PROPRIETARY COMPONENTS & INFRASTRUCTURAL REQUIREMENTS:

systems@work Maintenance

Software: Windows Server 2008 R2, or
Windows Server 2012, or
Windows Server 2012 R2, or
Windows 7, or
Windows 8 or Windows 8.1, or
Windows 10

.NET Framework Version 4.5

Note also that SAP Crystal Reports runtime must be installed for systems@work Maintenance if Crystal is to be used for rendering data in reports.

Note that if MS Office is not installed then you will need Active X Control Pad.

If you are using Data Import from systems@work Maintenance then you must either have installed MS Office (32-bit) or, if you have installed MS Office (64-bit) or you have not installed MS Office, you must install a runtime component (Access 2007) which is available on the Customerweb.

These operating systems fully support UNICODE (see section below on Multilingual Considerations).

systems@work IIS Server Application

Software: Windows Server 2008 R2, or
Windows Server 2012, or
Windows Server 2012 R2

.NET Framework Version 4.5 (appropriate 32- or 64-bit version)

If you will use Data Import from the PSW then you must install a version of Office (32-bit or 64-bit) compatible with the version of systems@work you have installed (32-bit or 64-bit).

Note that to enable the rendering of Crystal Reports templates in the Browser interface the following components must be installed:

SAP Crystal Reports Runtime for Visual Studio 2012

IIS must also be enabled

This manual does not cover the installation of IIS.

systems@work Task Scheduler

The systems@work Task Scheduler requires the installation of systems@work Maintenance.

Software: Windows Server 2008 R2, or
 Windows Server 2012, or
 Windows Server 2012 R2, or
 Windows 7, or
 Windows 8, or
 Windows 8.1, or
 Windows 10

.NET Framework Version 4.5

Note also that SAP Crystal Reports runtime must be installed for systems@work Maintenance if Crystal is to be used for rendering data in reports. The use of Transmission Profiles in the Task Scheduler will require Crystal if Crystal templates (rather than Microsoft Reporting Services templates) are used for the publishing or transmission of reports.

If you are calling Data Import from systems@work Task Scheduler then you must either have installed MS Office (32-bit) or, if you have installed MS Office (64-bit) or you have not installed MS Office, you must install a runtime component (Access 2007) which is available on the Customerweb.

systems@work Database Creator

As for systems@work Maintenance.

Multilingual Considerations

systems@work systems are designed as multi-lingual products. The implications of this are that the system and its components (wherever they are) should be able to work in a number of different languages without incompatibility. UNICODE standards (the use of two bytes to store a single character) enable us to meet this challenge.

systems@work Maintenance are fully UNICODE compliant. In the fully UNICODE-compliant environment all double-byte characters can be entered and displayed – AS LONG AS APPROPRIATE FONTS AND KEYBOARD SETTINGS ARE ENABLED.

Characters for which a font has not been enabled will be displayed incorrectly, but will not be corrupted during selection using controls in systems@work Maintenance.

For example, suppose that the Client PC is capable of showing Japanese and English characters and that a Project/Expense Type/Item available for selection using systems@work Maintenance contains a Cyrillic character. It will be possible for the user to selection this Project even if the Cyrillic character is incorrectly displayed.

Web Access

HTML pages are constructed by the systems@work Web Server Application for transmission to Internet Explorer. These are UNICODE compliant but it is important to note that characters will be neither displayed correctly nor processed correctly if the PC on which the browser is running does not have the correct font available.

Date Handling and Regional Settings

This section describes our policy on the storage, handling and display formatting of dates in systems@work in the Client Server and Browser environments.

MS SQL Database:

Dates are stored using:

- `smalldatetime` (which stores dates and times with an accuracy of one minute)
- `datetime` (which stores date and time with an accuracy of three-hundredths of a second)

`smalldatetime` is used in most cases, and `datetime` only when higher precision is needed.

systems@work Maintenance

Dates are held in variables of data type *Date*. This data type uses a numeric representation (days and seconds since a given date) of both date and time. Dates are formatted into and from a character-string representation only in the last, user interface, layer.

In systems@work Maintenance the date is formatted according to the regional settings of the PC.

Credit Card and Data Import:

a) From Text files or from Excel when dates are stored as text:

When Date formats of input data correspond to the local Regional Settings dates are properly imported.

When date separators in the source file differ from the local Regional Settings systems@work systems process dates as described in the following table:

Data	systems@work systems					
	dd/mm/yyyy	dd-mm-yyyy	dd.mm.yyy y	dd:mm:yyy y	dd mm yyyy	dd*mm*yyy y
dd/mm/yyyy	i	i	l	i	i	i
dd-mm-yyyy	i	i	l	i	i	i
dd.mm.yyyy	e	e	l	e	e	e
dd:mm:yyy	e	e	E	i	e	e
dd mm yyyy	i	i	l	i	i	i
ddmmyyyy	e	e	E	e	e	e
dd*mm*yyy	e	e	E	e	e	i

e error message displayed (value not imported)
 i value imported

When the date format in the source file differs from the local Regional Settings the system tries to recognize and reformat the date:

- When the sequence of days, months and years is same in the source data and in the Regional Settings, and only the length of the numbers is different the date is correctly imported.

This has been tested on the following formats – dd/mm/yyyy, d/mm/yyyy, d/m/yyyy, dd/mm/yy, d/m/yy, d/mmmm/yyyy, d/mmmm/yy

- When the sequence of days, months and years is different in source data and in the Regional Settings but the value of days is 13 or more and the year is 4-digit the date is correctly imported.
- When the sequence of days, months and years is different in the source data and the Regional Settings, and the value of days is 12 or less, or the year is 2-digit, the system cannot recognize days/months/years and the date is imported according to the local Regional Settings.

b) From Excel when dates are stored as Date:

Dates are imported correctly.

Ledger Export:

Dates are exported to an xml file in the format defined by the local Regional Settings.

systems@work Browser interface

Dates are held in variables of data type *Date*. This data type uses a numeric representation (seconds since a given date) of both date and time.

Internet Explorer/Safari/Firefox/Chrome

In the browser they are entered and modified either using the Datepicker control or directly. The date in the Datepicker is formatted according to the settings set at Employee, Company or System level in systems@work and is immune to regional settings.

Installation

You or your supplier will download systems@work software from <http://customers.systemsatwork.com>. There are three installation files, one for time@work, one for expense@work and one for forms@work. Each of these contains:

- systems@work DBCreator (together with some essential data)
- systems@work Maintenance
- systems@work Web
- systems@work Web Services (to support the systems@work Mobile applications)
- systems@work Task Scheduler
- External Applications (for XML processing in Ledger Export)
- Demonstration Databases
- Default report templates for Crystal Reports and/or Microsoft Reporting Services

Serialisation

systems@work systems are serialized products. This means that you are restricted to the functionality which has been licensed to you and you are limited in terms of the number of Employees who may access the system.

When the system is supplied to you, you are provided with serialisation information such as this:

Serialisation Code: KAKBKA09A2-vAXCUDGzcNWb24

(Note that these particular details do not constitute a valid set of codes.)

You will need the DBCreator data when you are creating a systems@work database and you will apply the Serialisation Code from within systems@work Maintenance to make available the full range of functionality which you are licensed to use.

Installation

Before you can use systems@work you must first:

- Install each component (minimally the systems@work Maintenance and the DBCreator)
- Use the DBCreator tool to create a database on an MS SQL server or install the Demonstration Database

The following table defines the space requirements for installing each component:

During Installation 100 MB of space are required.

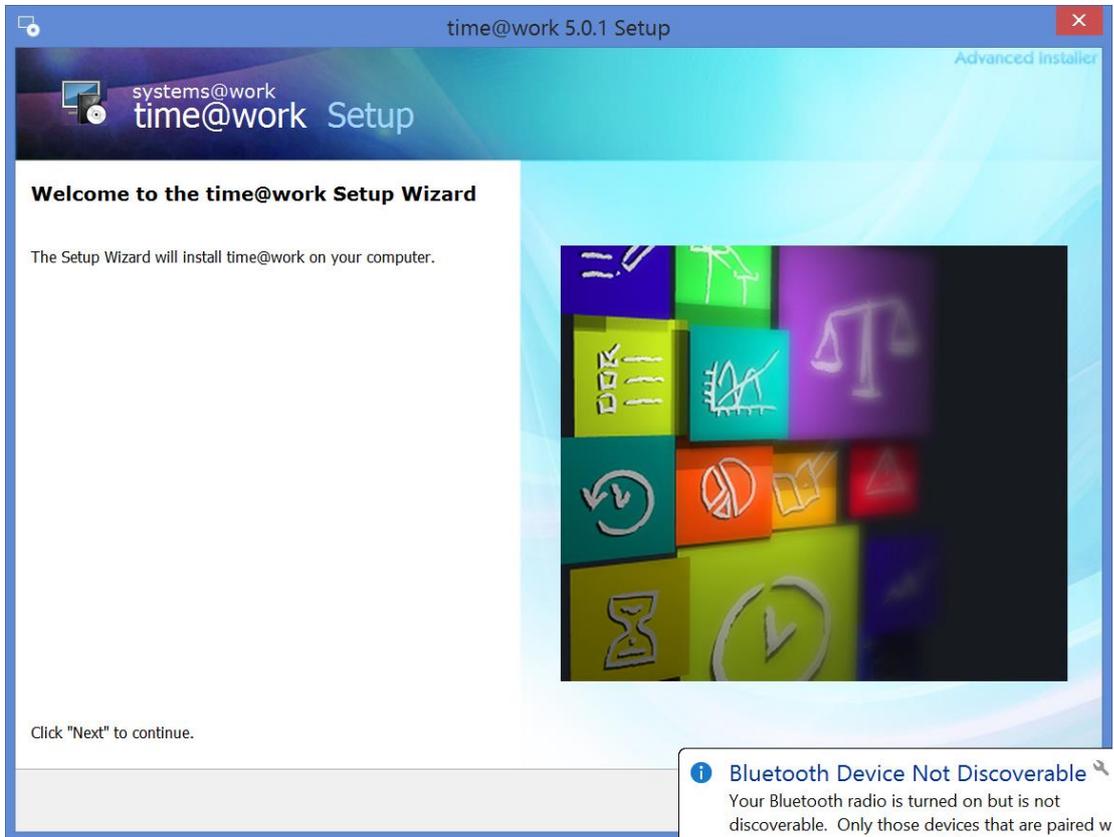
After Installation the system requires the following:

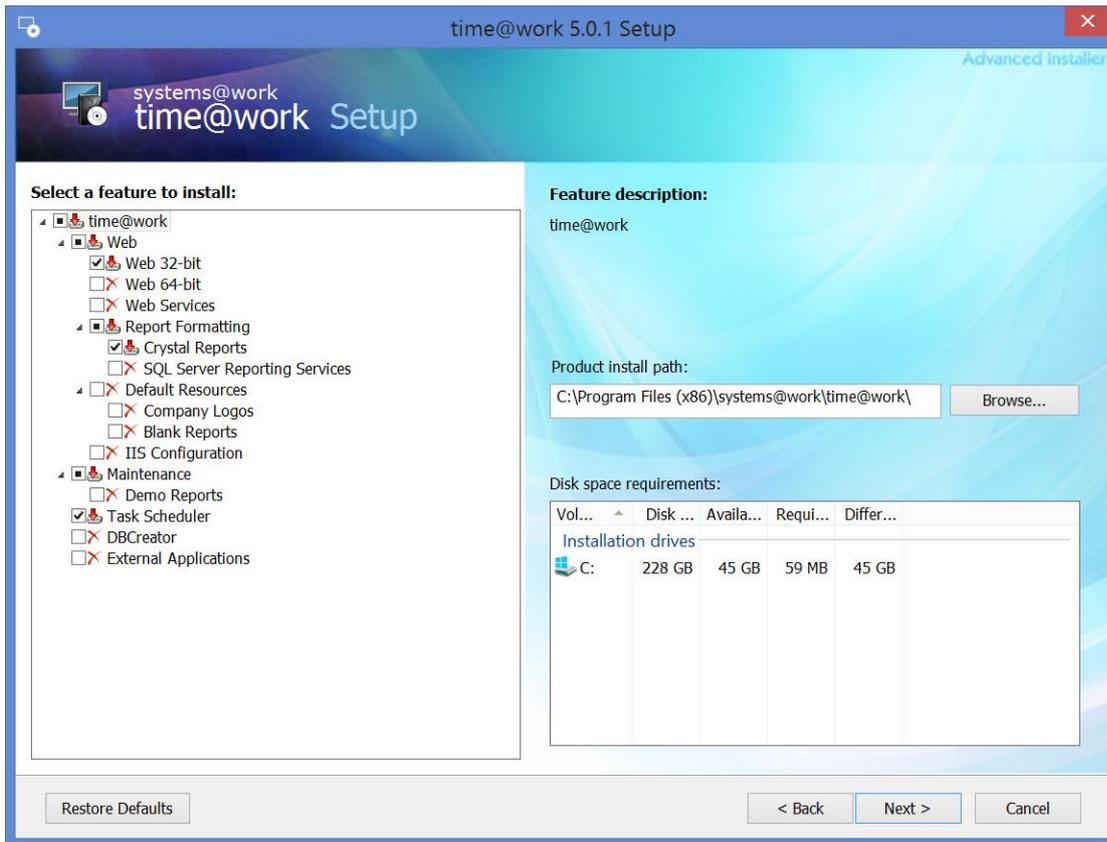
Component	After Installation – MB
systems@work Maintenance	51
systems@work DBCreator	17
systems@work Web	16
systems@work Task Scheduler	15
systems@work Web Services	13

systems@work Installation

The following example is based on the installation of time@work.

Locate and run the SETUPTAWnnn.EXE (where nnn denotes the version number).

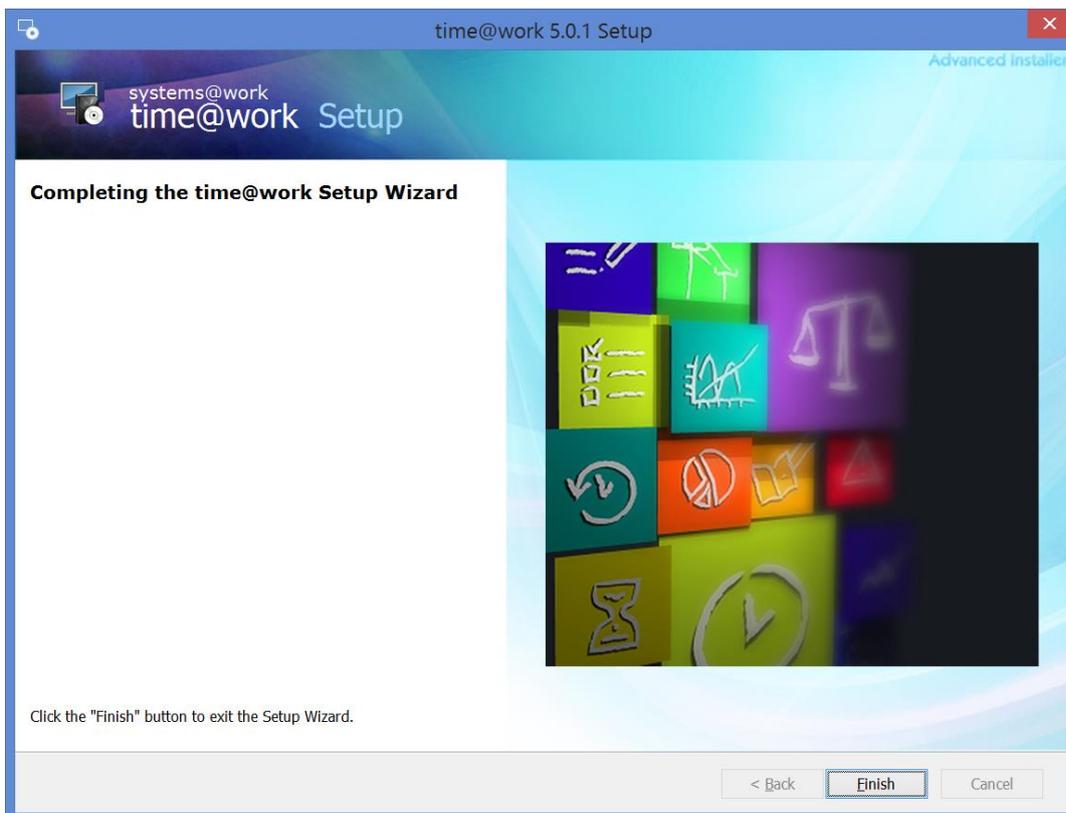
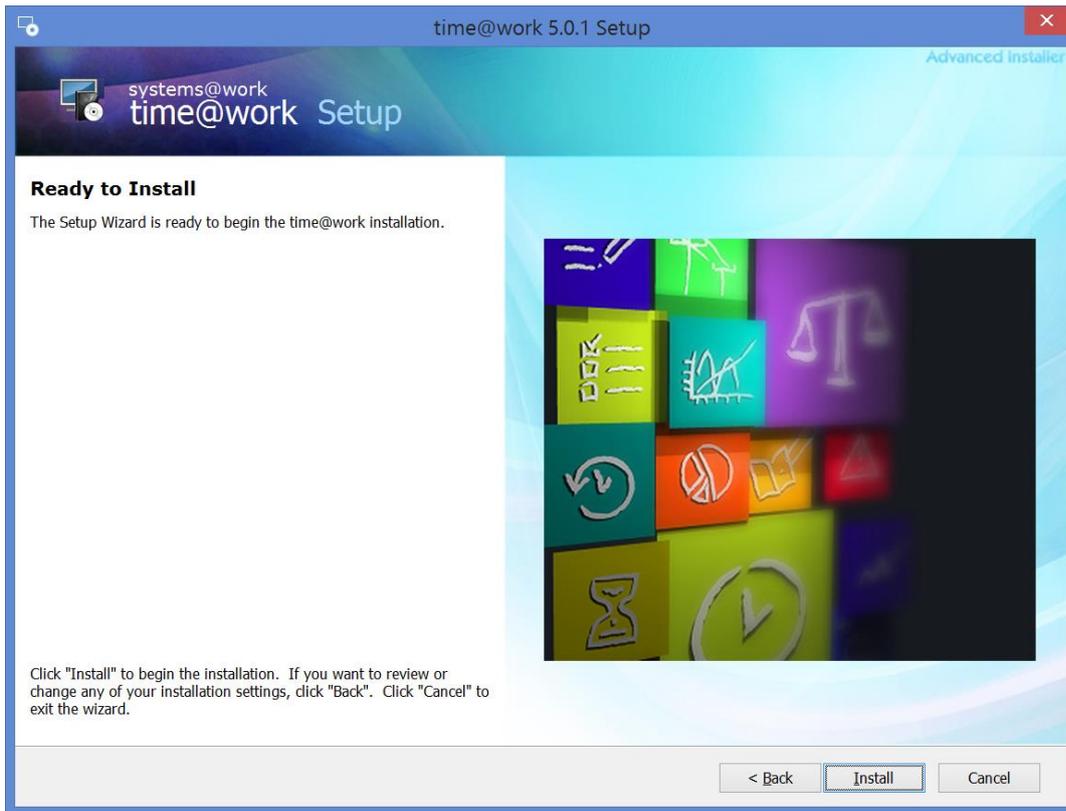




All checked items will be installed.

If you are upgrading an existing system be careful to avoid overwriting your company logos or default form or timesheet templates. If you want to avoid this, make sure you do not check Company Logos or Blank Reports in the Resources section.

Note that the installer will detect whether a 32- or 64-bit version for Web can be installed.



Menu Items

The installation program will create Program Menu items for up to four components (if you choose to install them):

- systems@work Maintenance
- systems@work Maintenance Help
- systems@work Professional Services Workbench
- DBCreator
- Task Scheduler

.NET Framework Installation

.NET Framework Version 4.5 is required on:

- The server where you are running IIS
- Any PC where you are using systems@work Maintenance or Task Scheduler

A .NET Framework installation executable is supplied with systems@work systems.

Crystal Reports Runtime Installation

Crystal Reports for Visual Studio 2012 Runtime Files are required on:

- The server where you are running IIS, if you intend to view Reports or Print Timesheets. Forms and Expenses from the browser interface using Crystal Reports (as opposed to Microsoft Reporting Services)
- The PC where you are running systems@work Maintenance, if you intend to view Reports or Invoices using Crystal Reports (as opposed to Microsoft Reporting Services)
- The server or PC where you are running the systems@work Task Scheduler if you intend to schedule Transmission Profiles using Crystal (as opposed to Microsoft Reporting Services)

Locate and install the CRRuntime_32bit_13_0_17.msi package. (respectively CRRuntime_64bit_13_0_17.msi for 64bit version).

Reporting Services Runtime Installation

Reporting Services Runtime is required on:

- The server where you are running IIS, if you intend to view Reports or Print Timesheets and Expenses from the browser interface using Microsoft Reporting Services
- The PC where you are running systems@work Maintenance, if you intend to view Reports or Invoices using Microsoft Reporting Services
- The server or PC where you are running the systems@work Task Scheduler if you intend to schedule Transmission Profiles using Microsoft Reporting Services

Locate and install ReportViewer.exe.

Create an SQL User for systems@work

Before a database can be created or used you must create a specific account on the SQL server.

Account: TWAdmin
Password: tw

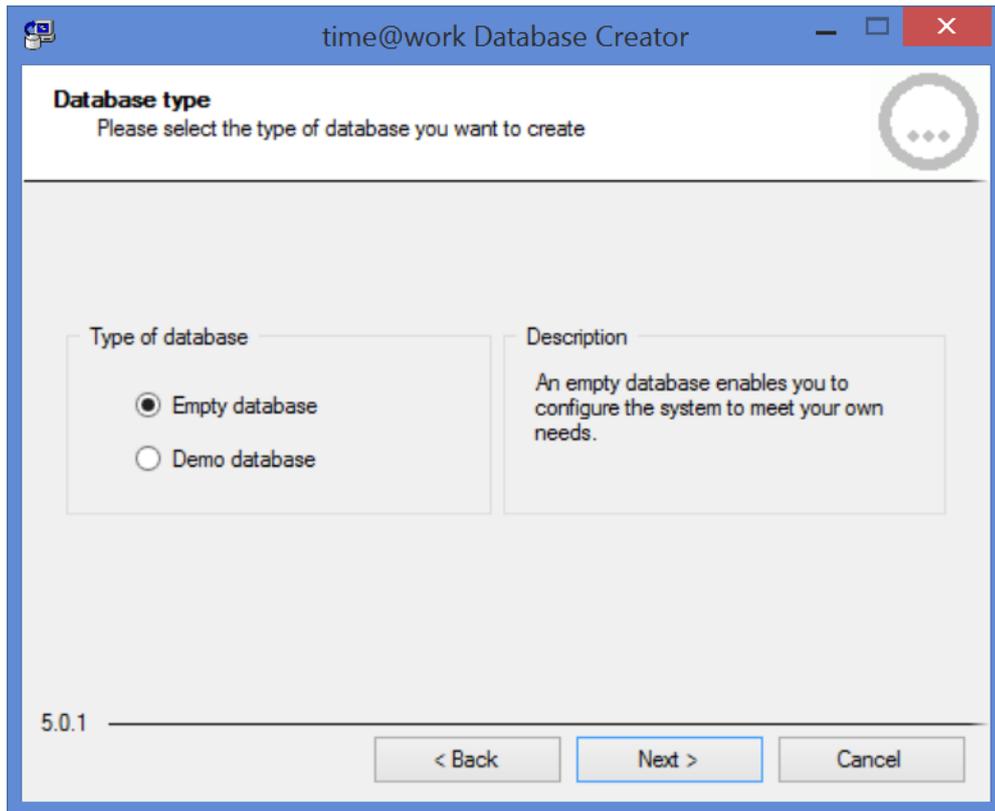
If you would like to establish a more sophisticated password, then see below – *Enhancing Database Security*.

Database Creation

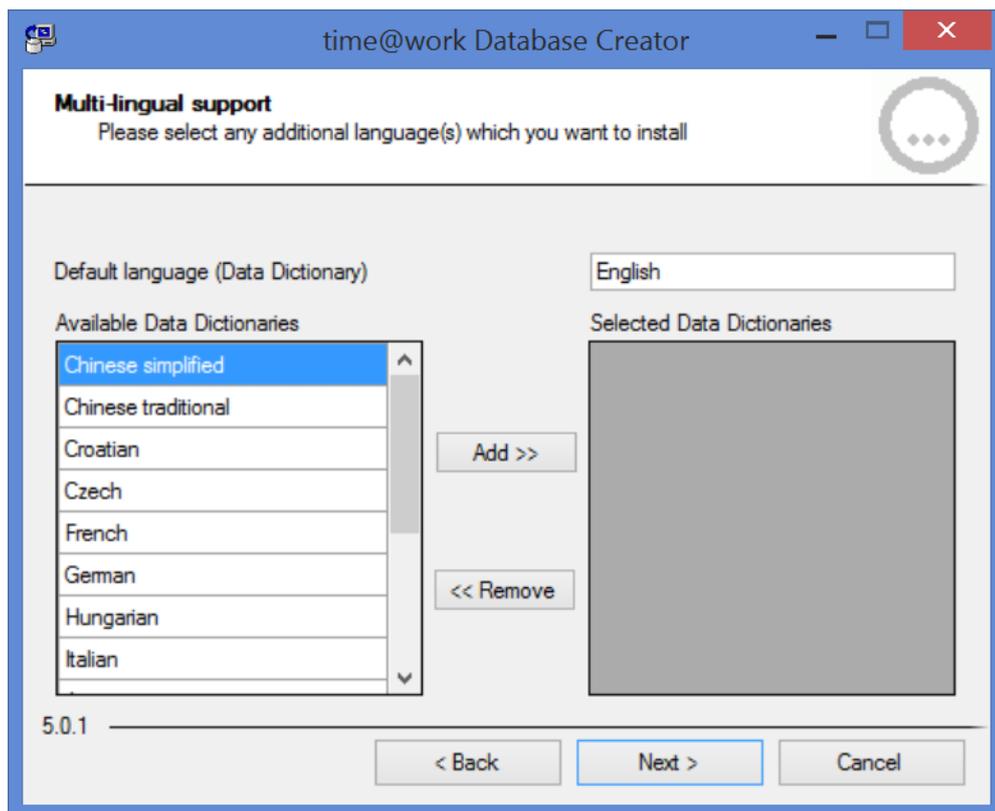


The Database Creator can be used to create a new, empty, database or to install the Demonstration Database.

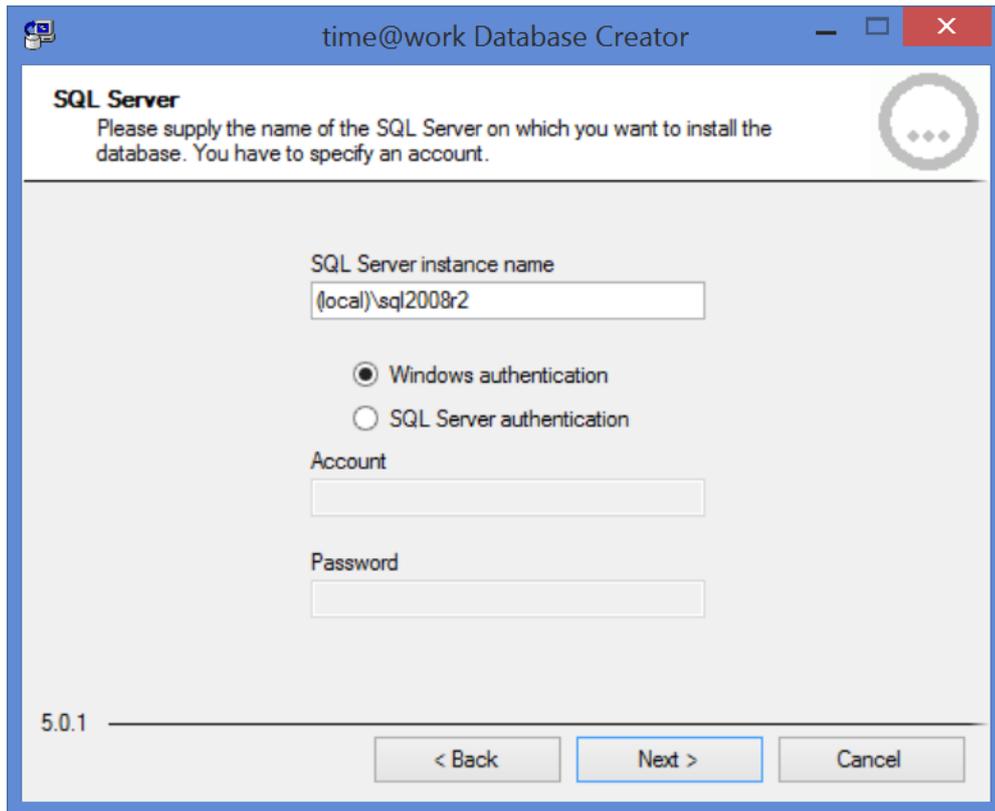
The next step in the Wizard allows you to make this choice.



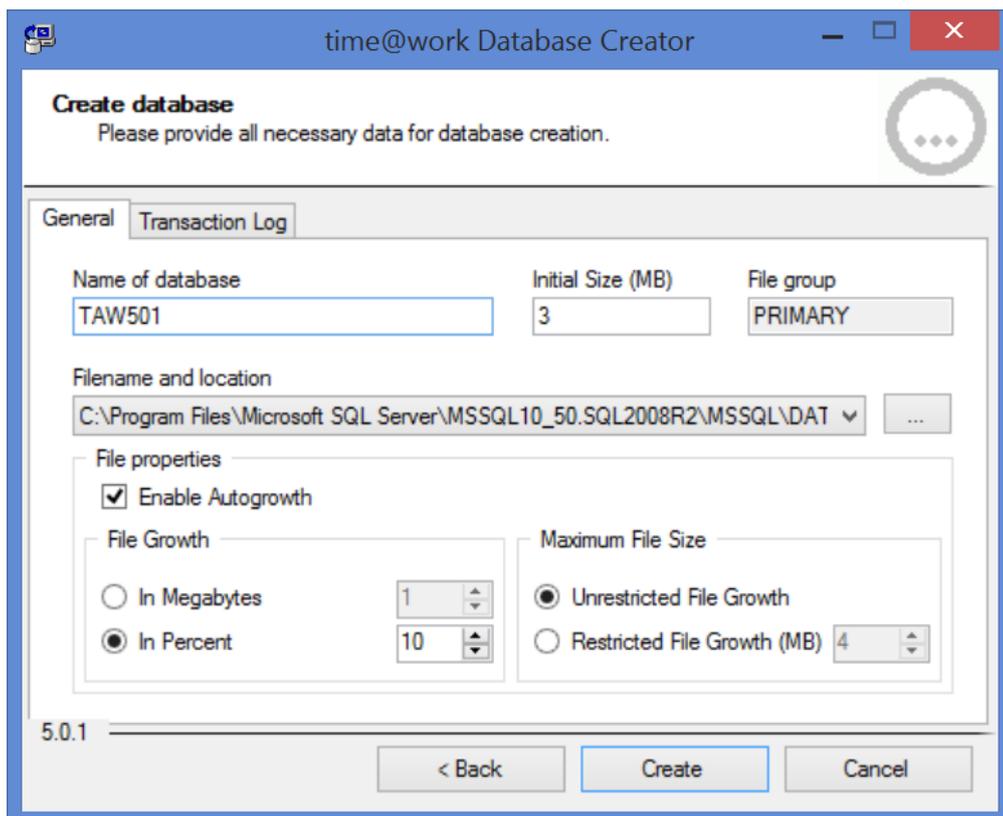
You may also specify which additional languages (Data Dictionaries) are to be installed.

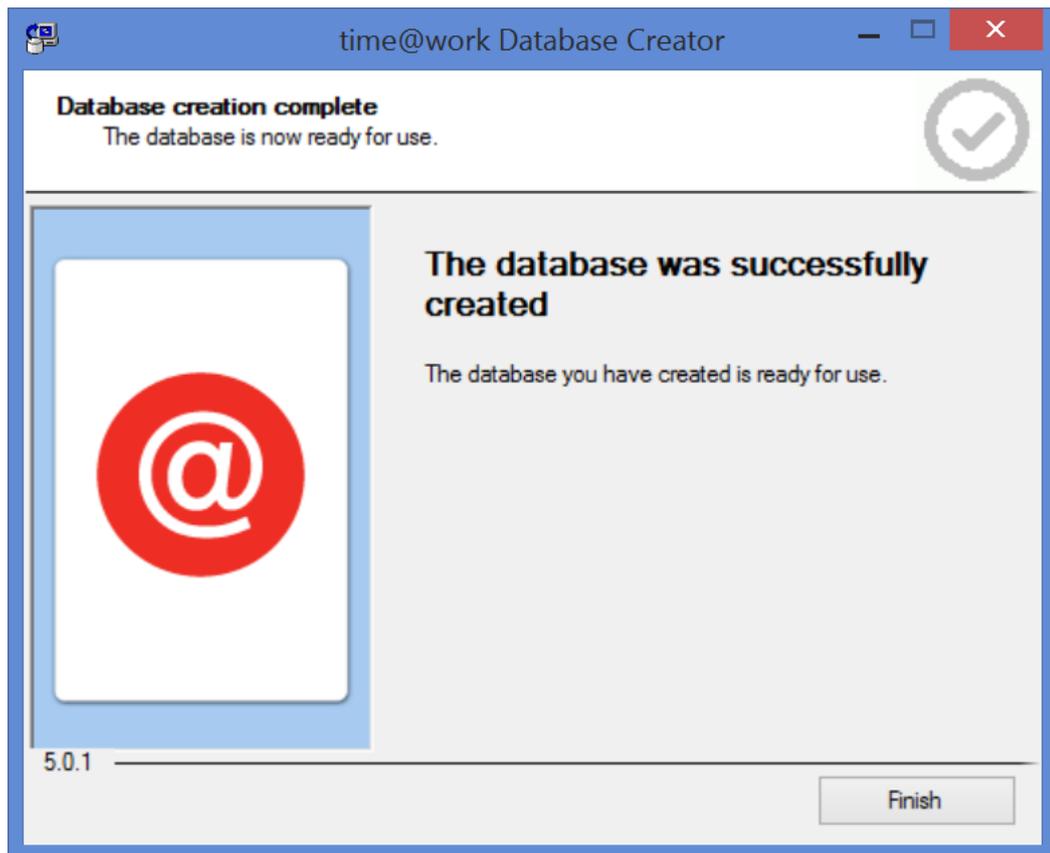
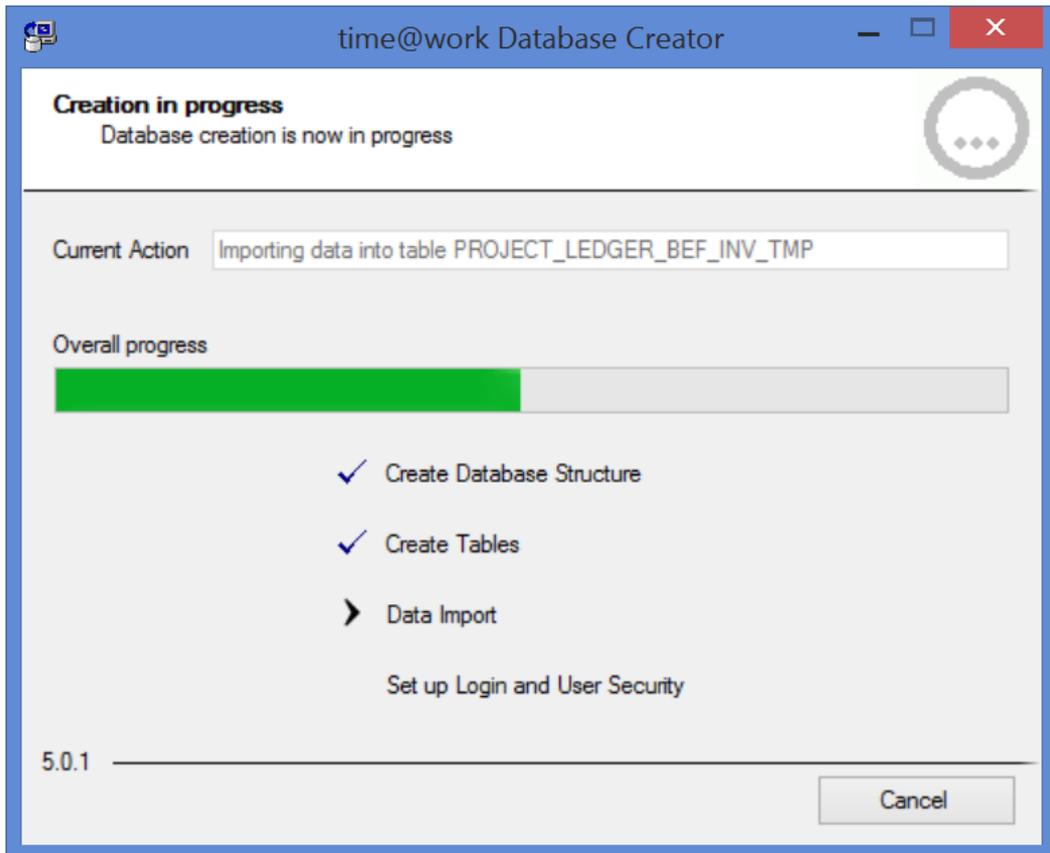


Specify the SQL server and login credentials.



Specify the name of the database, its initial size, and the initial size of the log file.





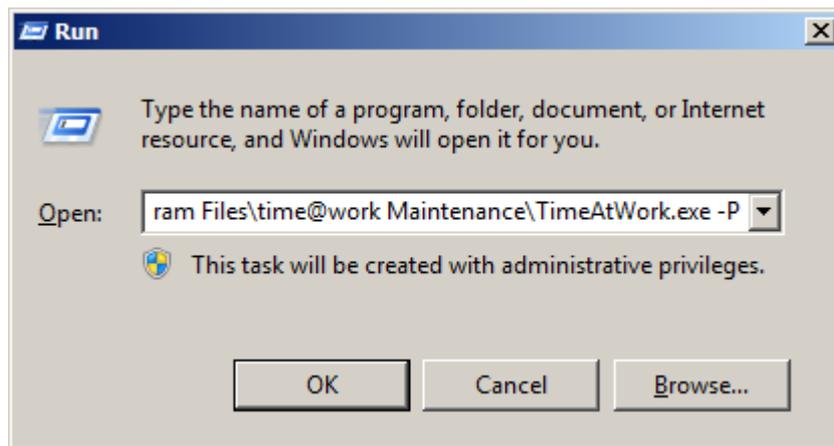
Enhancing Database Security

If you need more sophisticated security for your database, then you may choose either to use:

- Windows Integrated Security, or
- A more sophisticated password

Windows Integrated Security

First, you must run systems@work Maintenance from the command line, as follows:

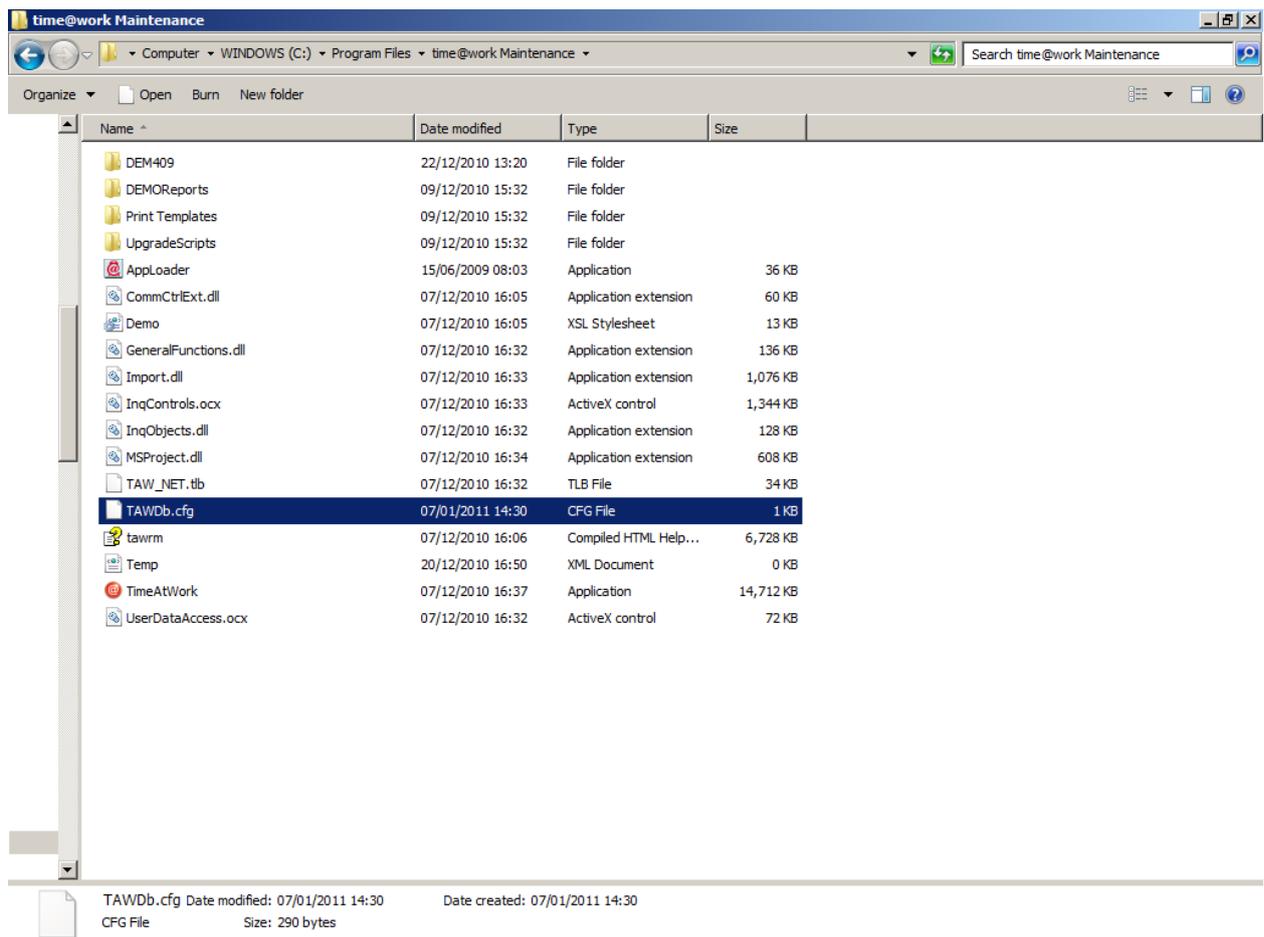


Click OK

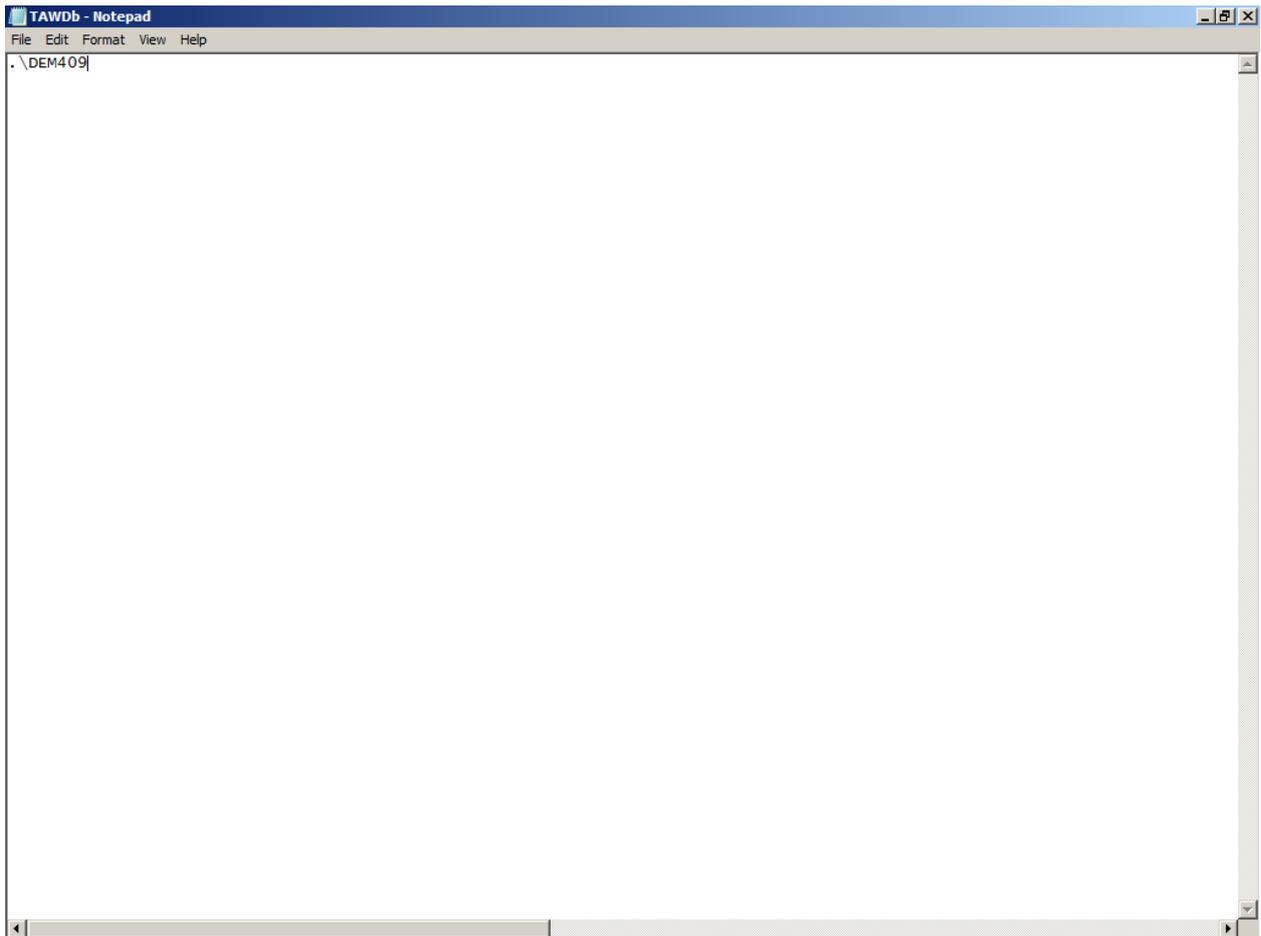


Check the 'Use Windows Integrated Security' checkbox and click OK.

This step will have created a new file in your systems@work Maintenance folder.



The content of this file is as follows:



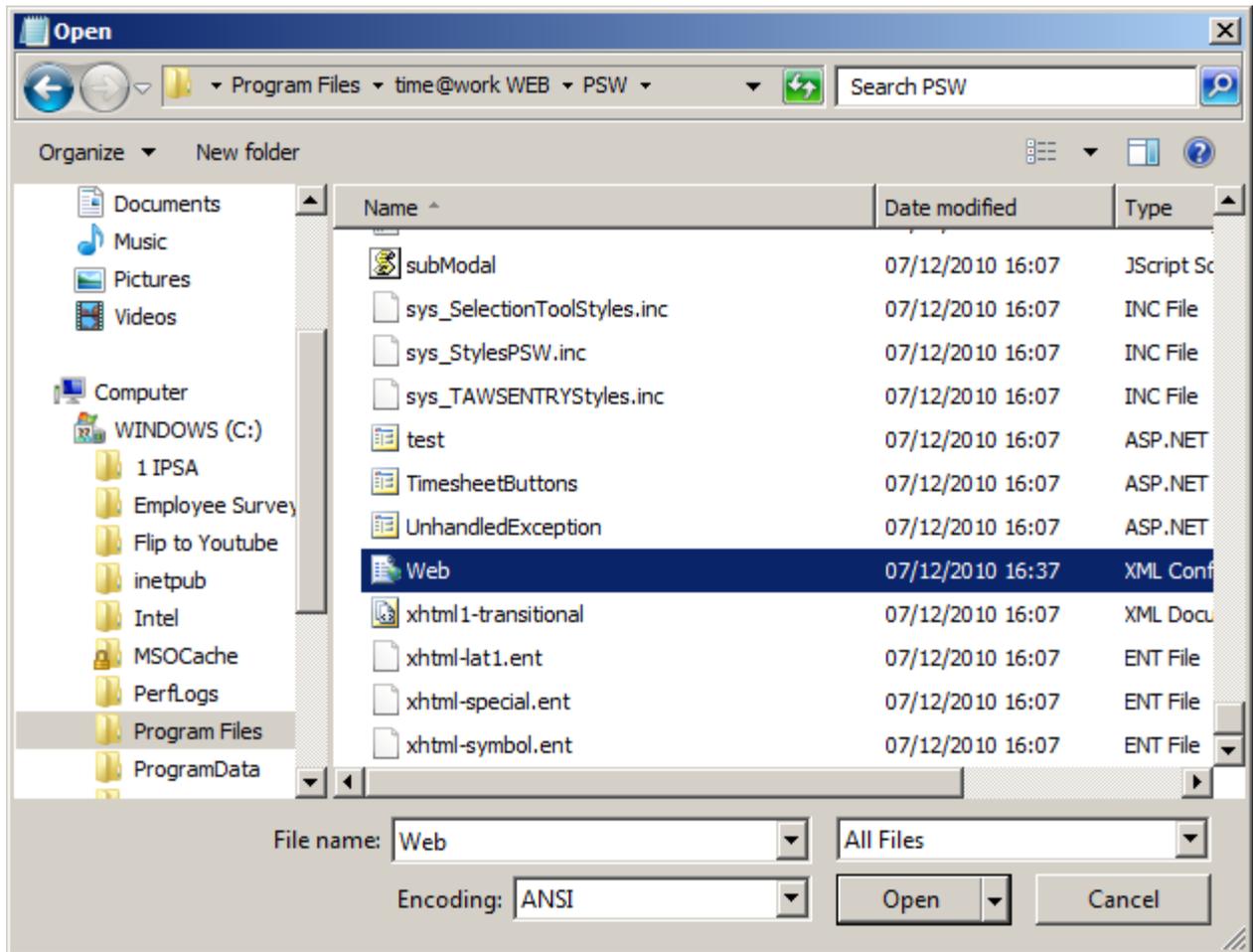
For each database that you wish to access there must be a row in this file.

You can create a new row in this file in two ways:

- Running systems@work Maintenance again from the command line (as above) with a different database specified, or
- Copying the first row to a new row and amending the database name

Note that this TAWDb.cfg file must be present in the folder from which systems@work Maintenance (and the Task Scheduler) is run. When systems@work Maintenance is installed on user PCs (rather than accessed using remote desktop), this can mean that the file must be copied to many locations.

The final step is to make your list of databases accessible to the systems@work Web application. To do this you must copy all rows in TAWDb.cfg to the Web.config file that can be found in systems@work Web (on the IIS server).



Find the part of the file that contains these tags:

```
</appSettings>
```

```
<!--  
<TAWDbSet  
</TAWDbSet  
-->
```

```

Web - Notepad
File Edit Format View Help

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignon" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" />-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsr002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-AutoStart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableUserTimezoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopUpBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<!--
<TAWDbSet>
</TAWDbSet>
-->

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->
<!--
<mailSettings>
<smtp deliveryMethod="PickupDirectoryFromIis" ></smtp>
</mailSettings>

```

Remove the 'comment' indicators, so that the section now appears as here:

```

Web - Notepad
File Edit Format View Help

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignon" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" />-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsr002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-AutoStart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableUserTimezoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopUpBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<TAWDbSet>
</TAWDbSet>

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->
<!--
<mailSettings>
<smtp deliveryMethod="PickupDirectoryFromIis" ></smtp>
</mailSettings>

```

Place the content of TAWDb.cfg between the TAWDbSet tags as here:

```

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignOn" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--<add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" />-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsr002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-AutoStart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableUserTimeZoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopupBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<TAWDbSet>

.\_DEM409

</TAWDbSet>

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->
<!--

```

Save the Web.config file.

Note that you may find you cannot modify the Web.config file. If this is the case you must ask your system administrator to remove the read-only attribute from the file.

If you are using Windows Integrated Security then you must choose one of two further options:

- Either you must specify each user as having the right to access the systems@work database on the SQL server, or
- You may specify that a single IIS user will be used for database access

In the first case, your database administrator must set up appropriate rights.

In the second case, you may modify the Web.config file in the systems@work Web folder as follows:

```

Web - Notepad
File Edit Format View Help
        trace information will be displayed at the bottom of each page. Otherwise,
        application trace log by browsing the "trace.axd" page from your web applic
<trace enabled="false" requestLimit="10" pageOutput="false" traceMode="sortByTime" localOnly="true" />
<!-- SESSION STATE SETTINGS
        By default ASP.NET uses cookies to identify which requests belong to a part
        If cookies are not available, a session can be tracked by adding a session
        To disable cookies, set sessionState cookieless="true". -->
<sessionState mode="InProc" stateConnectionString="tcpip=127.0.0.1:42424" sqlConnectionString="data source=
<!-- GLOBALIZATION
        This section sets the globalization settings of the application. -->
<globalization requestEncoding="utf-8" responseEncoding="utf-8" culture="en-GB" />
<!--<globalization requestEncoding="shift-jis" responseEncoding="shift-jis" />-->
<!-- IDENTITY IMPERSONATE
        SET this to false on Server 2003 for correct working of Active Directory int
        SET this to true on windows XP. -->
<identity impersonate="false" />
<xhtmlConformance mode="Legacy" />
<httpHandlers>
    <add verb="GET" path="CrystalImageHandler.aspx" type="CrystalDecisions.web.CrystalImageHandler
    <remove verb="*" path="*.asmx" />
    <add verb="*" path="*.asmx" validate="false" type="System.Web.Script.Services.ScriptHandlerFa
    <add verb="*" path="*_AppService.axd" validate="false" type="System.Web.Script.Services.Scrip
    <add verb="GET,HEAD" path="ScriptResource.axd" validate="false" type="System.Web.Handlers.Scri
</httpHandlers>
<pages>
    <controls>
        <add tagPrefix="asp" namespace="System.Web.UI" assembly="System.Web.Extensions, Versi
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls" assembly="System.Web.Exten
    </controls>
</pages>
<httpModules>
    <add name="ScriptModule" type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Versi
</httpModules>
</system.web>
<location path="LinkedDocumentsTool.aspx">
    <!-- 'Ivan Hendrych 18.11.2008 for ver 3.2.0-->
    <system.web>
        <httpRuntime maxRequestLength="4096" executionTimeout="90" />
    </system.web>
</location>
<location path="Login.aspx" inheritInChildApplications="true">
    <!-- 'AH 19.1.2009, ver 3.2.2, bug 3081 -->
    <system.web>
        <authorization>

```

The default 'false' setting must be changed to 'true'.

```

trace information will be displayed at the bottom of each page. Otherwise,
application trace log by browsing the "trace.axd" page from your web applic
<trace enabled="false" requestLimit="10" pageOutput="false" traceMode="sortByTime" localOnly="true" />
<!-- SESSION STATE SETTINGS
By default ASP.NET uses cookies to identify which requests belong to a part
If cookies are not available, a session can be tracked by adding a session
To disable cookies, set sessionState cookieless="true". -->
<sessionState mode="InProc" stateConnectionString="tcpip=127.0.0.1:42424" sqlConnectionString="data source=
<!-- GLOBALIZATION
This section sets the globalization settings of the application. -->
<globalization requestEncoding="utf-8" responseEncoding="utf-8" culture="en-GB" />
<!--<globalization requestEncoding="shift-jis" responseEncoding="shift-jis" />-->
<!-- IDENTITY IMPERSONATE
SET this to false on Server 2003 for correct working of Active Directory int
SET this to true on windows XP. -->
<identity impersonate="true" />
<xhtmlConformance mode="Legacy" />
<httpHandlers>
<add verb="GET" path="CrystalImageHandler.aspx" type="CrystalDecisions.web.CrystalImageHandler
<remove verb="*" path="*.asmx" />
<add verb="*" path="*.asmx" validate="false" type="System.web.Script.Services.ScriptHandlerFai
<add verb="*" path="*_AppService.axd" validate="false" type="System.web.Script.Services.Scrip
<add verb="GET,HEAD" path="ScriptResource.axd" validate="false" type="System.web.Handlers.Scri
</httpHandlers>
<pages>
<controls>
<add tagPrefix="asp" namespace="System.Web.UI" assembly="System.Web.Extensions, Versio
<add tagPrefix="asp" namespace="System.Web.UI.WebControls" assembly="System.Web.Exten
</controls>
</pages>
<httpModules>
<add name="ScriptModule" type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Versio
</httpModules>
</system.web>
<location path="LinkedDocumentsTool.aspx">
<!-- 'Ivan Hendrych 18.11.2008 for ver 3.2.0-->
<system.web>
<httpRuntime maxRequestLength="4096" executionTimeout="90" />
</system.web>
</location>
<location path="Login.aspx" inheritInChildApplications="true">
<!-- 'AH 19.1.2009, ver 3.2.2, bug 3081 -->
<system.web>
<authorization>

```

More Sophisticated Password

The default password used by systems@work software for accessing the SQL server is a simple two-character password (tw).

To create a more sophisticated password you must follow these steps:

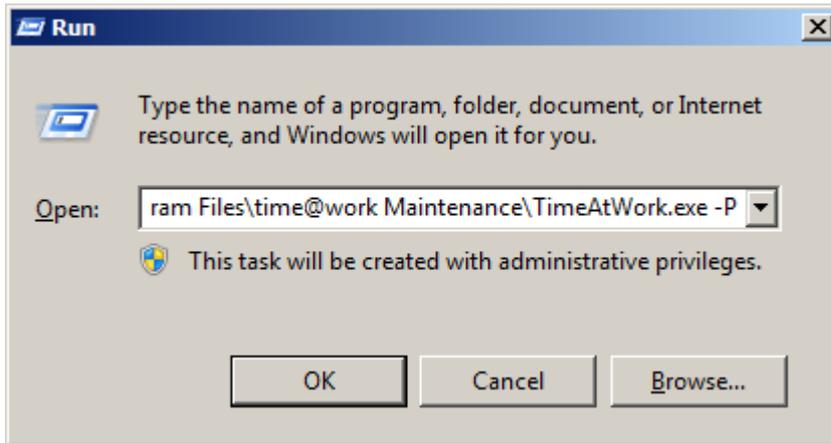
- Amend the password in the SQL server for the account TWAdmin
- Enable systems@work software to use the new password for a specific database

Amending SQL server password for account TWAdmin

This is a task that will be familiar to your database administrator.

Enabling systems@work software to use a new password

First, you must run systems@work Maintenance from the command line, as follows:



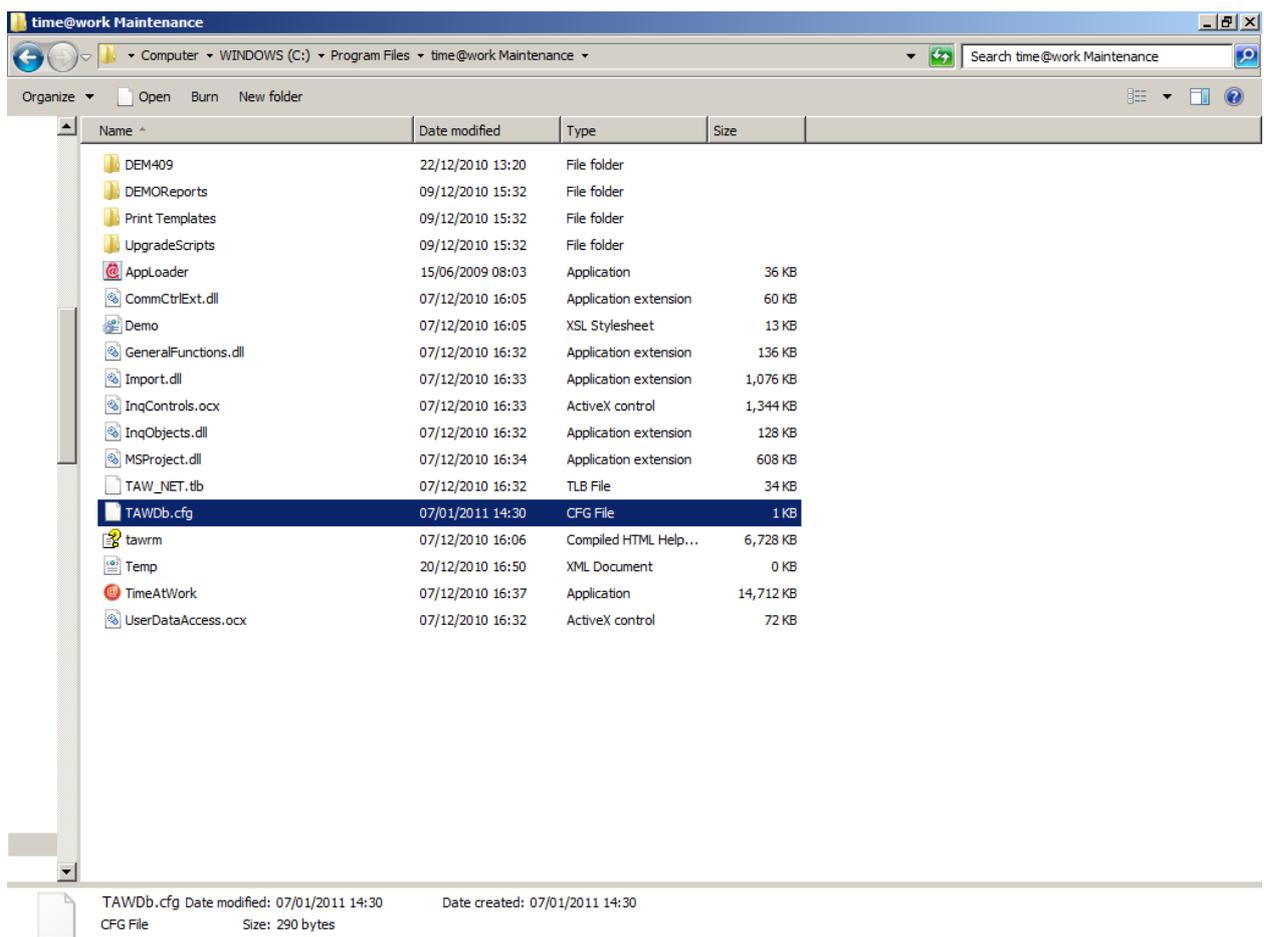
Click OK

You will see a new Window where you may specify the new password.



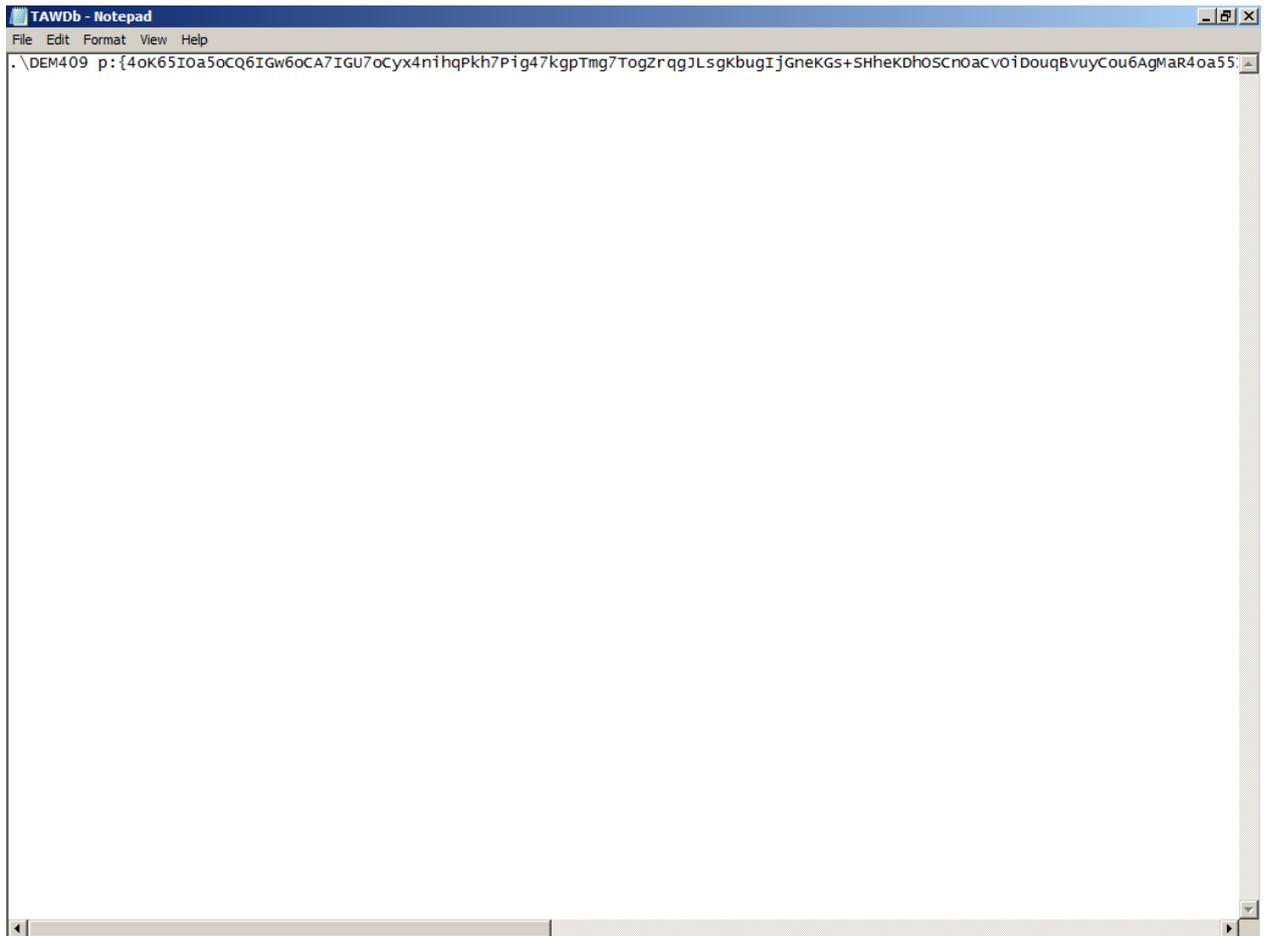
Enter the more sophisticated password that you have specified for the TWAdmin account and click OK.

This step will have created a new file in your time@work Maintenance folder.



You should now copy this file to the time@work Task Scheduler folder.

The content of this file is as follows:



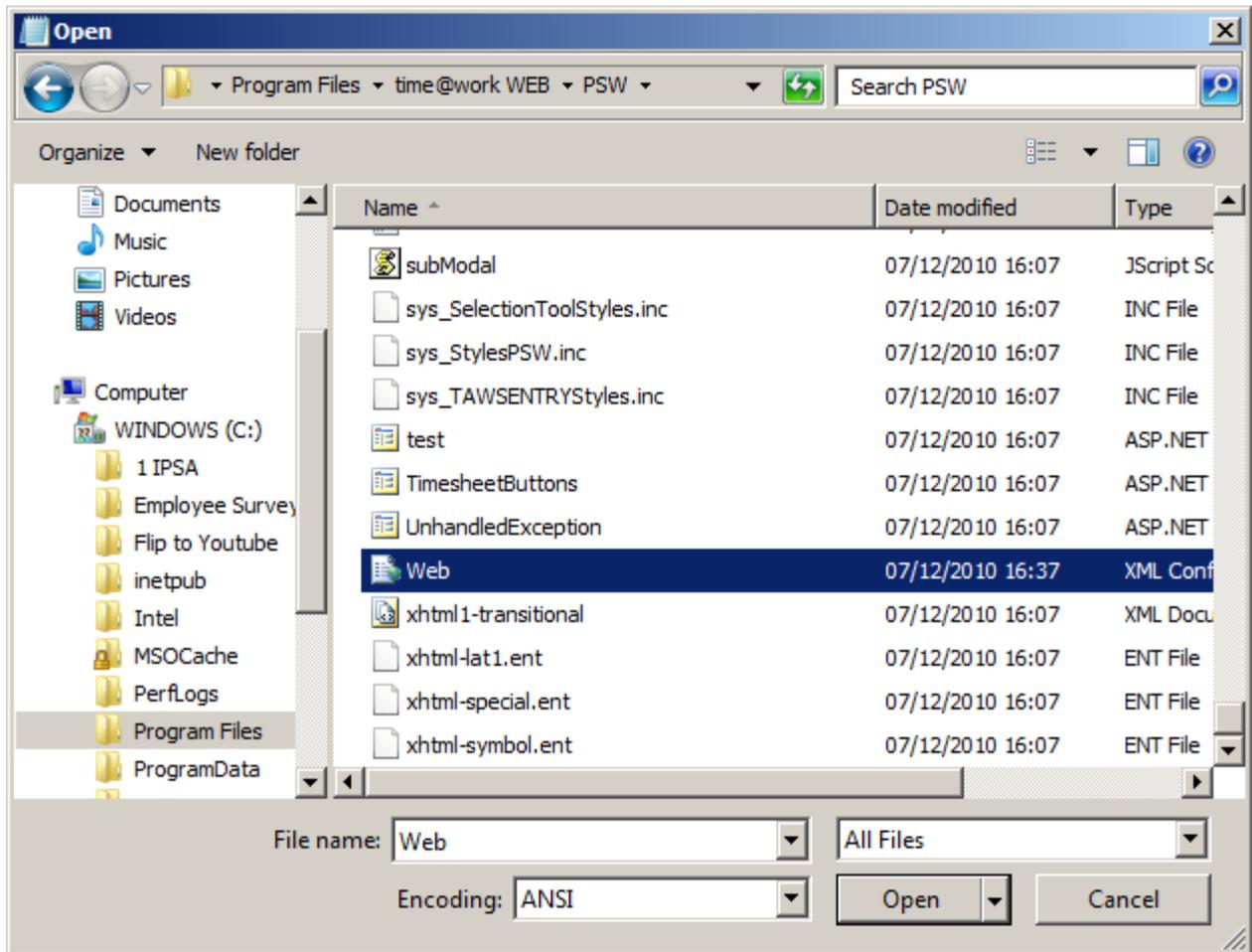
For each database that you wish to access there must be a row in this file.

You can create a new row in this file in two ways:

- Running systems@work Maintenance again from the command line (as above) with a different database specified, or
- Copying the first row to a new row and amending the database name

Note that this TAWDb.cfg file must be present in the folder from which systems@work Maintenance (and the Task Scheduler) is run. When systems@work Maintenance is installed on user PCs (rather than accessed using remote desktop), this can mean that the file must be copied to many locations.

The final step is to make this new password accessible to the systems@work Web application. To do this you must copy all rows in TAWDb.cfg to the Web.config file that can be found in systems@work Web (on the IIS server).



Find the part of the file that contains these tags:

```
</appSettings>
```

```
<!--
<TAWDbSet>
</TAWDbSet>
-->
```

```

Web - Notepad
File Edit Format View Help

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignon" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" />-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsr002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-AutoStart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableUserTimezoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopUpBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<!--
<TAWDbSet>
</TAWDbSet>
-->

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->
<!--
<mailSettings>
<smtp deliveryMethod="PickupDirectoryFromIis" ></smtp>
</mailSettings>

```

Remove the 'comment' indicators, so that the section now appears as here:

```

Web - Notepad
File Edit Format View Help

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignon" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" />-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsr002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-AutoStart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableUserTimezoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopUpBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<TAWDbSet>
</TAWDbSet>

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->
<!--
<mailSettings>
<smtp deliveryMethod="PickupDirectoryFromIis" ></smtp>
</mailSettings>

```

Place the content of TAWDb.cfg between the TAWDbSet tags as here:

```

Web - Notepad
File Edit Format View Help

<add key="UseActiveDirectory" value="no" />
<add key="SingleSignon" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--<add key="TESTINGDOMAIN" value="LDAP://DC=test,DC=testing,DC=com" /-->

<!-- Login Screen Configuration -->
<add key="Version" value="Version 4.0.9" />
<add key="_Server" value="czsm002" />
<add key="_Database" value="ziva316" />
<add key="HideLoginParams" value="no" />

<!-- PSW Header Configuration-->
<add key="HeaderText" value="" />

<!-- Crystal Component Configuration -->
<add key="PrintPDF" value="no" />
<add key="CrystalImageCleaner-Autostart" value="true" />
<add key="CrystalImageCleaner-Sleep" value="60000" />
<add key="CrystalImageCleaner-Age" value="120000" />

<!-- WEB Application Advanced Configuration -->
<add key="_PoolSize" value="100" />
<add key="EnableuserTimezoneCorrection" value="yes" />
<add key="_DisableGlobalErrorHandling" value="yes" />
<add key="ShowDateTimeInfo" value="no" />
<add key="_AvailableServers" value="http://localhost/product/PSW" />
<add key="EnableImmediateLoginAfterProcessRestart" value="no" />
<add key="PopUpBlockerIsOn" value="no" />
<add key="ReportsAudit" value="yes" />
<add key="DataForApprovalIndication" value="yes" />

</appSettings>

<TAWDbSet>
I:\DEM409 p:\{40K6510a50cQ6IGW60CA7IGU7oCyx4nihqPk7Pig47kpgTmg7TogZrqqJLsgkbugIjGneKGS+SHhekDh0Scnoacv0iDouqBvuyC0u6AgMaR4oa55...
</TAWDbSet>

<system.net>
<!-- Uncomment this section below to suppress sending e-mails through Network and
start sending e-mails via Local IIS. Note that IIS SMTP Service MUST be running!!!! -->

```

Save the Web.config file.

Note that you may find you cannot modify the Web.config file. If this is the case you must ask your system administrator to remove the read-only attribute from the file.

Configuring the systems@work Browser Applications

There are two Browser Applications provided with systems@work:

- The Employee Interface

The Employee Interface enables Employees to enter, authorise and review Timesheets and Forms, view reports, approve transactions, maintain reference data, browse an Employee Index and read News published from systems@work Maintenance.

- The Customer Services Workbench

The Customer Services Workbench enables Customer Employees to view reports published from systems@work Maintenance and to approve transactions.

The following lists the virtual directories that are created by the Installation procedure, if you choose the IIS configuration checkbox. The name of the virtual directory will depend on the options you have chosen:

	32-bit	64-bit
expense@work	EAW	EAW64
time@work	TAW	TAW64
forms@work	FAW	FAW64

systems@work systems Web applications do not work if these virtual directories have other names.

You may then start to use the virtual directories which the installation process has created, using:

browser interface	<i>http://urlname/TAW/Login.aspx</i>
CSW	<i>http://urlname/TAW/LoginClientEmployee.aspx</i>

The mobile application can be accessed using:

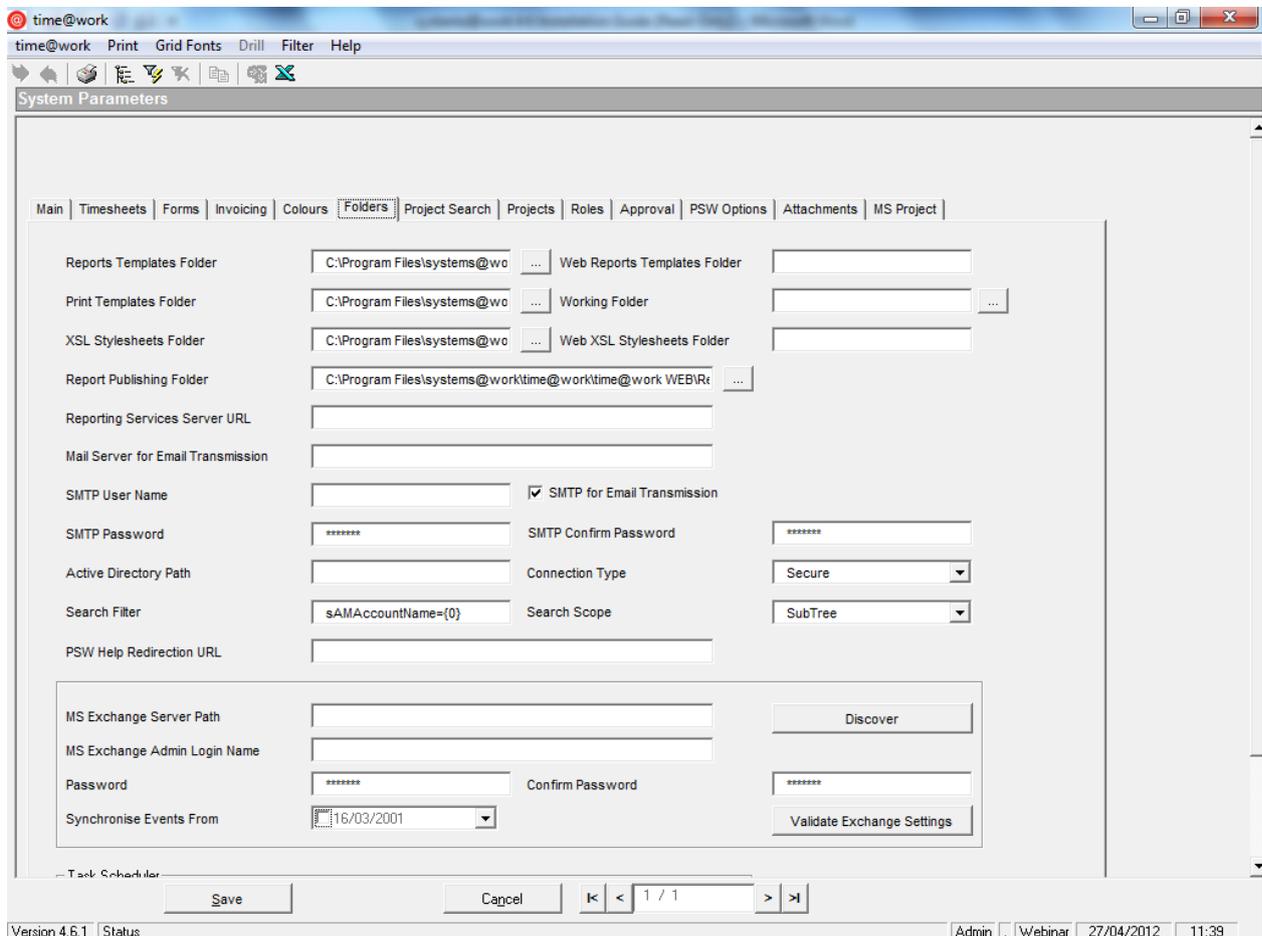
browser interface	<i>http://urlname/TAW/LoginMobile.aspx</i>
--------------------------	---

(Note that these URLs are for the 32-bit time@work application.)

Folder Permissions

systems@work Maintenance and the files and folders it uses:

When the systems@work DBCreator creates a database it creates a number of folders and assigns them in the System Parameters folders tab as follows:



This is not ideal when systems@work Maintenance needs to access folders across a network.

In this case you should use 'shared folders'. For example, this table shows how server local paths can be redefined as shared folders and entered into System Parameters in time@work using the 'shared folder' name.

Directory	Local path	Defined	UNC
CR Templates	C:\Program Files\time@work Maintenance\TAW\Reports	Yes	\\TRP-SVR1\TAW\Reports
Print Templates	C:\Program Files\time@work Maintenance\Print Templates	Yes	\\TRP-SVR1\TAWPrintTemplates
XSL	C:\Program Files\time@work Maintenance\TAW\XSL	Yes	\\TRP-SVR1\TAW\XSL
Report Publishing	C:\Program Files\time@work WEB\Browser interface\Reports	Yes	\\TRP-SVR1\TAWWebReports

Granting Shares so that systems@work users may use templates and publish reports:

In respect of:

- the root folder created under the systems@work Maintenance folder (in this case TAW)
- the Print Templates folder (created by systems@work installation) TAWPrintTemplates
- the Web Publishing folder (created by systems@work installation) TAWWebReports

you must grant 'Modify' access rights (at the NTFS level) to all Users who are using systems@work Maintenance through the network.

Granting folder access so that browser interface users can use the system (when active directory authentication is not used):

Appropriate rights are created by the installation procedure.

Getting Started - Client Server Interface

Logging in

Access to systems@work systems is protected by user names and passwords. Each User is associated with an Access Profile, which grants particular rights.

The functionality you can access is also determined by the serialization code you have been given.

When installation of the system is complete you may access the system using a user name which has been prepared by the installation process.

User Name: Admin

This user name has no password.

It is essential that you apply password protection to this User immediately so that you can prevent unauthorised access to the system (See below – Setting Up Users).

System Navigation

Once you have logged on to the system you will see a screen which is divided into a number of different regions:

- Menu Bar
- Tool Bar
- Menu Tree
- Work Area
- Status Bar

Menu Bar

systems@work	Tool Bar, Status Bar, Log Off and Exit
Print	Invokes a dialogue for printing from the current table
Grid Fonts	Invokes a dialogue for changing the font used in Work Area grids
Drill	Activated to enable Drilldown and Up (e.g. Client to Project)
Filter	Filter by Selection, Cancel Filter
Help	Help, About systems@work

Tool Bar

Drill Down, Drill Up, Print, Menu Tree, Filter by Selection, Cancel Filter, Copy, Data Import, MS Project Integration, etc.

These icons are activated and deactivated according to context.

Menu Tree

Menu trees are customisable for groups of users to limit and grant access to different screens within systems@work. The menu tree which you see will depend upon your Access Profile (and serialisation code).

Clicking on an item in the menu will expand the item or initiate a procedure depending on your current level.

The system is divided into several main groups of menu items:

Set Up	This group of menu items contains screens which you will use during the configuration of systems@work for your own organisation. Only the system administrator will require regular access to the screens in this group.
Maintenance	This group of menu items contains screens which you will use for the maintenance of standard but regularly changing data in the system, such as lists of employees, clients, projects and tasks.
Security	This group of menu items contains screens which you will use for the configuration of system security, such as for the definition of Users and Access Profiles. Access to this group of screens should be carefully limited.
Procedures	This group of screens controls regular tasks such as the generation, routing and posting of Timesheets, transaction modification, client and inter-company invoicing, the import and export of data, etc.
Reporting	This group of screens controls report definition and the generation and transmission of reports.
Accounting	This group of menu items includes screens which you will use for the configuration of charts of accounts, account groups and definitions for the generation of accounting transactions from the Project Transaction File.
Database Administration	This group enables the system administrator to create indexes on the Project Transaction File, serialise systems@work, purge some auxiliary data tables and import data into systems@work.

Work Area

The system work area will contain different content according to context:

- Subordinate menu items

If the current item in the menu structure is not the lowest, the work area will contain a list of menu items at the next level.

By clicking on one of these in the work area you may select and/or expand a particular menu item at this next level.

Alternatively, by clicking on an item in the menu area you may expand and/or contract a menu item. This will modify the content of the work area.

- Data Grid

If the current item in the menu structure names an entity in the system (e.g. Employees, or Projects, or Calculations) the work area will contain a grid. All attributes of the entity will be shown in columns and each row will represent an instance of the entity (such as a particular Employee, Project or Calculation).

Standard grid controls allow you to navigate within the grid.

Using the Filter by Selection icon or Menu item you may filter by the value contained in the cell which you have in focus.

A set of standard buttons provide individual row maintenance functions:

<i>Create</i>	Provides an empty form for the addition of a row.
<i>Edit</i>	Provides a form view of the current row for data modification.
<i>Delete</i>	Deletes the current row (subject to confirmation).

Additionally, you may sort the grid by clicking on the appropriate column heading.

You may also highlight a number of rows for printing.

You may freeze columns for scrolling by dragging the leftmost border to a new position.

You may move a column to a new position by dragging a column header and releasing it in a new position.

By double-clicking on a row (or any cell in the row) you will switch to a data maintenance form for the current row. This has the same effect as using the Edit button.

Some grids are related to others, and when this is the case the Drill Down button on the Tool Bar may become active, allowing you to move to a grid of data (such as Projects from Clients) related to the current row. The Drill Up button on the Tool Bar enables you to return to the grid from which you started.

- Data Maintenance Form

By double clicking on a row within a data grid you will invoke a data maintenance form.

You must use a data maintenance form when creating or modifying data. You may also use the form when you wish to delete data from the database.

Some forms contain subordinate tabbed forms, which group related data when there are a large number of attributes for an entity.

There are standard buttons on every data maintenance form:

<i>Create</i>	This will save the data you have entered or modified (unless there are errors, in which case you will be asked to correct the data you have entered or modified) and present you with a new and empty form.
<i>Save</i>	This will save the data you have entered or modified (unless there are errors, in which case you will be asked to correct the data you have entered or modified).
<i>Delete</i>	This will delete the current record (unless there are reasons why this is not possible). The next record in the table will be shown (or the last in the table if the deleted record was formerly the last).
<i>Cancel</i>	This will cause any modifications to fields within the form to be abandoned. A data grid will be displayed within the work area. If you have used the Drill Down button on the Tool Bar then the Cancel Button will result in the former data grid being displayed (for example, Cancel from Projects will return you to the Clients data grid).

Status Bar

A bar at the bottom of the screen shows the User's current status:

- User Name
- Server
- Database
- Date
- Time

Getting Started – Browser interface

There are two quite separate Browser applications for systems@work systems:

- Browser interface - A service which provides Timesheet and Form Entry and Authorisation, and other functionality such as Employee Index, Reports, Approval and News.

<http://urlname/TAW/Login.aspx> or
<http://urlname/TAW/LoginMobile.aspx>

<http://urlname/EAW/Login.aspx> or
<http://urlname/EAW/LoginMobile.aspx>

- Customer Services Workbench - A service which provides Report viewing functionality to Customer Employees and Approval.

<http://urlname/TAW/LoginClientEmployee.aspx>

Serialisation

Once you have installed systems@work you should apply the serialisation code supplied with the product to serialise any databases you have created. This will switch on the system in respect of the functionality for which you have been licensed for the appropriate number of Employees, Users and Client Employees.

Access to systems@work systems functionality is determined by the licence that you buy.

Essentially you are buying:

- Users
- Features

Users

Timesheet Users – This limits the number of open Employees in the system

Form Users – This limits the number of open Employees in the system.

CSW Users – This limits the number of Customers who can be defined with a login name and password using the Maintenance form *Customer Employees* to enable access to the Customer Services Workbench.

Features

A certain level of functionality is assumed:

- Timesheet Entry
- Form Entry (and transfer to Accounting)
- Reporting

You may additionally be licensed to use:

- Invoicing (including Planned Invoices, Invoice Allocation, Work in Progress Invoicing and Ad-hoc Invoicing)
- Planning (including Budgeting and Resource Management)
- International

Multicompany – This will allow you to set up more than one Company using systems@work Maintenance. This is convenient (indeed almost essential) if you intend to use the system for more than one legal entity.

Multilanguage – This will allow you to set up more than one Data Dictionary, and thus to provide Users and Employees with alternative language templates.

Multicurrency – This enables you to set up multiple currencies and to use the currency conversion mechanism

Each licence for systems@work systems has a unique Serial Number. This *serial number*, in combination with an *Entity ID* (the name of the legal entity for which use of systems@work is licensed), a *starting date* and *number of days validity*, and the precise combination of *Users and Features* is used to generate a *Serialisation Code*.

A serialisation code is provided to you when you purchase a license for systems@work.

Click on the New Serialisation button and enter your serialisation code in two parts.

The screenshot shows a 'Serialisation Settings' dialog box. It contains the following elements:

- Users:** Three input fields for 'Timesheet Users', 'Form Users', and 'CSW Users', each with the value '10'.
- Modules:** Three checked checkboxes for 'Invoicing', 'Planning', and 'International'.
- Current Serialisation Code:** A section with five input fields: 'Entity ID', 'Serialisation Code', 'Serial Number' (containing '1236547836'), 'Starting Date' (containing '12/04/2012'), and 'Validity' (containing '30').
- Buttons:** 'Cancel' and 'Serialise' buttons at the bottom right.

Click on Serialise to activate the code.

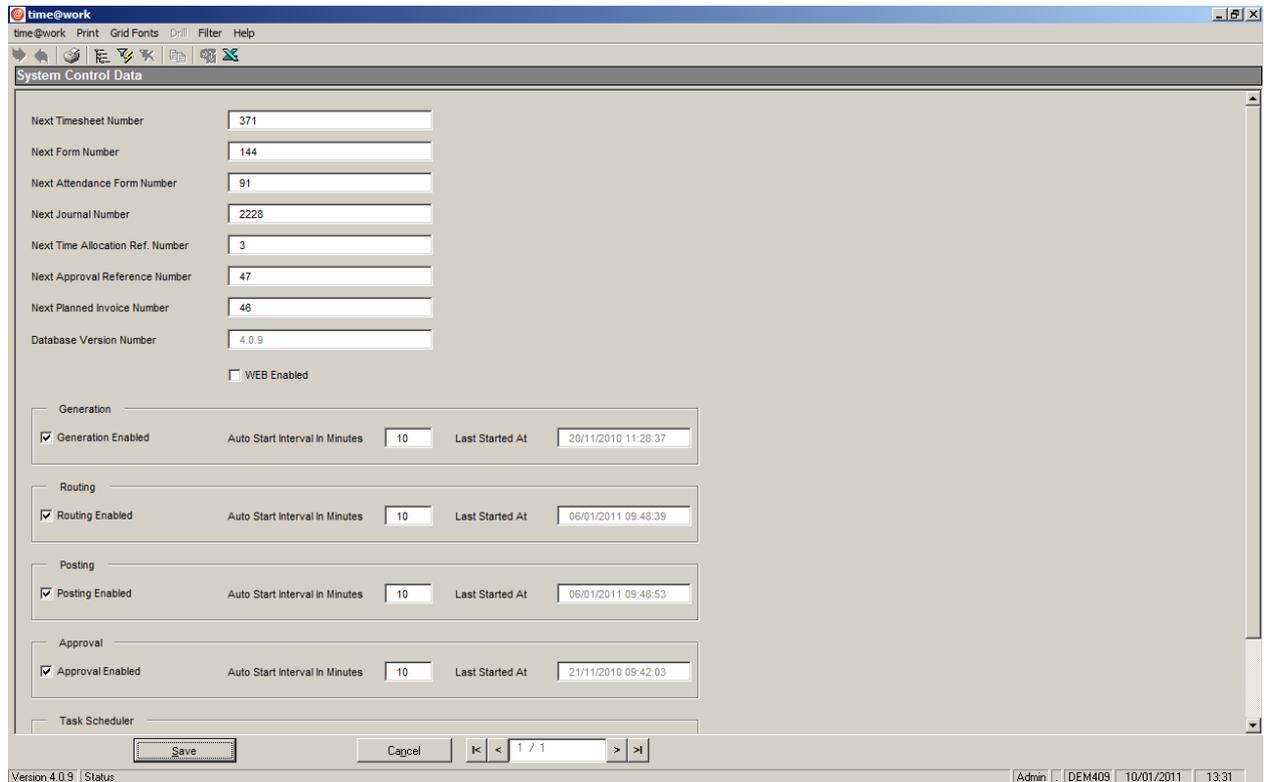
systems@work systems decode the serialisation code and will show you the values for Serial Number, Entity ID, and so on, from which the code has been generated and which reflect your license. Check that these details meet your expectations.

Contact your supplier if your serialisation fails or if the decoded details appear to be incorrect.

Database Upgrades

Database upgrades between versions are automatic. Each new installation will contain an upgrade script, which will be automatically invoked (subject to confirmation) when the systems@work Maintenance program detects an inconsistency between the version of the database and the version of the system.

The database version is shown in the System Control table:



You must make sure you backup your database before installing a new version of the system, since upgrade scripts cannot automatically be reversed.

Active Directory

By default systems@work browser interface login uses internally-held user names and passwords.

If you are using Active Directory technology you may bypass this step, so that users who are logged in to your Active Directory will no longer have to specify username and password and will, when they invoke systems@work browser interface, go directly to the Home Page.

When setting up the system for Active Directory use you will have to make changes to System Parameters and to the Web.config file.

System Parameters

The screenshot shows the 'System Parameters' configuration window in the systems@work application. The window has a menu bar with 'time@work', 'Print', 'Grid Fonts', 'Drill', 'Filter', and 'Help'. Below the menu bar is a toolbar with various icons. The main content area is titled 'System Parameters' and contains several sections of configuration options:

- Main** (selected): Timesheets, Forms, Invoicing, Colours, **Folders**, Project Search, Projects, Roles, Approval, PSW Options, Attachments, MS Project
- Crystal Reports Templates Folder**: C:\Program Files\time@work Maintenance\DEM409\Reports
- Print Templates Folder**: C:\Program Files\time@work Maintenance\Print Templates
- XSL Stylesheet Folder**: C:\Program Files\time@work Maintenance\DEM409\XSL
- Report Publishing Folder**: C:\Program Files\time@work WEB\PSW\Reports
- Mail Server for Email Transmission**: (empty text box)
- SMTP User Name**: (empty text box) SMTP for Email Transmission
- SMTP Password**: (masked with asterisks) **SMTP Confirm Password**: (masked with asterisks)
- Active Directory Path**: (empty text box)
- Connection Type**: Secure (dropdown menu)
- Search Filter**: sAMAccountName={0} **Search Scope**: SubTree (dropdown menu)
- PSW Help Redirection URL**: (empty text box)
- MS Exchange Server Path**: (empty text box)
- MS Exchange Admin Login Name**: (empty text box)
- Password**: (masked with asterisks)
- Confirm Password**: (masked with asterisks) **Validate Exchange Settings** (button)

At the bottom of the window, there is a 'Task Scheduler' checkbox, a 'Save' button, a 'Cancel' button, and a page navigation control showing '1 / 1'. The status bar at the very bottom displays 'Version 4.0.9 | Status' on the left and 'Admin | DEM409 | 07/01/2011 | 15:25' on the right.

There are four relevant fields:

Active Directory Path	Enter the LDAP connection string (for example 'LDAP://DC=company')
Connection Type	Choose 'Secure' if your LDAP server is Windows based
Search Filter	Enter the Search Filter (for example 'sAMAccountName={0}' if your system is Windows based)
Search Scope	Choose 'SubTree' if your LDAP server is Windows based

Web.config

In order to use an Active Directory in this way, the following settings are required:

Here in the appSettings section of the file there are several parameters that affect systems@work.

The ones that are relevant to Active Directory are:

- "UseActiveDirectory" which must be set to "yes"
- "SingleSignIn" which should be set to "yes" if you want to login automatically to the browser interface Home Page (without entering a password)
- "SingleSignIn" which should be set to "no" if you require users to enter their active directory password again before showing the browser interface Home Page
- "EnableStandardLogin" which should be set to "yes" if you want to enable standard login through the browser interface login page in the event of Active Directory login failure. In this case authentication is not through Active Directory but via the password and login name on the Employee record. (This is useful when you have external consultants using time@work or when you are accessing the browser interface from outside the Active Directory environment.)
- "LoginPrefill" which should be set to "no" if you wish to enable users to modify the login name when accessing the browser interface
- "EnableDomainChange" which should be set to "yes" if your users belong to multiple domains. In this case you must use the "add key" tag to specify each domain

```
<!-- Active Directory Configuration -->
<add key="UseActiveDirectory" value="no" />
<add key="SingleSignIn" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--<add key="TESTINGDOMAIN"
value="LDAP://DC=test,DC=testing,DC=com" />-->
```

Ensure that the *deny users* parameter is set as below.

```
<authorization>
  <deny users="?"/>
  <allow users="*/>
  <!-- Allow all users -->
  <!-- <allow users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
  <deny users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
-->
</authorization>
```

Disabling Active Directory

In order to disable use of an Active Directory, the following settings are required:

“UseActiveDirectory” must be set to “no”.

```
<!-- Active Directory Configuration -->
<add key="UseActiveDirectory" value="no" />
<add key="SingleSignOn" value="no" />
<add key="EnableStandardLogin" value="no" />
<add key="LoginPrefill" value="yes" />
<add key="EnableDomainChange" value="no" />
<!--<add key="TESTINGDOMAIN"
value="LDAP://DC=test,DC=testing,DC=com" />-->
```

Furthermore, if you are not using Active Directory, then you can choose whether to allow non-authenticated users access to systems@work’s browser interface.

By default, after installation, the system will not allow non-authenticated access. This is because the *deny users* parameter is enabled.

To allow non-authenticated users you must disable the *deny users* parameter. Here are the two settings:

Non-authenticated users are prevented from accessing system@work’s browser interface:

```
<authorization>
  <deny users="?"/>
  <allow users="*/>
  <!-- Allow all users -->
  <!-- <allow users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
  <deny users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
-->
</authorization>
```

(Note that if non-authenticated access is attempted, the employee has the opportunity to authenticate by entering domain name and password.)

Non-authenticated users are allowed to access systems@work's browser interface:

```
<authorization>
  <!--deny users="?"/-->
  <allow users="*" />
  <!-- Allow all users -->
  <!-- <allow users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
  <deny users="[comma separated list of users]"
    roles="[comma separated list of roles]"/>
-->
</authorization>
```

Note

To bypass Active Directory login so that you may login using authentication against usernames and passwords held on Employee records use the standard login URL with an additional parameter:

...login.aspx?mode=Admin

Web Config

The Web Config file controls the way in which IIS and systems@work Web work together, enabling you to override default settings for IIS.

There are a number of parameters in this file, some of them having a direct bearing on the Employee's experience of the systems@work's browser-based components, and many are important in respect of performance.

The Web Config file is situated in the systems@work Web\browser interface folder after installation, and by default it contains this text:

```
<?xml version="1.0"?><configuration>
  <connectionStrings>
    <add name="timeatworkConnectionString1" connectionString="Data
Source=CZSRM002;Initial Catalog=timeatwork;Persist Security Info=True;User
ID=sa;Password=sax" providerName="System.Data.SqlClient"/>
  </connectionStrings>
  <system.web>
    <webServices>
      <protocols>
        <add name="HttpGet"/>
        <add name="HttpPost"/>
      </protocols>
    </webServices>
    <!-- DYNAMIC DEBUG COMPILATION
Set compilation debug="true" to insert debugging symbols (.pdb information)
into the compiled page. Because this creates a larger file that executes
more slowly, you should set this value to true only when debugging and to
false at all other times. For more information, refer to the documentation about
debugging ASP.NET files.
-->
    <compilation defaultLanguage="vb" debug="true">
      <assemblies>
        <!--<add assembly="CrystalDecisions.CrystalReports.Engine,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/>
        <add assembly="CrystalDecisions.ReportSource,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/>
        <add assembly="CrystalDecisions.Shared, Version=10.2.3600.0,
Culture=neutral, PublicKeyToken=692fbea5521e1304"/>
        <add assembly="CrystalDecisions.Web, Version=10.2.3600.0,
Culture=neutral, PublicKeyToken=692fbea5521e1304"/>
        <add assembly="CrystalDecisions.CrystalReports.Engine,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.ReportSource, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fbea5521e1304"/><add assembly="CrystalDecisions.Shared,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.Web, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.ReportAppServer.ClientDoc, Version=10.2.3600.0,
Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.Enterprise.Framework, Version=10.2.3600.0, Culture=neutral,
```

```
PublicKeyToken=692fbea5521e1304"/><add assembly="CrystalDecisions.Enterprise.InfoStore,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/>
```

```
-->
```

```
<add assembly="CrystalDecisions.CrystalReports.Engine, Version=10.2.3600.0,
Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.ReportSource, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fbea5521e1304"/><add assembly="CrystalDecisions.Shared,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.Web, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.ReportAppServer.ClientDoc, Version=10.2.3600.0,
Culture=neutral, PublicKeyToken=692fbea5521e1304"/><add
assembly="CrystalDecisions.Enterprise.Framework, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fbea5521e1304"/><add assembly="CrystalDecisions.Enterprise.InfoStore,
Version=10.2.3600.0, Culture=neutral, PublicKeyToken=692fbea5521e1304"/></assemblies>
</compilation>
```

```
<!-- CUSTOM ERROR MESSAGES
```

Set customErrors mode="On" or "RemoteOnly" to enable custom error messages, "Off" to disable.

Add <error> tags for each of the errors you want to handle.

```
<customErrors mode="RemoteOnly"/>
```

```
-->
```

```
<customErrors mode="Off"/>
```

```
<!-- AUTHENTICATION
```

This section sets the authentication policies of the application. Possible modes are "Windows", "Forms", "Passport" and "None"

```
-->
```

```
<authentication mode="Windows"/>
```

```
<!-- AUTHORIZATION
```

This section sets the authorization policies of the application. You can allow or deny access

to application resources by user or role. Wildcards: "*" mean everyone, "?" means anonymous (unauthenticated) users.

```
-->
```

```
<authorization>
```

```
<deny users="?"/>
```

```
<allow users="*"/>
```

```
<!-- Allow all users -->
```

```
<!-- <allow users="[comma separated list of users]"
```

```
roles="[comma separated list of roles]"/>
```

```
<deny users="[comma separated list of users]"
```

```
roles="[comma separated list of roles]"/>
```

```
-->
```

```
</authorization>
```

```
<!-- APPLICATION-LEVEL TRACE LOGGING
```

Application-level tracing enables trace log output for every page within an application. Set trace enabled="true" to enable application trace logging. If pageOutput="true", the trace information will be displayed at the bottom of each page. Otherwise, you can view the

application trace log by browsing the "trace.axd" page from your web application root.

```

-->
    <trace enabled="false" requestLimit="10" pageOutput="false"
traceMode="SortByTime" localOnly="true"/>
    <!-- SESSION STATE SETTINGS
    By default ASP.NET uses cookies to identify which requests belong to a particular
    session.
    If cookies are not available, a session can be tracked by adding a session identifier to the
    URL.
    To disable cookies, set sessionState cookieless="true".
-->
    <sessionState mode="InProc" stateConnectionString="tcpip=127.0.0.1:42424"
sqlConnectionString="data source=127.0.0.1;user id=sa;password=" cookieless="false"
timeout="20"/>
    <!-- GLOBALIZATION
    This section sets the globalization settings of the application.
-->
    <globalization requestEncoding="utf-8" responseEncoding="utf-8"/>
    <!--<globalization requestEncoding="shift-jis" responseEncoding="shift-jis"/>-->
    <!--<identity impersonate="true"/>-->
    <xhtmlConformance mode="Legacy"/><httpHandlers><add verb="GET"
path="CrystallImageHandler.aspx" type="CrystalDecisions.Web.CrystallImageHandler,
CrystalDecisions.Web, Version=10.2.3600.0, Culture=neutral,
PublicKeyToken=692fba5521e1304"/></httpHandlers></system.web>
    <appSettings>
    <add key="UseActiveDirectory" value="no" />
    <add key="SingleSignOn" value="no" />
    <add key="EnableStandardLogin" value="no" />
    <add key="Version" value="Version 3.1.7" />
    <add key="_Server" value="czsrm002" />
    <add key="_Database" value="ziva316" />
    <add key="_PoolSize" value="1000" />
    <add key="PrintPDF" value="no" />
    <add key="HideLoginParams" value="no" />
    <add key="HeaderText" value="" />
    <add key="CrystallImageCleaner-AutoStart" value="true" />
    <add key="CrystallImageCleaner-Sleep" value="60000" />
    <add key="CrystallImageCleaner-Age" value="120000" />
    <add key="EnableUserTimeZoneCorrection" value="yes" />
    </appSettings>
</configuration>

```

Presetting Database Server and Database Name

By default, systems@work browser interface users must enter the Database Server Name and Database Name. It is possible to preset one or both of these as follows:

In this (default) example the 'Server' and 'Database' parameters are disabled because the key names contain a leading underscore character.

```

<appSettings>
<add key="UseActiveDirectory" value="no" />
<add key="Version" value="Version 3.1.6" />
<add key="_Server" value=".\\SQL_2000" />
<add key="_Database" value="taw316" />
<add key="_PoolSize" value="1000" />
<add key="PrintPDF" value="no" />
<add key="HideLoginParams" value="yes" />
<add key="HeaderText" value="" />
<add key="CrystallImageCleaner-AutoStart" value="true" />
<add key="CrystallImageCleaner-Sleep" value="60000" />
<add key="CrystallImageCleaner-Age" value="120000" />
</appSettings>

```

In this example the 'Server' and 'Database' parameters are enabled and set to fixed values.

```

<appSettings>
<add key="UseActiveDirectory" value="no" />
<add key="Version" value="Version 3.1.6" />
<add key="Server" value=".\\SQL_2000" />
<add key="Database" value="taw316" />
<add key="_PoolSize" value="1000" />
<add key="PrintPDF" value="no" />
<add key="HideLoginParams" value="yes" />
<add key="HeaderText" value="" />
<add key="CrystallImageCleaner-AutoStart" value="true" />
<add key="CrystallImageCleaner-Sleep" value="60000" />
<add key="CrystallImageCleaner-Age" value="120000" />
</appSettings>

```

High Volume Implementations

By default, IIS is configured for around 250 user sessions, and performs optimally up to this number. When larger numbers of users (employees) will access systems@work's browser interface you MUST increase the Poolsize parameter. If you do not, you will have unpredictable results, with sessions interfering with each other.

In this example, 'Poolsize' defaults to 250 because the parameter is disabled (there is a leading underscore character in the Poolsize key name).

```

<appSettings>
<add key="UseActiveDirectory" value="no" />
<add key="Version" value="Version 3.1.6" />
<add key="Server" value=".\\SQL_2000" />
<add key="Database" value="taw316" />
<add key="_PoolSize" value="1000" />
<add key="PrintPDF" value="no" />
<add key="HideLoginParams" value="yes" />

```

```
<add key="HeaderText" value="" />
<add key="CrystallImageCleaner-AutoStart" value="true" />
<add key="CrystallImageCleaner-Sleep" value="60000" />
<add key="CrystallImageCleaner-Age" value="120000" />
</appSettings>
```

In this example, 'Poolsize' is set to 1000. In order to allow for session expiry, it is wise to set this number about 40% higher than the maximum number of users who will log on to the system at any one time.

```
<appSettings>
<add key="UseActiveDirectory" value="no" />
<add key="Version" value="Version 3.1.6" />
<add key="Server" value=".\\SQL_2000" />
<add key="Database" value="taw316" />
<add key="PoolSize" value="1000" />
<add key="PrintPDF" value="no" />
<add key="HideLoginParams" value="yes" />
<add key="HeaderText" value="" />
<add key="CrystallImageCleaner-AutoStart" value="true" />
<add key="CrystallImageCleaner-Sleep" value="60000" />
<add key="CrystallImageCleaner-Age" value="120000" />
</appSettings>
```

Hiding Server and Database Name

If you have preset Server Name and Database Name and wish to hide these names from Employees who are logging in to the systems@work browser interface, you can remove both fields from the login screen by setting 'HideLoginParams' to "yes" as in this example:

```
<appSettings>
  <add key="UseActiveDirectory" value="no" />
  <add key="Version" value="Version 3.1.6" />
  <add key="Server" value=".\\SQL_2000" />
  <add key="Database" value="taw316" />
  <add key="_PoolSize" value="1000" />
  <add key="PrintPDF" value="no" />
  <add key="HideLoginParams" value="yes" />
  <add key="HeaderText" value="" />
  <add key="CrystallImageCleaner-AutoStart" value="true" />
  <add key="CrystallImageCleaner-Sleep" value="60000" />
  <add key="CrystallImageCleaner-Age" value="120000" />
</appSettings>
```

Otherwise the value must be set to "no".

Browser Interface - Session Timeout

If an employee is inactive in the browser interface for a specified period (by default this is 20 minutes) then his session will time out, and he or she will be returned automatically to the login page after resuming activity.

To change this setting you may modify the timeout parameter in the following section (the value is given in minutes).

```
<sessionState mode="InProc" stateConnectionString="tcpip=127.0.0.1:42424"
sqlConnectionString="data source=127.0.0.1;user id=sa;password=" cookieless="false"
timeout="20"/>
```

Note that if you extend this value to a large number then you may have to increase the poolsize (see above *High Volume Implementations*).

Multiple Active Directories

systems@work enables the use of multiple active directories.

When this functionality is needed (and the *single* active directory path specified on System Parameters is inappropriate) then you must include the following in the Web.Config file:

```
<add key="EnableDomainChange" value="yes" />
```

When this is set, the browser interface will use the domain name associated with the current employee (logged in to the Active Directory) to determine the appropriate active directory for systems@work's browser interface software to use, using mappings also supplied in the Web.Config file.

For example the following mapping can be specified:

```
<add key="TEST1" value="LDAP://DC=test1,DC=com" />
<add key="TEST2" value="LDAP://DC=test2,DC=com" />
```

In this example an employee TEST1\emp1 will be validated against the first Active directory path, and employee TEST2\emp2 against the second.

Browser Interface - Session Storage (for Web Farming and Gardening)

In order to enable web farming or gardening it is necessary to use a different mode for the storing of session variables. This means changing the default 'InProc' mode to either 'StateServer' (as below) or 'SQLServer'. The choice between these two modes is a matter for your IT Department (and you may seek support from systems@work on this matter) but in most cases 'StateServer' will be the easiest to implement.

```
<sessionState mode="StateServer" stateConnectionString="tcpip=127.0.0.1:42424"
sqlConnectionString="data source=127.0.0.1;user id=sa;password=" cookieless="false"
timeout="20"/>
```

Browser Interface - Spreading Load Across Multiple Virtual Directories

It is sometimes useful, when transaction volumes are high, to spread transaction load across multiple virtual directories (each having a separate worker process). This reduces the risk of the worker process expanding beyond its permissible size.

The following parameter within the 'appSettings' group enables you to define more than one virtual directory.

When installed, the web.config file contains this setting, the underscore before 'AvailableServers' initially disabling the technique.

```
<add key="_AvailableServers" value="http://localhost/product/browser interface"/>
```

To switch on this technique you will amend the parameter, as in this example:

Assuming that the URL used to access the system is http://localhost/product/browser interface, you might want to add two additional ones as follows:

```
<add key="AvailableServers" value="http://localhost/product1/browser interface;
http://localhost/product2/browser interface"/>
```

This would mean that load would be randomly spread over three virtual directories, but end-users would be unaware of this. Note that the underscore is removed from 'AvailableServers'.

Browser Interface - Auditing use of Immediate Reports and Inquiries

It is useful sometimes to record who has invoked a report or inquiry and with what parameters.

These data are recorded in the INQ_USAGE table in the systems@work database, but are accessible only through SQL server tools.

By default this audit trail is switched on, and to switch it off (to preserve space) you must amend this parameter (in the appSettings group):

```
<add key="ReportsAudit" value="yes"/>
```

Set the ReportsAudit value to 'no'.

Browser Interface - Approval Alerts

When logging into the browser interface the system will by default determine whether there are transactions for the user to approve (if there are transactions to approve the 'Approvals' menu item is highlighted in red).

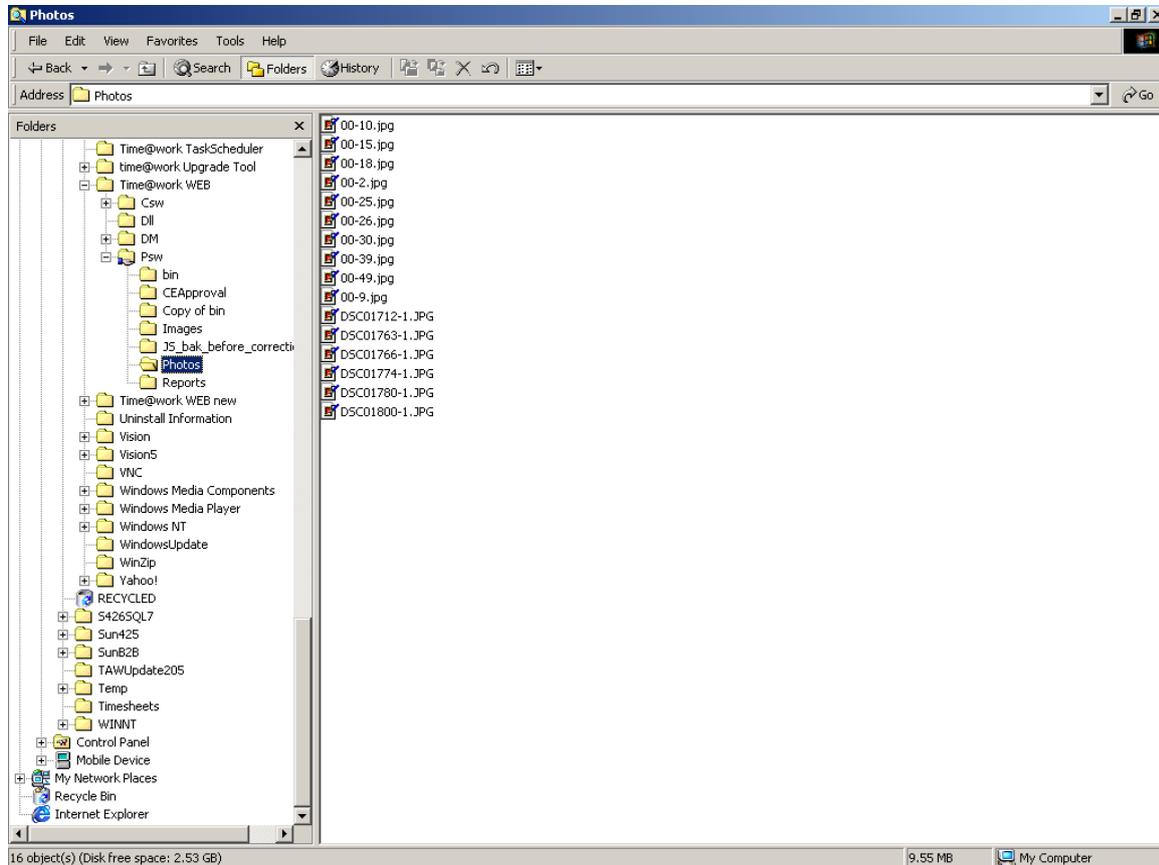
However, in some circumstances, where volumes are high and this process affects the login process, you may want to switch this functionality off.

```
<add key="DataForApprovalIndication" value="yes"/>
```

Set the DataForApprovalIndication value to 'no'. This parameter can be found in the appSettings group.

Photographs in the Browser Interface

Photographs of Employees are placed in the Photos folder within the browser interface subfolder within the systems@work Web folder. This makes them available for display within the browser interface.



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