



**eHealth Integration Sample Code – UI v2.0.3
Initial and Clean Installation Guide**

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Approved for external use

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Key information

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2.0.1 2.0.2		Unpublished updates.
2.0.3	February 2016	See release note (NEHTA-2185:2016) for details of changes and bug fixes.

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1. Introduction

1.1 Context

The eHealth Integration Sample Code (**eHISC**) is a middleware and communications solution provided by the National eHealth Transition Authority (NEHTA) to enable jurisdictional Patient Administration Systems (PAS) and Clinical Information Systems (CIS) to interact with the National eHealth Record System. The solution can interface with an Enterprise Service Bus (ESB) / Health Integration Broker (HIB) to receive HL7 records from the PAS systems for patient and episode information and IHI lookups, and CDA documents from the clinical systems for upload to the PCEHR.¹ The solution can also be used as a broker to the PCEHR without the need of an interface to an ESB/HIB for upload and retrieval of documents from the PCEHR.

As an extension of the core services provided by the eHISC product, the **eHISC-UI** product packages mobile and web-based user interfaces for fulfilling common interaction requirements with the PCEHR, including features such as:

- **Assisted Registration**, to facilitate processing of PCEHR Assisted Registrations and Assisted Dependant Registrations.
- **HPI-I Search**, to facilitate searching for or validating HPI-Is.
- **PCEHR View**, providing patient search, clinical document viewing and combined prescription and dispense views.

1.2 Purpose

This document provides instructions for deploying a specific packaged release of the eHISC-UI Web product into a target implementation environment. Specifically, the document describes:

- The resources, responsibilities and access required to deploy the release.
- The intended target implementation environment and any environment-specific configuration items.
- Any assumptions that may affect the deployment.
- Detailed instructions for deploying the release into the target environment and for performing product verification testing.
- Rollback steps in the case that the deployment is unsuccessful.

1.3 Target Release

This document provides instructions for the deployment of **Release 2.0.3** of the eHISC-UI Web product. Refer to the eHISC-UI Web Release Notes [RR-1] for further information regarding this release.

¹ **Disclaimer:** PCEHR means the My Health Record, formally the "Personally Controlled Electronic Health Record", within the meaning of the *My Health Records Act 2012* (Cth), formerly called the *Personally Controlled Electronic Health Records Act 2012* (Cth).

1.4 Related Resources

ID	Document	Description
RR-1	eHISC-UI Web Release Notes	Provides a history of releases of the eHISC-UI Web product.

2. Resources & Roles

The table below lists key resources involved in the deployment of the product into the target environment and the access they require.

Resource	Role	Access
Server Administrator	Implementation and configuration of server and operating system requirements.	"Administrator" access to the operating system on each target server node.
Database Administrator	Deployment of required database objects and data and subsequent configuration tasks.	"sysadm" access to the target SQL Server instance on the eHISC-UI Web Database Server node.
Web Administrator	Deployment of required web site components and subsequent configuration tasks.	"Administrator" access to the operating system on the eHISC-UI Web Application Server node.
Product Owner	Product verification testing following deployment.	

3. Target Environment

3.1 Client Operating Environment

The following constraints are assumed to be placed upon the operating environment of the **client system** from which end-users will utilise the PCEHR Web Viewer:

- Supported client devices:
 - PC, laptop, tablet running a supported operating system natively
- Supported client platforms (operating system):
 - Windows 7, Windows 8
- Supported client web browsers:
 - Microsoft Internet Explorer 10+
 - Google Chrome 30+
 - Mozilla Firefox 24+
- Configuration required to meet CCA conformance requirements for rendering systems (CDAR_RS_01):
 - Web browser configuration:
 - Printing:
 - The window title must be printed as the page header on every printed page.
 - The page footer must include the "Page N of T" marker on every printed page.
 - Background colours and images must be printed.
 - Content must be shrunk to fit the printed page.
 - The web browser must not allow users to override the presentation and style of documents rendered as HTML (eg via "developer tools").
 - It is recommended that the web site is set up to use SSL certificates and HTTPS for encryption as the login pages passes credentials through.
 - Client system configuration:
 - The client system must have appropriate software installed in order to open and view document attachments including HTML, PDF, RTF and Plain Text.
 - The client system's screen resolution must be at least 1024x768 pixels.

3.2 Deployment Variables

The table below describes a number of deployment variables representing implementation or environment-specific items that will be referenced throughout this document. Where possible the value for the "Value" column in the table should be determined prior to deployment execution.

Deployment Variable	Description	Value
eHISC-UI Web Database Server	Server node that hosts the SQL Server database engine instance into which the eHISC-UI Web database will be deployed.	
eHISC-UI Web Database	Database hosted by the eHISC-UI Web Database Server into which eHISC-UI Web database objects and data will be deployed.	
eHISC-UI Web Application Server	Server node that hosts the IIS instance into which the eHISC-UI Web web site components will be deployed.	
eHISC-UI Web App Pool	IIS application pool used as a thread pool by the eHISC-UI Web Site.	
eHISC-UI Web Site	IIS web site used to host the eHISC-UI Web web site components.	
eHISC-UI Web Site Folder	Filesystem folder containing the eHISC-UI Web web site components.	
eHISC-UI Web Service Account	Active Directory domain service account used as the identity of the IIS application pool.	
eHISC-UI Web Domain Name	Active Directory domain name used to authenticate and lookup user information.	
eHISC-UI Web Privacy Policy Link	URL to an internal Privacy Policy html page if available. Can be left blank and a link will not appear in UI.	
eHISC-Core Application Server	Server node that hosts the eHISC-Core product to be utilised by the eHISC-UI Web product.	
eHISC-Core Endpoint Base	Base endpoint at which eHISC-Core services are provided, in format protocol://host:port/site/.	

3.3 Infrastructure Roles

The table below lists the roles of the infrastructure nodes to which the product will be deployed in a target environment. Although not recommended, the same node may perform more than

one role. The table also lists prerequisite components that are expected to have been installed and configured on each node.

Infrastructure Role	Description	Prerequisites
eHISC-UI Web Database Server	Server node that hosts the SQL Server database engine instance into which the eHISC-UI Web database, database objects and data will be deployed.	SQL Server 2008 R2 Database Engine
eHISC-UI Web Application Server	Server node that hosts the IIS instance into which the eHISC-UI Web web site components will be deployed.	Internet Information Services 7.5 .NET Framework 4.5
eHISC-Core Application Server	Server node that hosts the eHISC-Core product to be utilised by the eHISC-UI Web product.	eHISC-Core 2.0.3

IMPORTANT NOTE:

Due to the use of memory-based caching by the eHISC-UI Web product, it is recommended that it **not** be deployed in a "web farm" (eg a network load balancing (NLB) cluster) where multiple distinct servers may service a particular request.

3.4 eHISC-UI Web Application Server Configuration

The following features are expected to be configured and available on the **eHISC-UI Web Application Server** (via the Web Server role configured through Server Manager):

- Web Server
 - Common HTTP Features
 - Static Content
 - Default Content
 - Directory Browsing
 - HTTP Errors
 - HTTP Redirection
 - Application Development
 - ASP.NET
 - .Net Extensibility
 - Health and Diagnostics
 - HTTP Logging
 - Logging Tools
 - Request Monitor
 - Tracing
 - Security
 - Basic Authentication

- Windows Authentication
- Client Certificate Mapping Authentication
- IIS Client Certificate Mapping Authentication
- URL Authorization
- Request Filtering
- IP and Domain Restrictions
- Performance
 - Static Content Compression
 - Dynamic Content Compression
- Management Tools
 - IIS Management Console
 - IIS Management Scripts and Tools
 - Management Service

3.5 Service Accounts

The eHISC-UI Web product utilises an Active Directory domain service account as the identity the **eHISC-UI Web App Pool** IIS application pool and to connect to remote resources such as databases and eHISC-Core.

This service account will be referred to as the **eHISC-UI Web Service Account**.

4. Assumptions

The deployment instructions within this document assume the following:

- The eHISC-UI Web product has not been previously deployed to the target environment, or if it has been previously deployed then it has been removed following the instructions provided in [Rollback](#).
- The deployment instructions are performed by suitably trained personnel with appropriate privileges to perform each activity, as described in [Resources & Roles](#).
- The target environment has been built and configured as described in [Target Environment](#).
- The relevant release of eHISC-Core has previously been deployed, configured and verified on the **eHISC-Core Application Server**, as described in [Target Environment](#).
- Domain firewall rules allow inbound connections to the **eHISC-Core Application Server** from the **eHISC-UI Web Application Server**.

5. Deployment Instructions

5.1 Deployment Summary

The table below defines the key activities for deploying the product components and estimated timing for each activity. It is assumed that each activity is completed sequentially, with each later activity dependent upon the successful completion of earlier activities.

Activity	Description	Duration (Hours)
Prerequisites	Execution of prerequisite steps such as confirming the configuration of the target environment and ensuring current backups exist.	0.25
Database Objects & Data	Creation of required databases, database objects and data on the eHISC-UI Web Database Server .	0.5
Web Site	Deployment of required web components to the eHISC-UI Web Application Server .	0.5
Configuration	Configuration of deployed components to reflect the target environment.	0.25

5.2 Prerequisites

Perform the following steps in the target environment:

1. Ensure you have current and valid backups of the target environment (server, database).
2. Review the configuration of the target environment and confirm it matches the expectations described in [Target Environment](#).
3. Review the assumptions listed in [Assumptions](#) and ensure they are valid.

5.3 Database Objects & Data

This section provides instructions for creating required databases, database objects, data and permissions on the **eHISC-UI Web Database Server** in the target environment. All steps should be performed via SQL Server Management Studio connected to the relevant database engine instance on the **eHISC-UI Web Database Server**.

1. Create a new database in the target SQL Server instance.
 - a. The database may be named as required.
 - b. The database will be referred to in subsequent steps as the **eHISC-UI Web Database**.
2. Open the "01 - Database Server - Schemas.sql" script from the "01 - Database" subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will create the following schemas:
 - a. hipsui
3. Verify the schemas listed in the preceding step are created.

4. Open the "02 - Database Server - hipsui - Tables.sql" script from the "01 - Database" subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will create the following tables:
 - a. hipsui.IdentityVerificationMethod
 - b. hipsui.IndigenousStatus
 - c. hipsui.IvcDeliveryMethod
 - d. hipsui.MedicareConsent
 - e. hipsui.Setting
 - f. hipsui.Sex
5. Verify the tables listed in the preceding step are created.
6. Open the "03 - Database Server - hipsui - Roles.sql" script from the "01 - Database" subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will create the following database roles:
 - a. RunStoredProcedure
7. Verify the database roles listed in the preceding step are created.
8. Open the "10 - Database Server - hipsui - Data.sql" script from the "01 - Database" subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will insert data into the following tables:
 - a. hipsui.IdentityVerificationMethod: 10 records
 - b. hipsui.IndigenousStatus: 5 records
 - c. hipsui.IvcDeliveryMethod: 4 records
 - d. hipsui.MedicareConsent: 6 records
 - e. hipsui.Setting: 10 records
 - f. hipsui.Sex: 3 records
9. Verify data is inserted into the tables listed in the preceding step.
10. Open the "ELMAH-1.2-db-SQLServer.sql" script from the "01 - Database" subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will create the following database objects required by the ELMAH framework:
 - a. Tables:
 - i. dbo.ELMAH_Error
 - b. Stored Procedures:
 - i. dbo.ELMAH_GetErrorXml
 - ii. dbo.ELMAH_GetErrorsXml
 - iii. dbo.ELMAH_LogError
11. Verify the database objects listed in the preceding step are created.

12. Open the “dbo.AspNetIdentity.Tables.sql” script from the “01 - Database” subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will create the following database objects required by the ASP Net Identity framework:
 - a. Tables:
 - i. dbo.AspNetRoles
 - ii. dbo.AspNetUsers
 - iii. dbo.AspNetUserClaims
 - iv. dbo.AspNetUserLogins
 - v. dbo.AspNetUserRoles
13. Verify the database objects listed in the preceding step are created.
14. Open the “ELMAH-1.2-db-SQLServer__Permissions.sql” script from the “01 - Database” subfolder of the Deployment Package and connect to the **eHISC-UI Web Database**. Execute the script and ensure it completes without error. This will assign the RunStoredProcedure database role the execute permission for the stored procedures required by the ELMAH framework (created in the previous step).
15. Add the **eHISC-UI Web Service Account** as a login to the target SQL Server database engine instance.
16. Add the **eHISC-UI Web Service Account** as a user to the **eHISC-UI Web Database**, and assign it membership in the following database roles:
 - a. db_datareader
 - b. db_datawriter
 - c. RunStoredProcedure

5.4 Web Site

This section provides instructions for deploying web components to the **eHISC-UI Web Application Server** in the target environment. All steps should be performed via a Remote Desktop session connected to the **eHISC-UI Web Application Server**.

1. Open Computer Management.
 - a. Ensure the **eHISC-UI Web Service Account** is a member of the local “IIS_IUSRS” group.
2. Open File Explorer.
 - a. Copy the contents of the “02 - Web” subfolder of the Deployment Package to a suitable filesystem location on the **eHISC-UI Web Application Server**, for example “C:\WWWsites\HIPS.UI.Web”. This folder will be referred to as the **eHISC-UI Web Site Folder**.
 - b. Ensure the **eHISC-UI Web Service Account** has Full Control permissions to the folder and its contents.
3. Open IIS Manager.
 - a. Review the list of application pools. If not previously created, create a new application pool to be utilised by the eHISC-UI Web web components.
 - i. Name: **eHISC-UI Web App Pool**

- ii. General:
 - 1. .NET Framework Version: v4.0
 - 2. Managed Pipeline Mode: Integrated
 - iii. Process Model:
 - 1. Identity: **eHISC-UI Web Service Account**
 - 2. Load User Profile: True
 - iv. Recycling:
 - 1. Regular Time Interval (minutes): 10080
 - b. Create a new web site to host the eHISC-UI Web web components.
 - i. Site Name: **eHISC-UI Web Site**
 - ii. Physical Path: **eHISC-UI Web Site Folder**
 - iii. Application Pool: **eHISC-UI Web App Pool**
 - iv. Bindings: HTTP and/or HTTPS, ports & host headers as desired
 - v. Logging:
 - 1. Enabled
 - 2. Schedule: Daily
 - 3. Use Local Time: True
 - vi. Authentication:
 - 1. All: Disabled
 - 2. Windows Authentication: Enabled
 - 3. Anonymous Authentication: Enabled
 - c. Ensure the application pool and web site are started.
4. Open Windows Firewall.
- a. Create rules to allow inbound connections to the ports utilised by the previously created web site.

5.5 Configuration

This section provides instructions for configuring the eHISC-UI Web components prior to first use.

Perform the following steps via SQL Server Management Studio connected to the relevant database engine instance on the **eHISC-UI Web Database Server**.

1. Open the hipsui.Setting table in the **eHISC-UI Web Database**. Review and modify where relevant the value of the [Value] column for each setting.
 - a. The table below describes each setting:

Feature	Setting	Description	Suggested Value
All	DefaultHospitalCodeSystem	The default hospital code system used by the application.	pasFacCd
PCEHR View	PcehrViewServiceDateDocumentClasses	CSV of document class codes for which service dates should be displayed. Used when displaying document metadata in the document lists.	18842-5
PCEHR View	PcehrViewFromDateOffsetMonths	Negative integer value representing the number of months the "From" date criterion for the Prescription Dispense View will be offset from the current date by default.	-24
PCEHR View	PcehrViewPDDocumentClasses	CSV of document class codes for the Prescription and Dispense document classifications.	100.16764,100.16765
PCEHR View	PcehrViewPatientDaysDischarged	The number of days since the patient has been discharged to still consider a patient to be "currently in hospital". Used when retrieving the list of patients currently in hospital.	0

Feature	Setting	Description	Suggested Value
Data Integrity	PatientsWithoutIhiDaysDischarged	The number of days since a patient has been discharged to still show the patient on the list of patients without an IHI.	5
Disclose Hidden PCEHR	DiscloseHiddenPcehrDaysDischarged	The number of days since a patient has been discharged to still show the patient on the list of patients who can disclose the existence of a PCEHR.	5
Withdraw Consent	WithdrawConsentPatientListDaysDischarged	The number of days since a patient has been discharged to still show the patient on the list of patients who can withdraw consent to upload documents to their PCEHR.	5
Withdraw Consent	WithdrawConsentEpisodeListDaysDischarged	The number of days after the patient has been discharged to show an episode on the list of episodes for which the patient can withdraw consent.	365
Remove Document	RemoveDocumentDaysDischarged	The number of days since a patient has been discharged to still show the patient on the list of patients whose documents can be removed from their PCEHR.	30
Discharge Summary	DischargeSummaryPatientListDaysDischarged	Discharge Summary: The number of days since a patient has been discharged.	5

Feature	Setting	Description	Suggested Value
Discharge Summary	DischargeSummaryEpisodeListDaysDischarged	Discharge Summary: The number of days after the patient has been discharged to show an episode on the list of episodes for which the patient can upload or supersede documents to their PCEHR.	365
Discharge Summary	DischargeSummaryDocumentTypeCode	Discharge Summary: The document type code for Discharge Summary.	18842-5
Discharge Summary	DischargeSummaryDocumentFormatCode	Discharge Summary: The document format code for Discharge summary.	1.2.36.1.2001.1006.1.20000.18
Discharge Summary	DischargeSummaryAuthor	Discharge Summary: The author for Discharge summary.	User
Discharge Summary	DischargeSummaryRHP	Discharge Summary: The responsible health professional (RHP) for Discharge summary.	User
All	SecurityGroupCodeSystem	The PCEHR System Code for the Security Groups mapped to Hospitals.	SecurityGroup

- b. It is expected the default values for each setting row will not be required to be modified.

Perform the following steps via a Remote Desktop session connected to the **eHISC-UI Web Application Server**.

1. Open File Explorer.
 - a. Browse to the **eHISC-UI Web Site Folder** in the filesystem of the **eHISC-UI Web Application Server**.
 - b. Open the Web.config file in Notepad.
 - c. Locate and modify the following configuration settings as relevant to the target environment:
 - i. appSettings: Modify the value of the *value* element for each child *key* element as required, based on the following description of each setting:

Setting Name	Description	Suggested Value
AccountManagement.ContextType	The principal context for the Active Directory Account Management. Depending on the Account Manager set up, if local SAM then <i>Machine</i> , if AD DS then <i>Domain</i> , if AD LDS then <i>ApplicationDirectory</i>	Domain
AccountManagement.DomainName	Depending on value for AccountManagement.ContextType, if <i>Domain</i> then this is AD Domain Name in full domain name format (i.e. mydomain.com.au), if <i>Machine</i> then local machine name, if <i>ApplicationDirectory</i> then LDS server name & port.	
AccountManagement.TrustedDomains	A comma separated list of trusted domains that users will enter to login. The Web UI application checks that the domain entered by the user the login form matches one of these domains in this list. If the application will be used in a single domain then this will simply be that domain which would be the same as the AccountManagement.DomainName	AccountManagement.DomainName
Account.ProfileImageFilePath	The file path under the root web site where the user's profile images will be created as jpg files. This folder will need write access for the eHISC-UI Web Service Account	/Content/images/profileimages/
Account.ProfileImageUriDefault	If the user does not have a profile image stored in ad then this is the default image that will be displayed.	defaultUser.jpg
Account.ProfileImageProperty	The name of the Profile Image Attribute in AD.	thumbnailPhoto
ApplicationCookie.Timeout	The value in minutes for the application to timeout if left inactive.	20

Setting Name	Description	Suggested Value
UI.PrivacyPolicyLink	A deployment specific local privacy policy link if one exists. This is displayed on the footer. If this value is empty then no link will be displayed in the footer.	

- ii. *connectionStrings*: Ensure the value for the *connectionString* attribute of child *add* elements reflects the target environment. In particular, ensure
 1. "data source=**dbserver**" is replaced with the name of the target SQL Server database engine instance on the **eHISC-UI Web Database Server**.
 2. "initial catalog=**db**" is replaced with the name of the **eHISC-UI Web Database**.
- iii. *system.serviceModel/client*: Ensure the value for the *address* attribute of child *endpoint* elements reflects the target environment. In particular, ensure
 1. "**net.tcp://host:port/site/**" is replaced with the protocol, host, port and site (where relevant) of each endpoint provided by either the:
 - a. **eHISC-Core Application Server**, as per the **eHISC-Core Endpoint Base**.
- iv. *MvcAuthorization*: This area of the web config is where the authorization of the applications functions are set. Each controller allows access to specific functions on the Web UI. The roles attribute maps to the AD Groups for access. For specific Hospital Access unique AD Group(s) should be set up for each Health Provider Organisation (HPO). The default set up for the *MvcAuthorization* is to allow any authorised user in the 'Users' or 'Domain Users' group to gain access.

```

<MvcAuthorization>
  <areas>
    <area>
      <policies>
        <policy name="DenyAnonymousAccess" />
      </policies>
      <controllers>
        <controller name="Home" />
        <controller name="AssistedRegistration" roles="Users,Domain Users" />
        <controller name="HpiiSearch" roles="Users,Domain Users" />
        <controller name="PcehrView" roles="Users,Domain Users" />
        <controller name="Common" >
          <actions>
            <action name="SessionInfo" />
            <action name="LogOff" />
            <action name="SelectHpo" roles="Users,Domain Users"/>
          </actions>
        </controller>
        <controller name="DataIntegrity" roles="Users,Domain Users" />
        <controller name="ConsentManagement" roles="Users,Domain Users" />
        <controller name="DocumentManagement" roles="Users,Domain Users" />
        <controller name="DocumentUpload" roles="Users,Domain Users" />
        <controller name="DisclosureManagement" roles="Users,Domain Users" />
      </controllers>
    </area>
  </areas>
</MvcAuthorization>

```

```

<controller name="Error">
  <policies>
    <policy name="DenyAnonymousAccess" ignoreInherited="true" />
  </policies>
</controller>
<controller name="Account">
  <actions>
    <action name="Login">
      <policies>
        <policy name="DenyAnonymousAccess" ignoreInherited="true" />
      </policies>
    </action>
    <action name="Register">
      <policies>
        <policy name="LocalOnly" />
      </policies>
    </action>
    <action name="Manage">
      <policies>
        <policy name="LocalOnly" />
      </policies>
    </action>
    <action name="ExternalLoginConfirmation">
      <policies>
        <policy name="LocalOnly" />
      </policies>
    </action>
    <action name="ExternalLoginFailure">
      <policies>
        <policy name="LocalOnly" />
      </policies>
    </action>
  </actions>
</controller>
</controllers>
</area>
</areas>
</mvcAuthorization>

```

The table below maps the Controller access above to the Web UI Menu Functions

Controller	Menu Functions
Home	Home
AssistedRegistration	Register Current Patients Register New Adult Register New Child
HpiiSearch	HPI-I Validation HPI-I Search
PcehrView	View eHealth Record
Common/SessionInfo	Common Header
Common//LogOff	Log Off
Common/SelectHPO	Select Health Provider Organisation
DataIntegrity	Patients Without IHI

Controller	Menu Functions
ConsentManagement	Withdraw Consent
DocumentManagement	Remove Document
DocumentUpload	Discharge Summary
DisclosureManagement	Disclose Hidden PCEHR
Error	Generic error display, deny anonymous access
Account/Login	User login action, deny anonymous access
Account/Register	Local Access Only
Account/Manage	Local Access Only
Account/ExternalLoginConfirmation	Local Access Only
Account/ExternalLoginFailure	Local Access Only

For the user's to be able to access a HPO (Health Provider Organisation) a new Security Code is added in the eHISC-CORE Database hips.CodeSystem table. Each HPO must have a row inserted into the eHISC-CORE Database hips.HospitalCode table to map the Security Code ID to the Hospital ID. For each Hospital (HPO) in the hips.Hospital table the following SQL script can be run in the eHISC-CORE Database:

```

INSERT INTO [hips].[HospitalCode]
    ([HospitalId]
    ,[CodeSystemId]
    ,[Code]
    ,[DateCreated]
    ,[UserCreated]
    ,[DateModified]
    ,[UserModified])
VALUES
    (<HospitalId: from hips.Hospital table>
    ,<CodeSystemId: default is 107>
    ,<Code: A comma separated list of AD groups to grant access to (example
'Users,Domain Users'>
    ,GETDATE()
    ,<UserCreated: your username>
    ,GETDATE()
    ,<UserModified: your username>)
GO

```

- v. *applicationSettings/HIPS.Web.UI.Properties.Settings*: Modify the value of the *value* element for child *setting* elements as required, based on the following description of each setting (referenced by its *name* attribute):

Setting Name	Description	Suggested Value
SettingsRepository_ AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time application settings will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	02:00:00
HospitalRepository_ AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time the list of hospitals available for selection within the application will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	02:00:00
PatientRepository_ AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time patient data will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	00:05:00
PcehrViewRepository_ AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time PCEHR data for a patient (such as document metadata, document and view content) will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	00:05:00
AssistedRegistrationReferenceRepository_ AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time reference data used for assisted registration will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	00:05:00

Setting Name	Description	Suggested Value
PatientsWithoutPcehrRepository_AbsoluteExpirationOffset	Provides a timespan value that represents the absolute amount of time patient data for assisted registration will be cached in memory. Format: <i>hh:mm:ss</i> , where <i>hh</i> represents the number of hours, <i>mm</i> represents the number of minutes, and <i>ss</i> represents the number of seconds.	00:05:00

d. Save and close the file.

2. Open Command Prompt (as Administrator).

a. Execute the following command: `iisreset`

6. Product Verification Testing

Perform the following steps to verify the correct behaviour of the eHISC-UI Web product.

NOTE: Specific steps performed are dependent upon the local policies of the implementing organisation and upon the state of integration between the organisation's PAS and CIS, eHISC-Core, and the PCEHR.

1. Open a web browser (eg Internet Explorer).
2. Browse to the eHISC-UI Web site.
3. Provide valid authentication credentials when prompted.
4. Verify the Home page is displayed and provides the following menu items:
 - a. Assisted Registration
 - b. HPI-I Search
 - c. PCEHR View
5. Verify behaviour of the Assisted Registration feature:

NOTE: This does not test eHISC connectivity. However, performing an actual PCEHR registration is not desirable.

- a. Click the "Assisted Registration" menu item and select the "Current Patients" option.
 - b. Select a hospital and click "Select Hospital".
 - c. Select a patient and click "Register". Verify the form loads without error.

NOTE: Depending on the state of integration at the implementing organisation, no patients may be available for selection.
 - d. Click the "Assisted Registration" menu item and select the "New Applicant" option. Verify the form loads without error.
 - e. Click the "Assisted Registration" menu item and select the "New Dependant" option. Verify the form loads without error.
6. Verify behaviour of the HPI-I Search feature:
 - a. Click the "HPI-I Search" menu item and select the "HPI-I Validation" option.
 - b. Enter search criteria and click "Search by Identifier".
 - c. Verify an HPI-I result is found and returned.
 - d. Click the "HPI-I Search" menu item and select the "HPI-I Validation" option.
 - e. Enter search criteria and click "Search by Demographics".
 - f. Verify an HPI-I result is found and returned.
7. Verify behaviour of the PCEHR View feature:
 - a. Click the "PCEHR View" menu item.
 - b. Verify the "Patient List" screen is displayed and allows selection of a hospital.
 - c. Upon selecting a hospital, verify a list of patients at the selected hospital is displayed.
 - d. Click the "View Patient Summary" button for a particular patient.

- e. Verify the “Patient Summary” screen is displayed and displays a list of documents for the selected patient.
- f. Click the “View Document” button for a particular document.
- g. Verify the “Document View” screen is displayed and displays the contents of the selected document.
- h. Return to the “Patient Summary” screen for the selected patient via the back button or breadcrumb navigation.
- i. Verify the “Prescription and Dispense View” is displayed together with the list of documents for the patient.

7. Rollback

In the case that rollback is required, perform the following steps in order to remove the components previously deployed via the instructions in [Deployment Instructions](#).

1. Web Site:
 - a. Windows Firewall:
 - i. Remove inbound rules.
 - b. IIS Manager:
 - i. Remove **eHISC-UI Web Site**.
 - ii. Remove **eHISC-UI Web App Pool**.
 - c. File Explorer:
 - i. Delete **eHISC-UI Web Site Folder**.
 - d. Computer Management:
 - i. Remove **eHISC-UI Web Service Account** from "IIS_USRS" group.
2. Database Objects & Data:
 - a. Delete **eHISC-UI Web Database**.
 - b. Remove **eHISC-UI Web Service Account** login.