System deployment and management

System Architecture (software)
Windows Server 2012 R2 64bit

- IIS 8 (full features Installation)
- ASP.NET 4.5.2 Framework
- SSL certificate for the domain of the site installed on the platform together with the full chain trust certificates
- Public IP and domain registered on the public DNS service

SQL Server 2012 R2 Standard Edition with Full Text Engine (could be installed on the same server or on another one). You must install SQL Server Database (mixed mode authentication and Latin1_General_CI_AS default collation), Full Text Engine, SQL Server Management Studio (Full Installation), Sql Server Native Client

SMTP Server to send service email from the platform

Email Accounts:
Email account to use as sender address of all system emails
Email account of a technician (or a group) to which send all errors emails
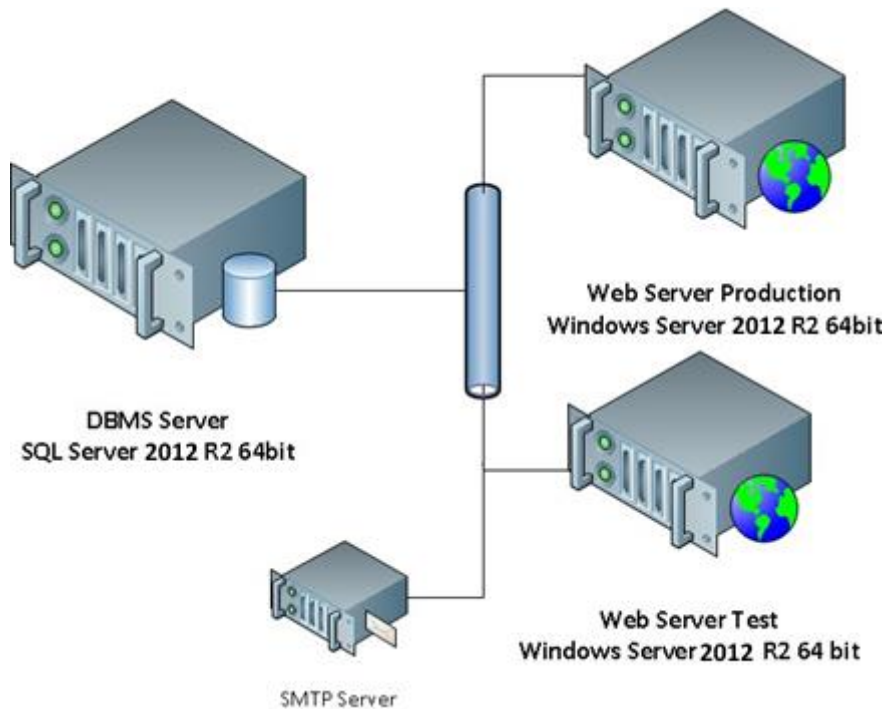
Administrator accounts:
- user with sysadmin roles on the DBMS Server
- a user with administrative rights (member of Administrators group) on all the server involved in the deployment process.

- Otherwise, access with TeamViewer or other alternative desktop sharing software.

System Architecture (hardware)
Two identical environment one for test and one for production. In this way it would be possible to test the new releases (system updates or software improvements) in advance. After testing its proper functioning, the updates will be replicated in the production environment.

The database instances (test and production) could be deployed on the same DBMS because they have different names.

Architecture sample:

DBMS Server
SQL Server 2012 R2 64bit

Web Server Production
Windows Server 2012 R2 64bit

Web Server Test
Windows Server 2012 R2 64 bit

SMTP Server

System deployment

The servers involved in the deployment can be physical or they can be virtual machines on a VMware infrastructure or on a Microsoft Hyper-V ones. This must be completely transparent because we will access only to the final machines. In addition to the machines with the operating system and the applications (Sql Server / ASP.NET ...) described above, to deploy the application we need:

- A remote access (Remote Desktop) to all machines involved in the deployment process (Test Web Server, Production Web Server and DBMS). Please verify the right configuration of firewalls to enable remote access to the Almalaurea staff.
- An account with sysadmin role on the DBMS Server
- An account within the administrators group on the Web Server
- The URI to which the web application will be accessed by the actors
- The SSL certificate for the URI above installed on the production web server together with the trust chain of the certificate
- The IP Address and the parameters of the SMTP server to send email
- An email account to use as sender address of all the messages sent by the platform (I advise you to use a real account read by someone because people could reply to the email sent by the platform)
- An email account to which send all the errors of the platform

Migration Plan

This is the list of activities:

1. [partner] System Configuration (no training required)
    a. Definition of the system parameters (host name)
    b. Configure hardware and infrastructure (test web server, production web server, DBMS,

SMTP host) and install operating systems
    c. Install software (IIS, SQL server)
    d. SSL certificate issue and installation
2. [AlmaLaurea] Application deployment
    a. Test environment
    b. Production environment (closed)
3. [AlmaLaurea, partner] System RUN
    a. Close AlmaLaurea supported system. Execute final DB backup
    b. Restore DB in the production environment
    c. RUN the system

The training task is not mandatory for any other task. So it can be scheduled anywhere.

Parameters sheet

Parameter	Description	Example	IP
Hostname (production)	Fully qualified host name of the production web application	voyage.hanu.vn	40.114.250.117
Hostname (test)	Fully qualified host name of the test web application	voyage-test.hanu.vn	40.114.250.117
IP Web Server Test	IP of the Windows Machine with the web server for the test environment (the firewall must be opened on port 3389 in order to connect to the server machine)	40.114.250.117	40.114.250.117
IP Web Server Production	IP of the Windows Machine with the web server for the production environment (the firewall must be opened on port 3389 in order to connect to the server machine)	40.114.250.117	40.114.250.117
IP and hostname of the machine with the DBMS Server	IP and the hostname of the Windows Machine with the running instance of SQL Server (the firewall must be opened on port 3389 in order to connect to the server machine)	TS_SQL (SQL Server Alias), SQL Server installed on same machine	TS_SQL (SQL Server Alias), SQL Server installed on same machine
Firewall Ports to open	From WebServers to DBMS Server ports 1433TCP and 1434UPD must be opened	N/A	N/A

Firewall Ports to open	From internet to All servers port 3389TCP must be opened for Remote Desktop Protocol	N/A, Remote access will be provided by using Team Viewer	N/A, Remote access will be provided by using Team Viewer
SysAdmin Account for SQL Server	Username and password of a sql server user with sysadmin role	The login procedure will be done by our administrator. Website will be using SQL authentication to connect to DBMS.	The login procedure will be done by our administrator. Website will be using SQL auth. to connect to DBMS.
Windows user account for production web server	username and password of a windows account for the production web server with Administrators priviledges (member of Administrator group)	N/A	N/A
Windows user account for test web server	username and password of a windows account for the test web server with Administrators priviledges (member of Administrator group)	N/A	N/A
Windows user account for DBMS server	username and password of a windows account for the production web server with Administrators priviledges (member of Administrator group)	N/A	N/A