**High level development and deployment steps:**

1. **Create branch (not required but recommended if working on long-term project)**:
   1. Ensure working copy is pointed at the trunk: <https://svn.infoworks-tn.com/svn/IW_TimeTrax/trunk>
   2. Create *branch*
2. **Begin development**
   1. Switch from *trunk* to newly created *branch*
   2. Begin development
3. **When development is completed**
   1. Update version numbers in Web.UAT.config and Web.Prod.config as needed
   2. Create Web Deployment packages for profiles TimeTraxUAT and TimeTraxProd
   3. Commit work
   4. Create *tag* for UAT
   5. Deploy solution to UAT servers (Web app, database/reports)
   6. Repeat 3)a) and e) as necessary until a successful UAT has been
4. **After successful UAT**
   * 1. Ensure Web package has been created using TimeTraxProd profile and all work has been committed
     2. Create *tag* for production
     3. Deploy solution to production servers (Web app, database/reports)
     4. *Switch* from the *branch* to the *trunk*
     5. *Merge* changes from *branch* into *trunk*. Note it is critical that the *trunk* be the working copy when performing the *merge*.

**PREP:**

1. **Create Web Deployment Packages**:
   1. Build solution under the appropriate solution configuration (DEV, UAT or Prod). Note that I have been performing development locally and have not been using or updating the development web application on app-tmtrx-d01 and database on db-msql-d01.
   2. Right-click on the Web project **IW.TimeTrax.Web and** click Publish
   3. Select the appropriate profile and click Publish button

|  |  |  |
| --- | --- | --- |
| **For Web Server** | **Profile** | Location of package |
| AWS Development (app-tmtrx-d01) | TimeTraxDEV | ~\IW.TimeTrax.Web\obj\DEV\Package\ |
| UAT (app-tmtrx-t01) | TimeTraxUAT | ~\IW.TimeTrax.Web\obj\UAT\ Package\ |
| Production (app-tmtrx-p01) | TimeTraxProd | ~\IW.TimeTrax.Web\obj\Prod\Package\ |

* 1. Copy the folder named **Package** to ***desktop*** anddelete folder **PackageTmp** leaving the following:
     1. IW.TimeTrax.Web.deploy.cmd
     2. IW.TimeTrax.Web.deploy-readme.txt
     3. IW.TimeTrax.Web.SetParameters.xml
     4. IW.TimeTrax.Web.SourceManifest.xml
     5. IW.TimeTrax.Web.zip

1. **Prepare deployment for database**
   1. **Scripts**: Ensure all scripts have been added/updated as needed
   2. **Permissions**: Add permissions to **grnt\_ttapp.sql** as needed for new objects
   3. **Deployment file**:
      1. Create deployment batch file to install updates to database using the naming convention ‘deploy\_v#\_#\_#.bat’.
      2. Place file in C:\TimeTrax\Database\deploy\deployments

**Website:**

1. **Copy Web package to web server**
   1. DEV: app-tmtrx-d01.iwtn.com…as stated previously, I have not been using this but have been using IIS on my computer.
   2. UAT: app-tmtrx-t01.iwtn.com
   3. PROD: app-tmtrx-p01.iwtn.com
2. **Create backup:** Copy Web files to a different folder for backup in the event we need to revert to the current version.
3. **Place file in maintenance mode:** copy and paste the **App\_Offline.htm** file to the root folder of the TimeTrax Web site

**Database**:

* Zip the Database folder (e.g., C:\TimeTrax\Database). Ensure the solution is closed in Visual Studio or you may experience difficulty in zipping the folder.
* Copy zipped file to remote computer and unzip to desired location (e.g., desktop).
* Identify the path to the ‘deployments’ folder (e.g., C:\Users\jajones\Desktop\**Database\deploy\deployments)**
* Open command prompt and set the directory path to access files in the deployments folder (e.g., **cd C:\Users\jajones\Desktop\Database\deploy\deployments**)
* Run the following command to execute the batch file (e.g., **deploy\_v#\_#\_#):** 
  + Batch file name
  + Server name
  + Database name
  + User account (service account for environment) and password
    - TimeTraxDevSvc !102Woodmont
    - TimeTraxUATSvc !102Woodmont
    - TimeTraxProdSvc 2018!Time!Entry

The command will look something like this **example**:

**DEV – Local: deploy\_v4\_2\_0 “IWHQT-750-02” TimeTraxDev <User> <Pwd>**

**DEV – Remote: deploy\_v4\_2\_0 “db-mssql-d01.iwtn.com” TimeTraxDev <User> <Pwd>**

**UAT: deploy\_v4\_2\_0 “db-mssql-t01.iwtn.com” TimeTraxUAT <User> <Pwd>**

**PROD: deploy\_v4\_2\_0 “db-mssql-p01.iwtn.com” TimeTraxProd <User> <Pwd>**

* Review log file output to the logs folder (e.g., C:\Users\jajones\Desktop\Database \deploy\deployments\logs) for errors. Note the log file will be in one of the following subfolders:
  + DEV when deploying to the development environment
  + UAT when deploying to the User Acceptance Testing environment
  + PROD when deploying to the production environment.

**Reports**

* Open the *TimeTrax-BI solution* in VS 2015 and ensure the appropriate Solution Configuration setting is selected: **UAT** for test and **PROD** for production
* Build and deploy report project or individual report objects.
* DO NOT DEPLOY logo.png…if this file is deployed, you will need to go to the Report Manager on the appropriate database server; open the Reports folder and upload the image file. For some reason it fails to link the image file with the reports when deployed.

**Website**

1. Ensure the web package has been copied to web server.
2. **If deploying to production**, edit **IW.TimeTrax.Web.SetParameters.xml;** replace “abc123” with the production database encryption key in the parameters list.
3. **Open command prompt as administrator**
   1. Change the directory to the Package folder (**i.e., …\Desktop\*Deliverables \_<tag name>\_Web***\**Package**)
   2. Run the deployment file with the following command: **IW.TimeTrax.Web.deploy.cmd /Y**
4. [Secure ASP.Net Configuration](https://msdn.microsoft.com/en-us/library/zhhddkxy.aspx): Encrypt the secure settings in the [Web.config](https://msdn.microsoft.com/en-us/library/53tyfkaw.aspx) file by running following command (or use the batch file **EncryptSecureSettings.bat** on the server desktop) on Web server
   1. Open command prompt **as administrator** on appropriate Web server
   2. Set directory path to: **cd \windows\Microsoft.NET\Framework64\v4.0.30319**
   3. Run the following command: aspnet\_regiis -pef secureAppSettings D:\TimeTrax
5. Test application to ensure that the application is now running and accessible
6. Clean up: Delete any folders/files on servers that are no longer needed