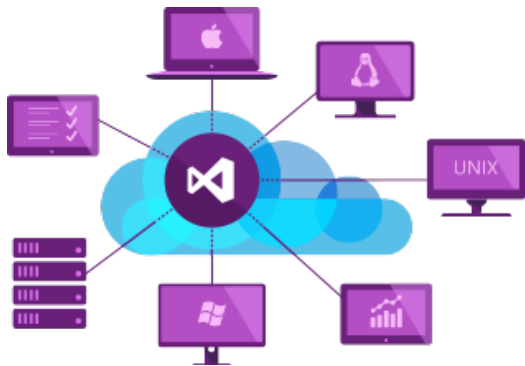




# Visual Studio Team Services

## Getting Started



Hans-Petter Halvorsen, M.Sc.

# Visual Studio Team Services

- Visual Studio Team Services is a platform taking care of all aspects of the process of developing software (the software development lifecycle)
- You can share Documents and Code with your Team, report Bugs, etc.

# Team Foundation Server (TFS) vs. Visual Studio Team Services (VSTS)

Visual Studio

Visual Studio don't care if you use TFS or VSTS. You just hook it up using an URL.

Team  
Foundation  
Server (TFS)

vs.

Visual Studio  
Team Services  
(VSTS)

“Team Foundation Server” (TFS). This is software you can install on a server in your own network. You and your team can then hook up Visual Studio to that server and use TFS. You have to buy the software, buy licenses for users and use your own server.

“Visual Studio Team Services” (VSTS) is an online version of TFS – hosted by Microsoft. You don't need to install anything. You need to pay a monthly fee (until 5 users is for free).

VSTS is available from <http://www.visualstudio.com>

[https://en.wikipedia.org/wiki/Team\\_Foundation\\_Server](https://en.wikipedia.org/wiki/Team_Foundation_Server)

# What is TFS/VSTS?

- Team Foundation Server (TFS)/Visual Studio Team Services (VSTS) is an Application Lifecycle Management (**ALM**) system,
  - i.e., the system takes care of all aspects in software development
  - from planning, requirements, coding, testing, deployment and maintenance.
- TFS/VSTS is a Source Code Control (**SCC**), Bug Tracking, Project Management, and Team Collaboration platform
- Tightly integrated with **Visual Studio** as Microsoft is the vendor of both Visual Studio and TFS/VSTS
- Cloud based edition (Hosting Service): “Visual Studio Team Services” (former: “Visual Studio Online” and “Team Foundation Service”)

# Visual Studio Team Services (VSTS)

- Formerly known as Visual Studio Online (VSO)
- VSTS is a Source Code Control (SCC), Bug Tracking, Project Management, and Team Collaboration platform
- Integrated with Visual Studio
- TFS in the Cloud (This means you don't need to host the server yourself)
- Free for up to 5 users

[www.visualstudio.com](https://www.visualstudio.com)

# TFS/VSTS

Server

Clients

Others

**TFS/VSTS**

Services

Repository

SQL Server Git  
(TFVC)

**LabVIEW**

MSSCCI Provider

**Eclipse**

**Web Access**

**MS Excel**

**MS Project**

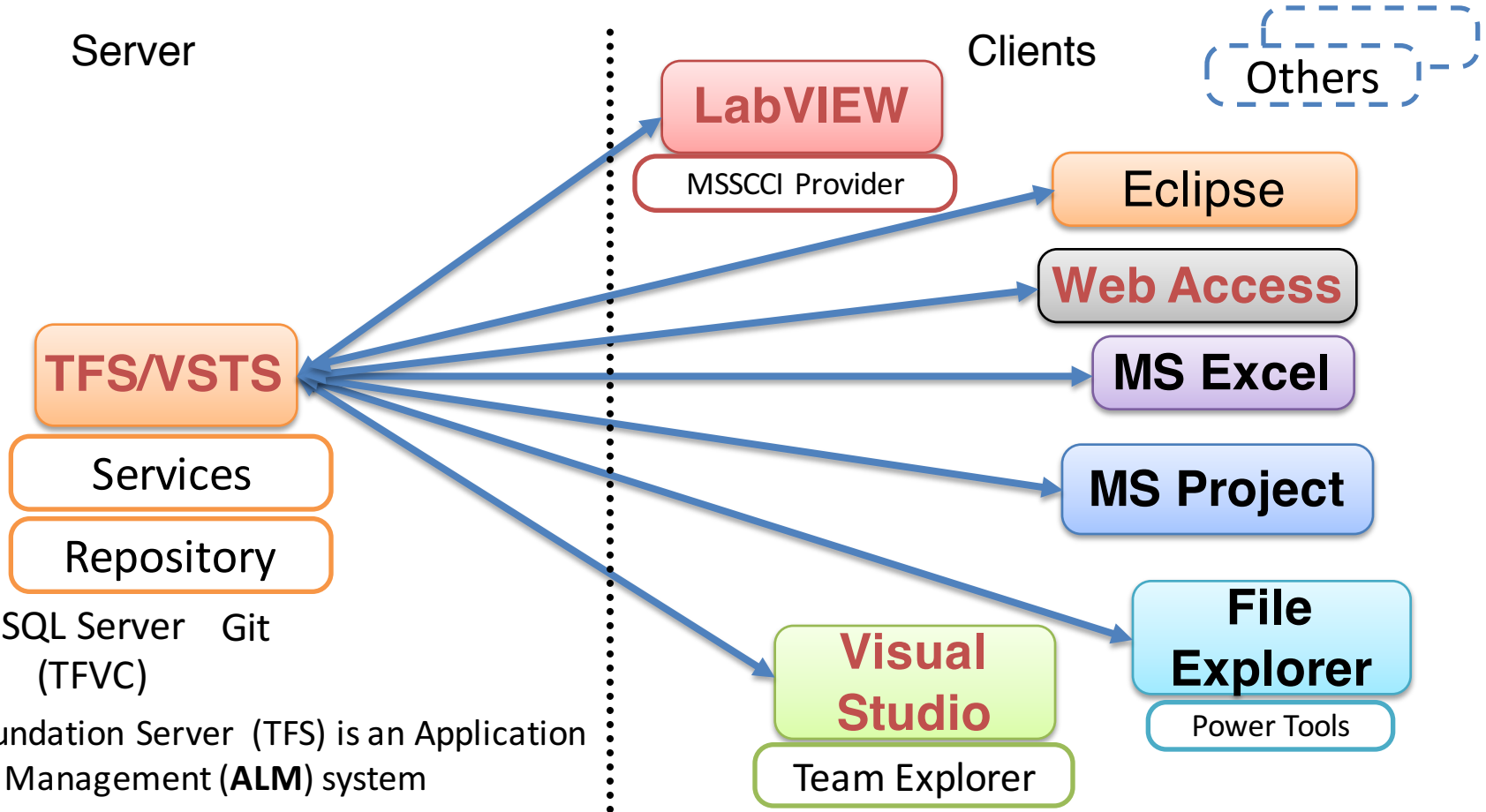
**Visual  
Studio**

Team Explorer

**File  
Explorer**

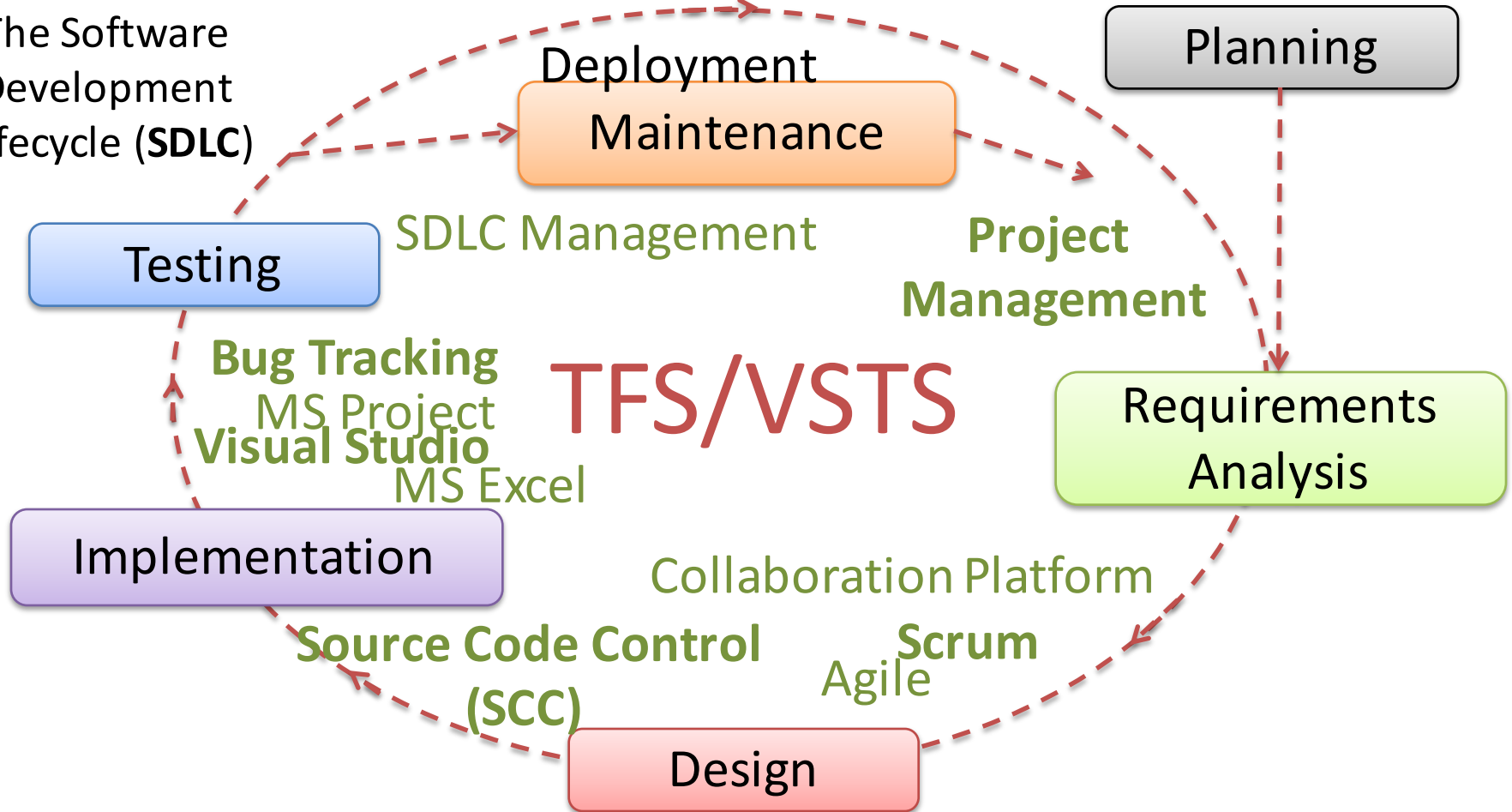
Power Tools

Team Foundation Server (TFS) is an Application Lifecycle Management (**ALM**) system



TFS/VSTS is an Application Lifecycle Management (**ALM**) System

The Software  
Development  
Lifecycle (**SDLC**)



# Visual Studio Team Services

[www.visualstudio.com](http://www.visualstudio.com)



## Visual Studio Team Services

## Cloud collaboration tools for teams

It's not an IDE, it's everything else. Visual Studio Team Services provides a set of cloud-powered collaboration tools that work with your existing IDE or editor, so your team can work effectively on software projects of all shapes and sizes.



# Getting Started

Visual Studio

MSDN Subscriptions

Sign in



Products

Features

Downloads

News

Support

Marketplace

Documentation

Free Visual Studio



## Tools for every developer and every app

### A powerful IDE

Create stunning apps for Windows, Android, iOS, and the web with a powerful integrated development environment.

**Learn about Visual Studio** >

Download Community 2015

Compare 2015 product editions >

### Team collaboration

Collaborate in the cloud with version control, agile, continuous delivery, app analytics — using any IDE or editor.

**Learn about Team Services** >

Get started for free



Host it yourself with Team Foundation Server >

### An editor for any OS

Build and debug modern web and cloud apps with a free code editor that runs on Windows, OS X, or Linux.

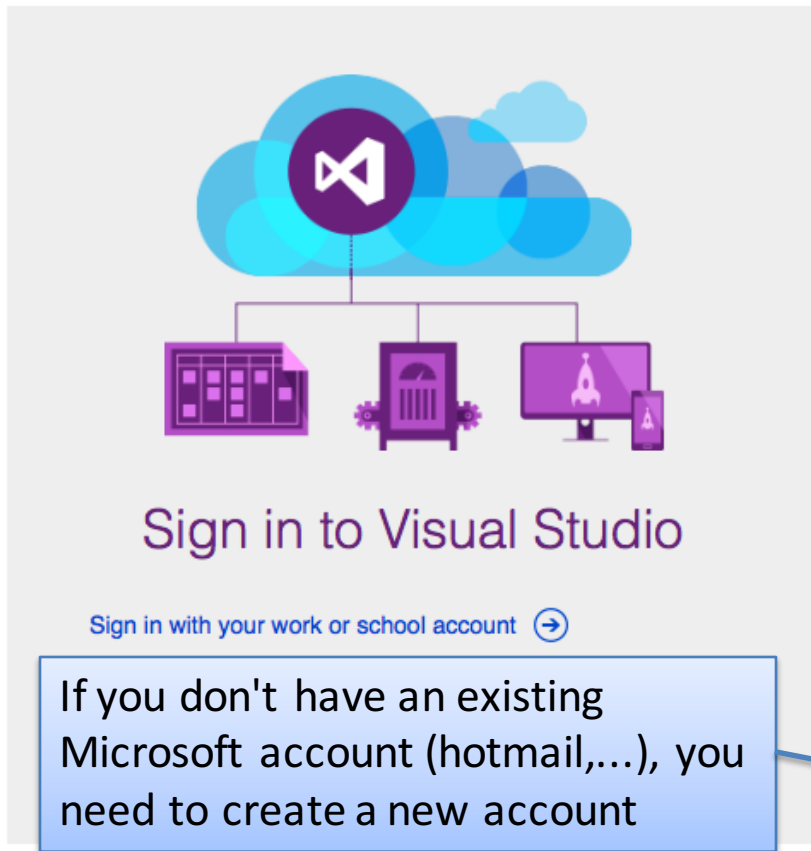
**Learn about Visual Studio Code** >

Download Code for Mac OS X

Download for Linux  Windows 

By using VS Code, you agree to its [license](#) and [privacy statement](#).

# Sign in with your existing Microsoft Account



If you don't have an existing Microsoft account (hotmail,...), you need to create a new account



Microsoft account [What's this?](#)

Enter your e-mail address here

.....

☐ Keep me signed in

Sign in

[Can't access your account?](#)

[Sign in with a single-use code](#)

Don't have a Microsoft account? [Sign up now](#)

# VSTS Account

## Create a Visual Studio Team Services Account

Full name \*

Contact e-mail \*

Country/Region \*

Please select

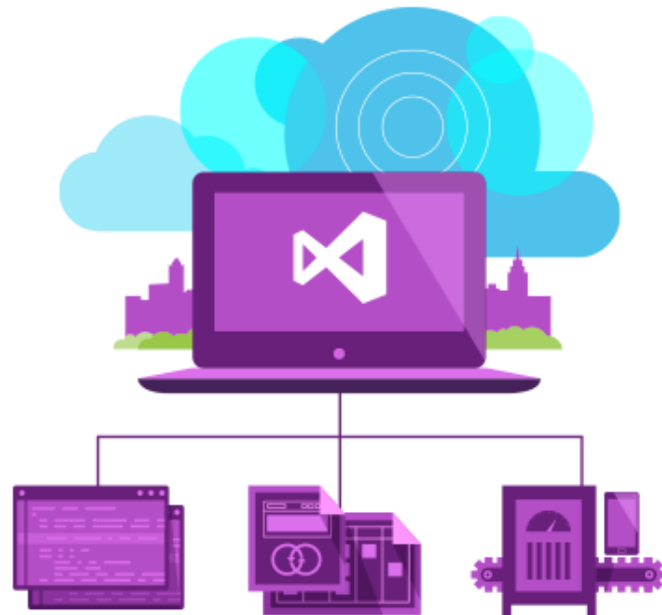
Account URL \* ?

https:// .visualstudio.com

Your account will be hosted in the **South Central US** region.

[Change options](#)

Create Account



# Create your First Project

CREATE NEW TEAM PROJECT

Project name

Description

Process template

Scrum

This template is for teams who follow the Scrum framework.

Version control

Team Foundation Version Control

Team Foundation Version Control (TFVC) uses a single, centralized server repository to track and version files. Local changes are always checked in to the central server where other developers can get the latest changes.


Create project




Cancel

Enter the Name of your Project here

Select these options


# Project Start Page (Dashboard)


 Visual Studio Online / Systemutvikling 2015

Hans-Petter Halvorsen |   

HOME CODE WORK BUILD TEST


Welcome | Overview +


Search work items 





### Welcome

Get started using Visual Studio Online to make the most of your team dashboard.

**Manage Work**  
Add work to your board

**Collaborate on code**  
Add code to your repository

**Continuously integrate**  
Automate your builds

**Visualize progress**  
Learn how to add charts

### Work in Progress (2)

ID	Work Item Type	Title	Assigned To	State
105	Task	SRS	Hans-Petter Hal...	In Progress
106	Task	SDD	Hans-Petter Hal...	In Progress


On the Dashboard you see different Widgets


View query

### Work

[Backlog](#)[Board](#)[Task board](#)[Queries](#)

### Visual Studio

**Open in Visual Studio**  
Requires Visual Studio 2013+

**Get Visual Studio**  
See Visual Studio downloads

### Sprint Burndown

Set iteration dates to use the sprint burndown widget

[Set iteration dates](#)

### New work item

Enter title

Bug



Create


### Work in Progress

2

Work items

### Team Members



Add or Change Widgets 

# Add Project Members

The screenshot shows the Visual Studio Online interface for a project named 'Systemutvikling 2015'. The top navigation bar includes 'HOME', 'CODE', 'WORK', 'BUILD', and 'TEST'. The user 'Hans-Petter Halvorsen' is logged in. A modal window titled 'MANAGE MEMBERSHIP OF SYSTEMUTVIKLING 2015 TEAM' is open, displaying a table of team members:

Display Name	Username Or Scope	
Hans-Petter Halvorsen	hans.p.halvorsen@hit.no	<a href="#">Remove</a>
Olav Dæhli	olav.dehli@hotmail.com	

The modal window has an '+ Add...' button, a refresh icon, and a search bar. A red arrow points from the 'Team Members' section in the sidebar to the modal window. The sidebar includes sections for 'Work' (Backlog, Board, Task board, Queries), 'Visual Studio' (Open in Visual Studio, Get Visual Studio), and 'Team Members' (which is highlighted with a red box and contains two profile pictures). A red callout box points to the 'Team Members' section, and another red callout box points to the modal window.

This Window pops up where you can Add or Remove Team Members

Click here to Manage Team Members

## Other Links Widget on the Dashboard

# Iterations

Hans-Petter Halvorsen



### Other Links

[Request feedback](#)

[Configure schedule and iterations](#)

[Configure work areas](#)



ITERATIONS

ShowExpand all

Select the iterations you want to use for iteration planning (sprint planning). Selected iterations will appear in your backlog view as iterations available for planning.

NewNew child

Iterations	Start Date	End Date
Software Development	<a href="#">Set dates</a>	Backlog iterati
Release 1		
<input checked="" type="checkbox"/> Sprint 1		
<input checked="" type="checkbox"/> Sprint 2		
<input checked="" type="checkbox"/> Sprint 3		
<input checked="" type="checkbox"/> Sprint 4		
<input checked="" type="checkbox"/> Sprint 5		
<input checked="" type="checkbox"/> Sprint 6		
<input type="checkbox"/> Release 2		
<input type="checkbox"/> Release 3		
<input type="checkbox"/> Release 4		

<

>

Close

Control panel > DefaultCollection > Software Development

OverviewIterationsAreasSecurityAlertsVersion ControlService HooksServices

### Iterations

Select the iterations you want to use for iteration planning (sprint planning). Selected iterations will appear in your backlog view as iterations available for planning.

NewNew child

Iterations	Start Date	End Date
Software Development	<a href="#">Set dates</a>	Backlog iteration for this team
Release 1		
<input checked="" type="checkbox"/> Sprint 1		
<input checked="" type="checkbox"/> Sprint 2		
<input checked="" type="checkbox"/> Sprint 3		
<input checked="" type="checkbox"/> Sprint 4		
<input checked="" type="checkbox"/> Sprint 5		
<input checked="" type="checkbox"/> Sprint 6		
<input type="checkbox"/> Release 2		
<input type="checkbox"/> Release 3		
<input type="checkbox"/> Release 4		

Create Iterations for the different releases, milestones or sprints (internal and/or external); e.g., Alpha, Beta, RC, RTM

Hans-Petter Halvorsen



# Areas

Control panel > DefaultCollection > Software Development

Overview

Iterations

Areas

Security

Alerts

Version Control

## Areas

### Areas

Select the areas your team owns. Selected areas will determine what shows up on your team's backlog and what work items your team is responsible for.

New

New child

Areas

☒ Software Development default area sub-areas are included

New

New child

Open

Delete

Security

Set as default area for team

Exclude sub-areas

The different software modules could be divided into different Areas

## Areas

### Areas

Select the areas your team owns. Selected areas will determine what shows up on your team's backlog and what work items your team is responsible for.

New

New child

Areas

<input checked="" type="checkbox"/>	Software Development	default area	sub-areas are included
<input type="checkbox"/>	Database		
<input type="checkbox"/>	Design		
<input type="checkbox"/>	Script	Set default	
<input type="checkbox"/>	Desktop		
<input type="checkbox"/>	WinFormApp1		
<input type="checkbox"/>	WinFormApp2		
<input type="checkbox"/>	Web		
<input type="checkbox"/>	WebFormApp1		



# The Product Backlog

All the Work that should be done in the Project

Visual Studio Online / Software Development

Hans-Petter Halvorsen | ⚙️ ?

HOME CODE **WORK** BUILD TEST\*

Search work items 🔍

**Backlogs** Queries

Features

**Backlog items**

Current

Sprint 1

Future

Sprint 2

Sprint 3

Sprint 4

Sprint 5

Sprint 6

## Backlog items

Backlog Board

Forecast Off In progress items Show View Backlog items

New [Icons] | Create query | Column options | [Icon]

Type: Product Backlog Item

Title: [Yellow input field] Add

Order	Work Item Type	Title	State	Effort	Iteration Path	Tags
1	Product Backlo...	Create GUI for Web App	New		Software Development	
2	Product Backlo...	Add Database Communication with Server	New		Software Development	

# The Sprint Backlog

All the Work that should be done in the Next Sprint (Iteration)

Just Drag Items from the Product Backlog to the Sprint Backlog

Visual Studio Online / Software Development

HOME CODE **WORK** BUILD TEST\*

**Backlogs** Queries

Features

Backlog items

Current

Sprint 1

Future

Sprint 2

Sprint 3

Sprint 4

Sprint 5

Sprint 6

Backlog items

Backlog Board

New

Type Product Backlog Item

Title

Order Work Item Type Title State Effort

1 Product Backlo... Create GUI for Web App New

2 Product Backlo... Add Database Communi...

Visual Studio Online / Software Development

HOME CODE **WORK** BUILD TEST\*

**Backlogs** Queries

Features

Backlog items

Current

Sprint 1

Future

Sprint 2

Sprint 3

Sprint 4

Sprint 5

Software Development Team Sprint 1

Backlog Board Capacity

Create query Column options

Title State Assigned To Rema...

Create GUI for Web App New

Add Database Communication with Server New

Title



Create GUI for Web App

GUI Design

Add Database Communication with Server

# Create Tasks

Task 3: GUI Design

Tags

GUI Design

Iteration

STATUS

Assigned To

State

Reason

Blocked

DETAILS

Remaining Work

Backlog Priority

Activity

Area

DESCRIPTION

B

/

U

HISTORY

LINKS (1)

ATTACHMENTS

B

/

U

Save

Save and close

Close

# Task Board

Visual Studio Online / Systemutvikling 2015

HOME CODE **WORK** BUILD TEST

Backlogs Queries

Systemutvikling 2015 Team Sprint 1

Backlog **Board** Capacity

No iteration dates  
[Set dates](#)

Group by Backlog items Person All

**Current**  
Sprint 1  
**Future**  
Sprint 2  
Sprint 3  
Sprint 4  
Sprint 5  
Sprint 6

**To do**

- Introduction  
Olav Dæhli  
State New
- Requirement Analysis  
Hans-Petter H... 20 h  
State New
- Software Design  
Olav Dæhli 10 h  
State New
- Database Communication fails  
Hans-Petter Halv...  
State New
- Database Script not Working  
Olav Dæhli  
State New

**In progress 30 h**

- SRS  
Hans-Petter H... 20
- ERwin  
Olav Dæhli
- SDD  
Hans-Petter H... 10

**Done**

- What is System Engineering  
Hans-Petter H...

Drag and Drop Tasks



# Visual Studio

How-To use TFS/VSTS Features inside Visual Studio

Hans-Petter Halvorsen, M.Sc.

# Using TFS/VSTS with Visual Studio

- Connect to TFS/VSTS
- Add Source Code to TFS/VSTS
- Check In/Check Out
- Team Explorer
- Source Control Explorer

# Open in Visual Studio

The screenshot shows the Visual Studio Online web interface. The browser's address bar displays 'Microsoft Visual Studio Onl...'. The page header includes 'Visual Studio Online / Software Development' and the user's name 'Hans-Petter Halvorsen'. The main navigation bar contains links for 'HOME', 'CODE', 'WORK', 'BUILD', and 'TEST\*'. Below this, the 'Overview' section is active, showing a 'Welcome' message and a 'How to' section with four cards: 'Work' (blue), 'Code' (purple), 'Build' (grey), and 'Test' (blue). To the right of these cards is a 'Work' section with a 'Create new' dropdown and links for 'Backlog', 'Task board', and 'Queries'. A red box highlights the 'Visual Studio' section, which contains the link 'Open in Visual Studio' (with a sub-link 'Requires Visual Studio 2013') and 'Get Visual Studio' (with a sub-link 'See Visual Studio downloads'). Below the 'How to' section is a 'Sprint' section with an 'Example Sprint' bar chart and a 'Pinned Items' section with a bar chart and a '42 Example Pinned Items' card. The 'Members' section shows a green square with 'HH' and a 'Manage...' link. The 'Other links' section includes 'Request feedback\*', 'Configure schedule and iterations...', and 'Configure work areas...'.

Visual Studio Online / Software Development

Hans-Petter Halvorsen

HOME CODE WORK BUILD TEST\*

Overview Welcome

How to

Work  
Create and manage your product backlog in minutes

Code  
Learn about working with your code

Build  
Learn about builds in the cloud

Test  
Learn more about Test Manager and test planning

Work  
Create new  
Backlog  
Task board  
Queries

Visual Studio

Open in Visual Studio  
Requires Visual Studio 2013

Get Visual Studio  
See Visual Studio downloads

Sprint

Example Sprint

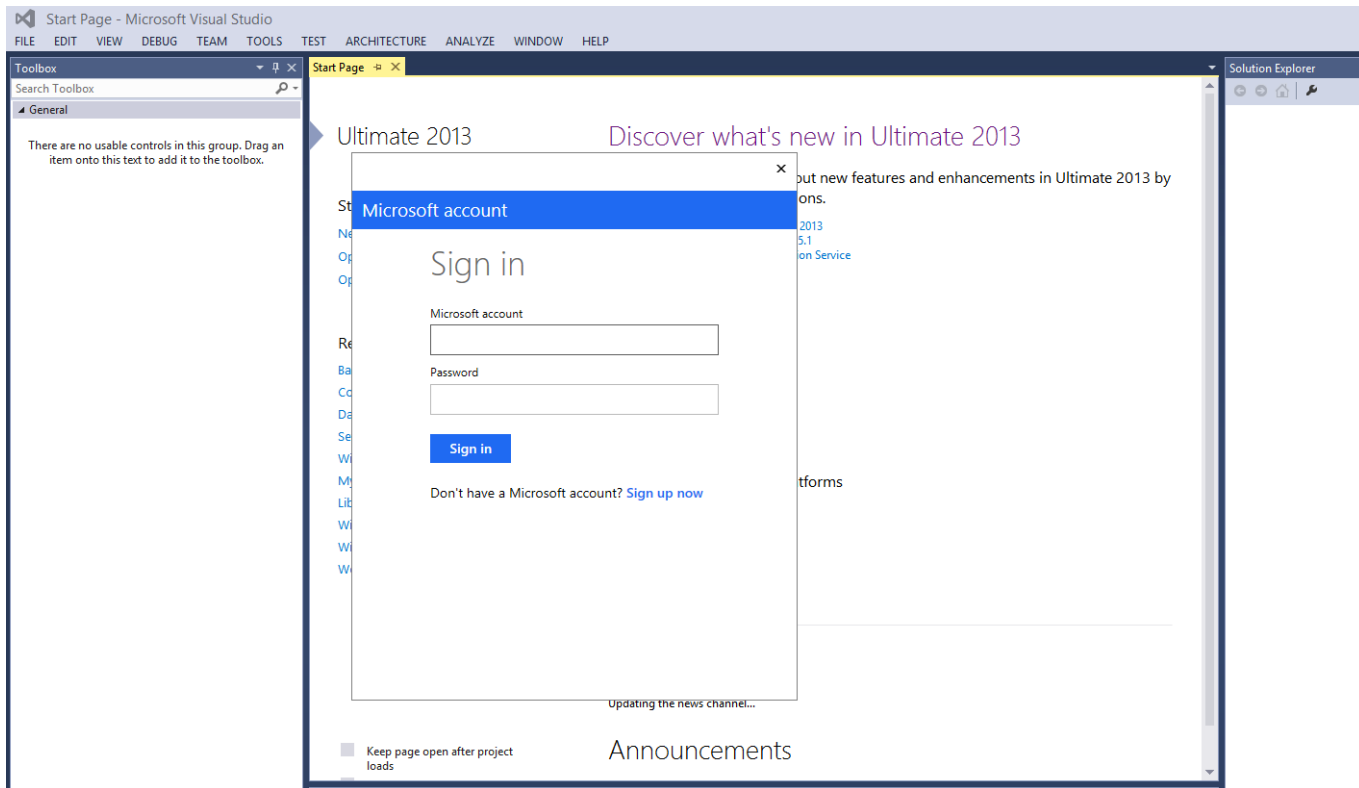
Pinned Items

42  
Example Pinned Items

Members  
HH

Other links  
Request feedback\*  
Configure schedule and iterations...  
Configure work areas...

# Sign in





# TFS/VSTS in Visual Studio

The screenshot displays the Visual Studio interface with the 'TEAM' menu highlighted in the top menu bar. Two tool windows are open and highlighted with red boxes: 'Source Control Explorer' on the left and 'Team Explorer' on the right.

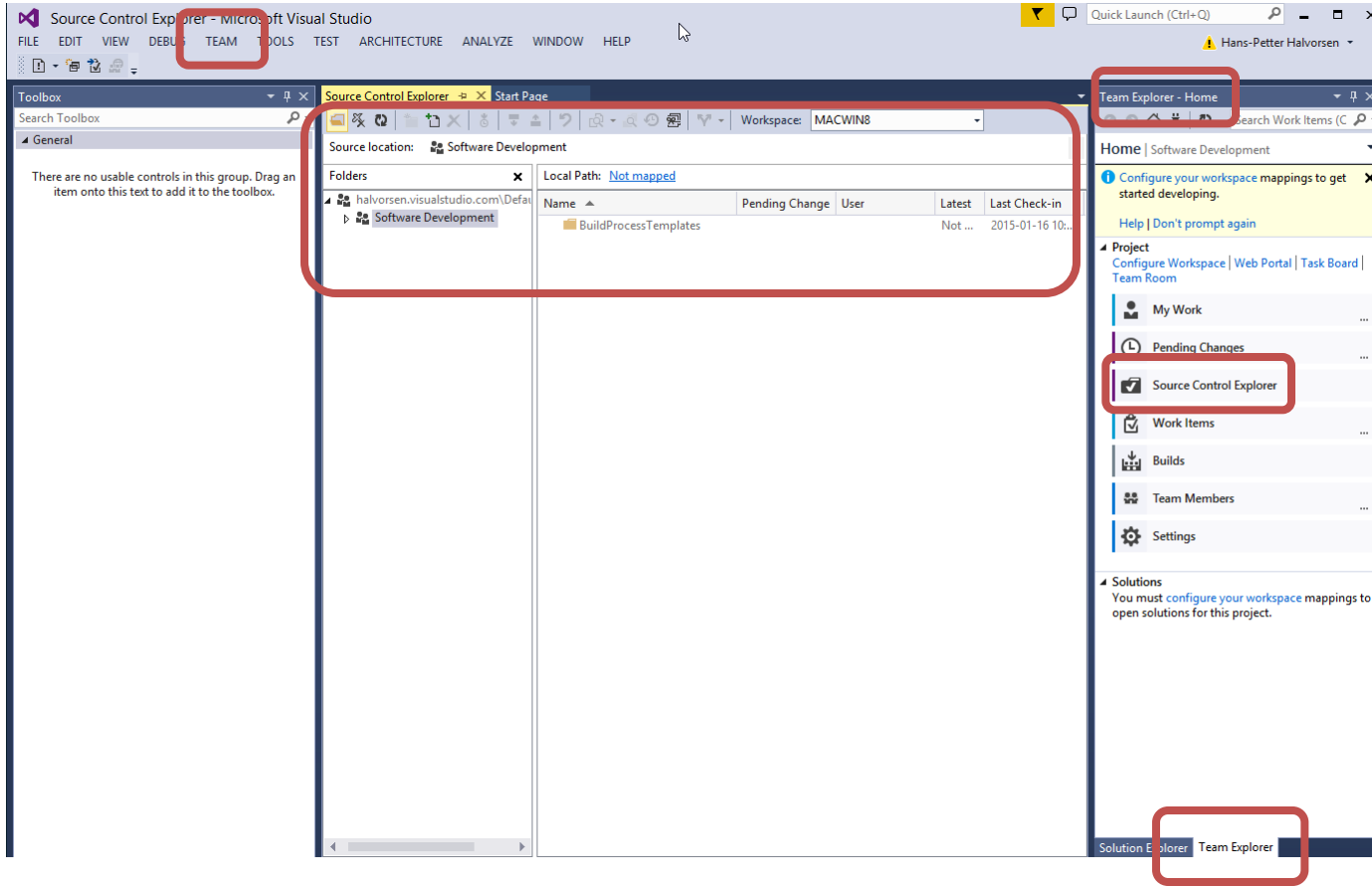
**Source Control Explorer:** Shows the 'Development' source location. The 'Folders' pane on the left lists a tree structure starting with 'tuc.visualstudio.com\DefaultCollection', including folders like 'Arduino', 'DeltaV', 'Development', 'BuildProcessTemplates', 'Code', 'Modules', 'Desktop', 'Mobile', 'Server', 'Database', 'Script', 'Stored Procecs', 'Tables', 'Triggers', 'Views', 'Web Server', 'Web', 'Documents', 'Installation', 'Requirements', 'System Documentation', 'Testing', 'User Manuals', 'Project Management', and 'Development Project 1'.

**Team Explorer:** Displays 'Pending Changes' for the 'Development' branch. A yellow message at the top states 'Changeset 149 successfully checked in.' Below this, there are sections for 'Comment', 'Related Work Items', 'Included Changes', and 'Excluded Changes'.

**Pending Changes Table:**

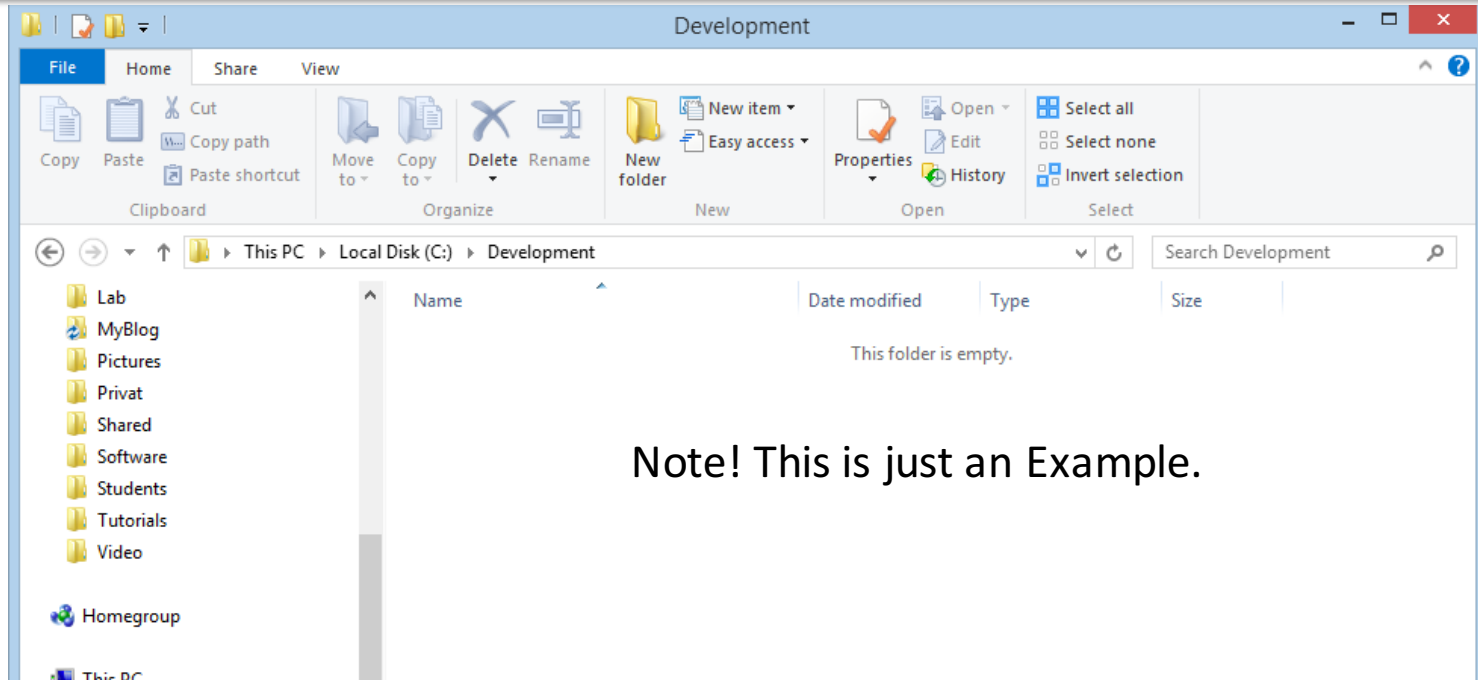
Name	Pending Change	User	Latest	Last Check-in
BuildProcessTemplates			Yes	2013-04-26 12:...
Code			Yes	2013-05-31 12:...
Documents			Yes	2013-06-20 10:...
Project Management			Yes	2014-01-15 9:2...

# Team Explorer + Source Control Explorer



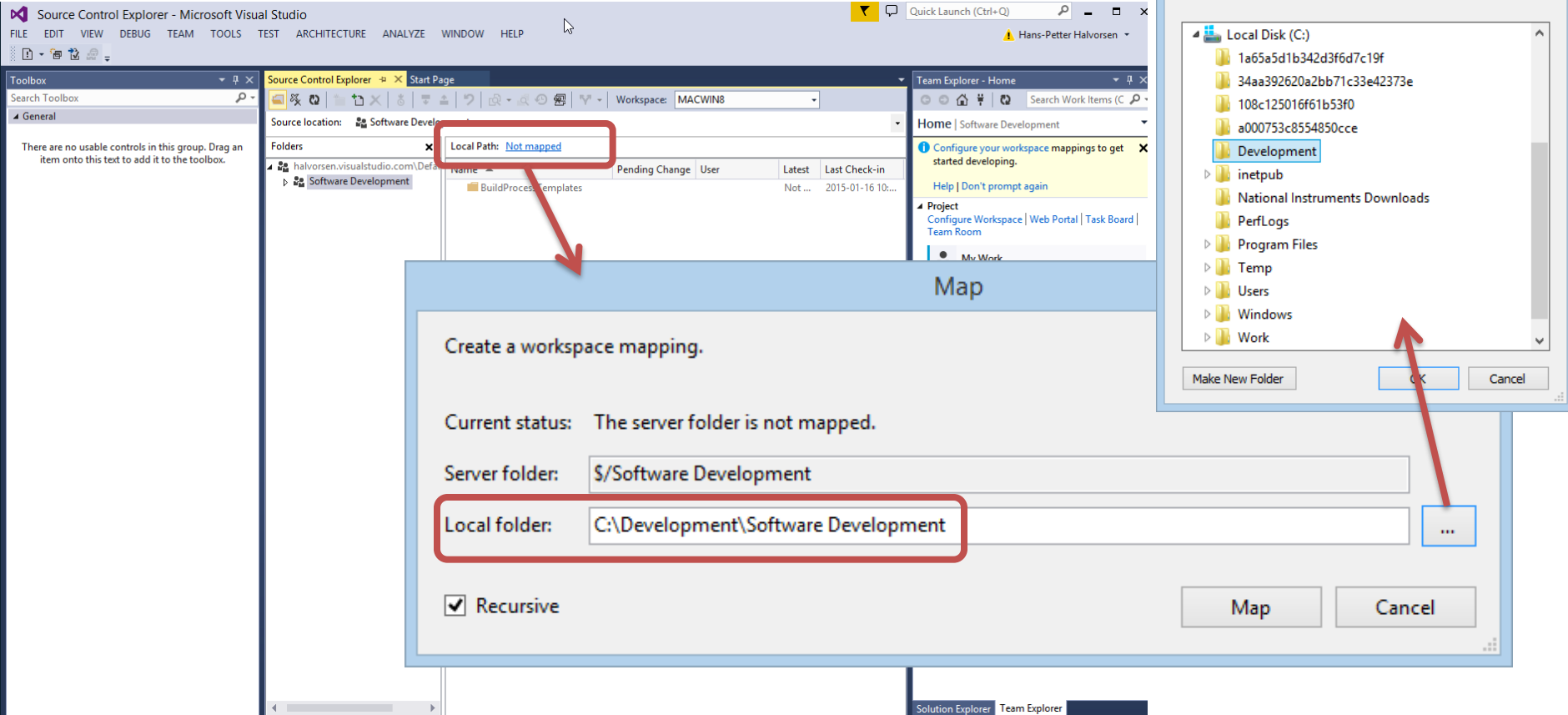
# Create local Folder on your Hard drive

Create a local Folder on your hard drive where you want to store your files (Documents, Code Files, etc.)

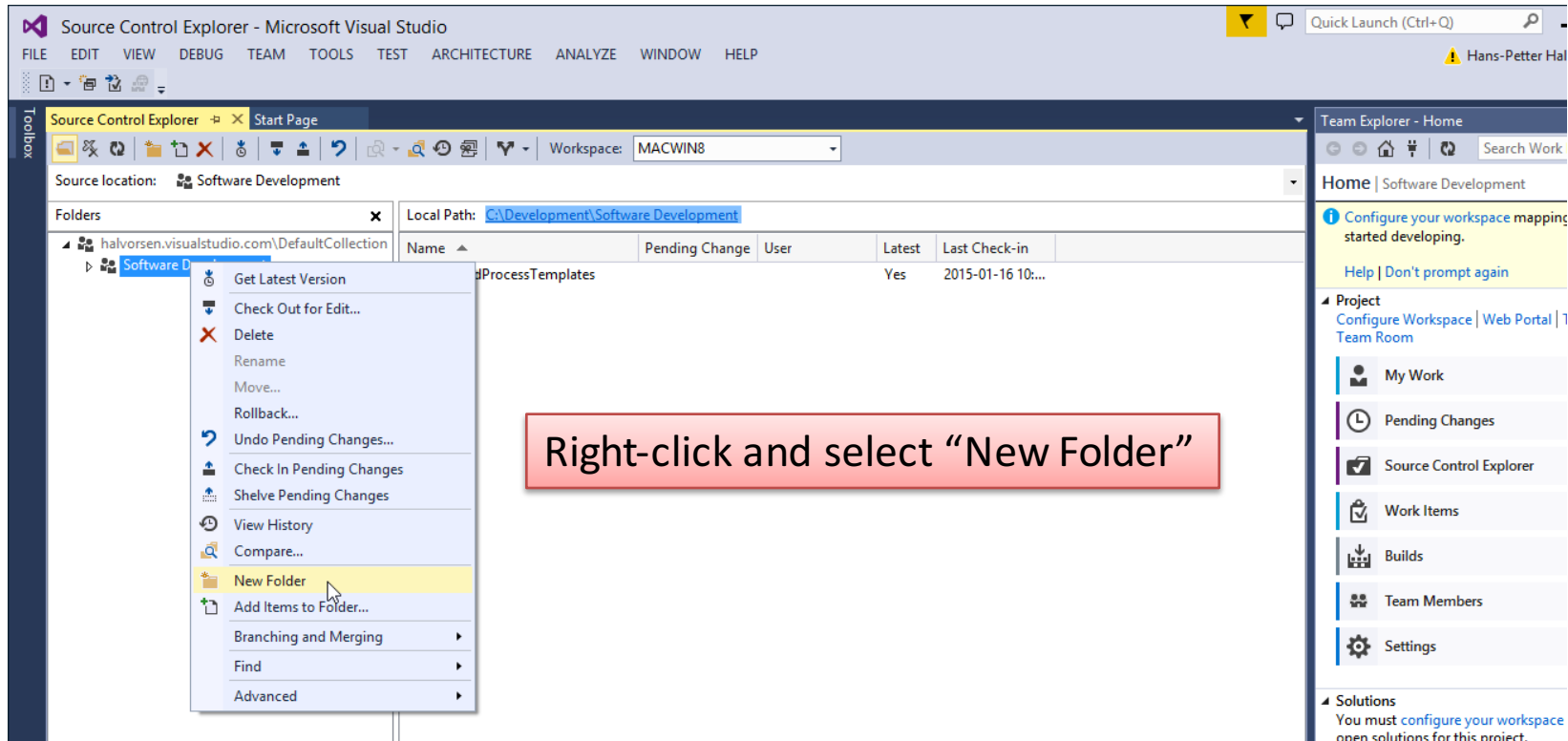


Note! This is just an Example.

# Workspace Mapping



# Create a Folder Structure



The screenshot shows the Microsoft Visual Studio Source Control Explorer interface. The 'Toolbox' on the left contains icons for Source Control Explorer, Start Page, and Workspace. The 'Source location' is set to 'Software Development'. The 'Local Path' is 'C:\Development\Software Development'. A right-click context menu is open over the 'Software Development' folder, with 'New Folder' highlighted. The menu options include: Get Latest Version, Check Out for Edit..., Delete, Rename, Move..., Rollback..., Undo Pending Changes..., Check In Pending Changes, Shelf Pending Changes, View History, Compare..., New Folder, Add Items to Folder..., Branching and Merging, Find, and Advanced. A red box with the text 'Right-click and select "New Folder"' is overlaid on the image.

Source Control Explorer - Microsoft Visual Studio

FILE EDIT VIEW DEBUG TEAM TOOLS TEST ARCHITECTURE ANALYZE WINDOW HELP

Source location: Software Development

Local Path: C:\Development\Software Development

Folders

Name	Pending Change	User	Latest	Last Check-in
halvorsen.visualstudio.com\DefaultCollection				
Software Development				
ProcessTemplates	Yes			2015-01-16 10:...

Right-click and select "New Folder"

Team Explorer - Home

Home | Software Development

Configure your workspace mapping started developing.

Help | Don't prompt again

Project

Configure Workspace | Web Portal | Team Room

My Work

Pending Changes

Source Control Explorer

Work Items

Builds

Team Members

Settings

Solutions

You must configure your workspace open solutions for this project.

# Folder Structure Example

Source Control Explorer Start Page

Workspace: MACWIN8

Source location: Software Development

Folders

- halvorsen.visualstudio.com\DefaultCollection
  - Software Development
    - BuildProcessTemplates
    - Code
      - WebForm App
      - WinForm App
    - Database
    - Documents
      - Project Management
      - Requirements and Design
      - System Documentation
    - User Documentation
      - User Guides

Local Path: [C:\Development\Software Development](#)

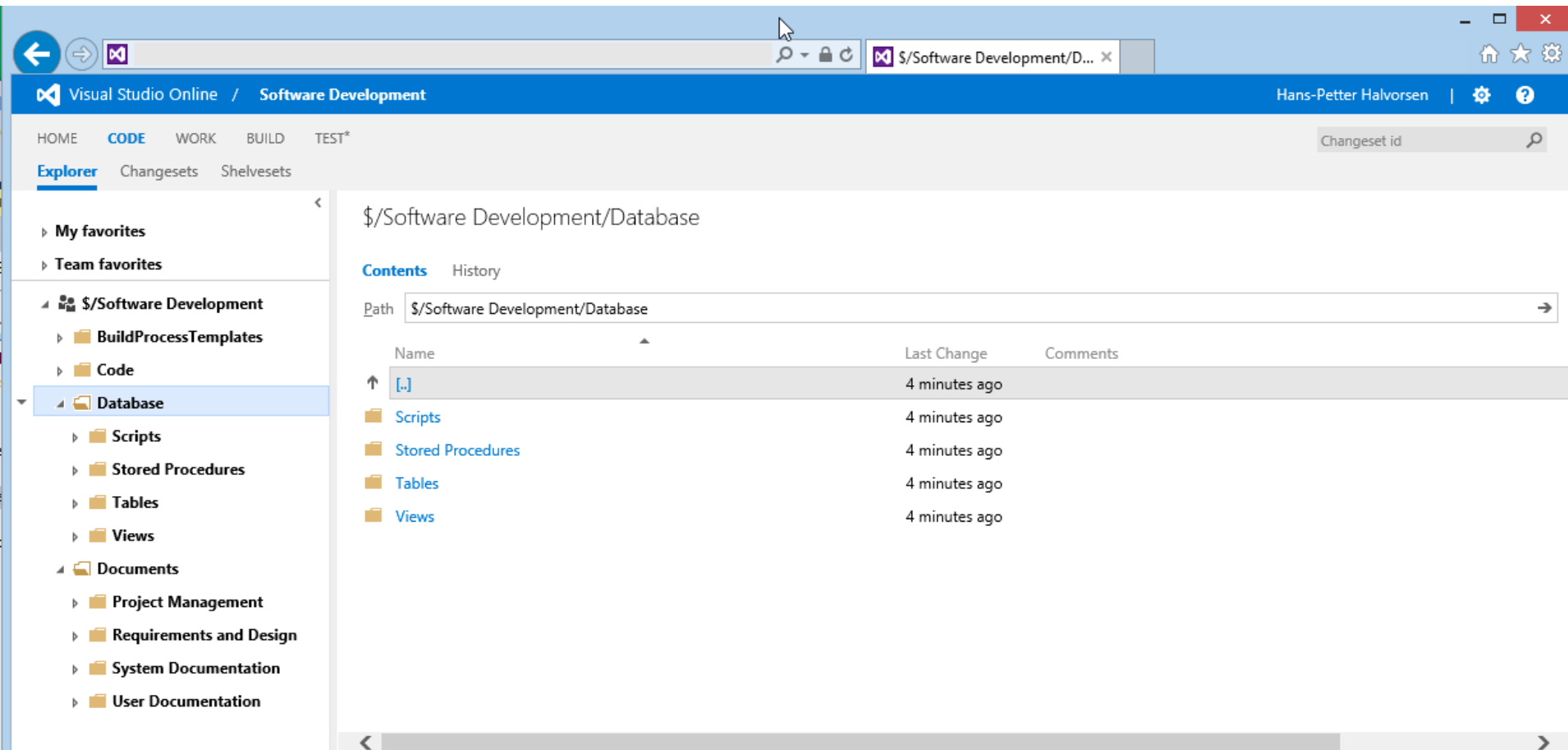
Name	Pending Change	User	Latest	Last Check-in
BuildProcessTemplates			Yes	2015-01-16 10:...
+ Code	add	Hans-Petter H...	Yes	
+ Database	add	Hans-Petter H...	Yes	
+ Documents	add	Hans-Petter H...	Yes	

# Upload/Check In Changes to the Server

The screenshot displays the Visual Studio interface with the Source Control Explorer and Team Explorer. The Source Control Explorer shows the 'Software Development' folder selected, and a context menu is open with 'Check In Pending Changes' highlighted. The Team Explorer shows the 'Check In' button highlighted. A red arrow points from the 'Check In Pending Changes' menu item to the 'Check In' button.

When you are Finished you need to Upload/Check In Changes to the Server (Visual Studio Online). The Folders you created should then be visible to the other Members on your Team

# The Folders are now available on the Server



The screenshot shows the Visual Studio Online interface. The Explorer pane on the left displays a folder tree under the path `$/Software Development`. The `Database` folder is selected, showing its contents in the main pane. The main pane displays a table of files and folders under the path `$/Software Development/Database`.

Visual Studio Online / Software Development

HOME CODE WORK BUILD TEST\*

Changesets Shelvesets

Changeset id

\$/Software Development/Database

Contents History

Path: `$/Software Development/Database`

Name	Last Change	Comments
↑ <code>[..]</code>	4 minutes ago	
Scripts	4 minutes ago	
Stored Procedures	4 minutes ago	
Tables	4 minutes ago	
Views	4 minutes ago	

My favorites

Team favorites

\$/Software Development

- BuildProcessTemplates
- Code
- Database
  - Scripts
  - Stored Procedures
  - Tables
  - Views
- Documents
  - Project Management
  - Requirements and Design
  - System Documentation
  - User Documentation



```
-top: 60px;  
-bottom: 40px;
```

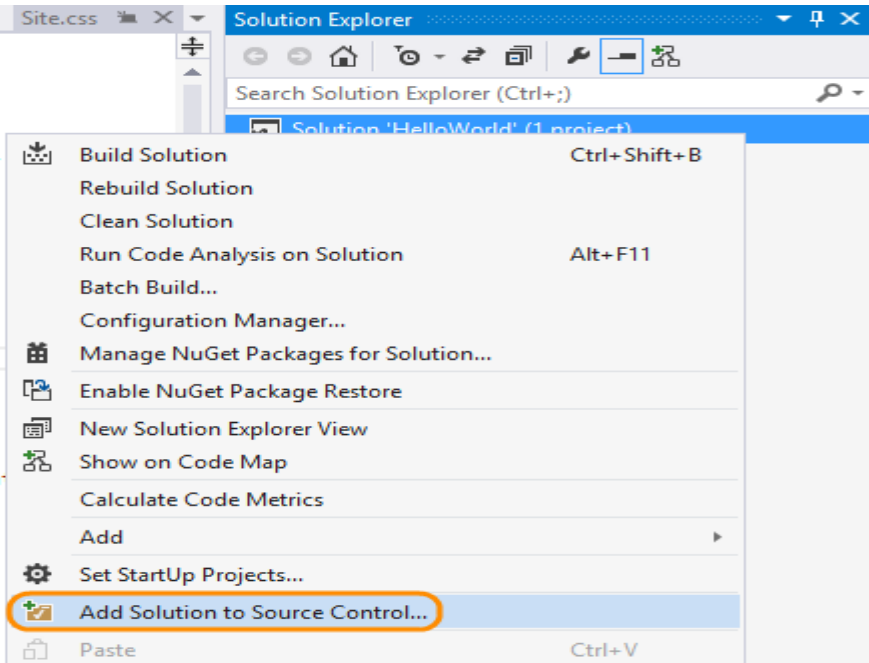
```
or validation helpers */  
.validation-error {  
    #b94a48;
```

```
.validation-valid {  
    : none;
```

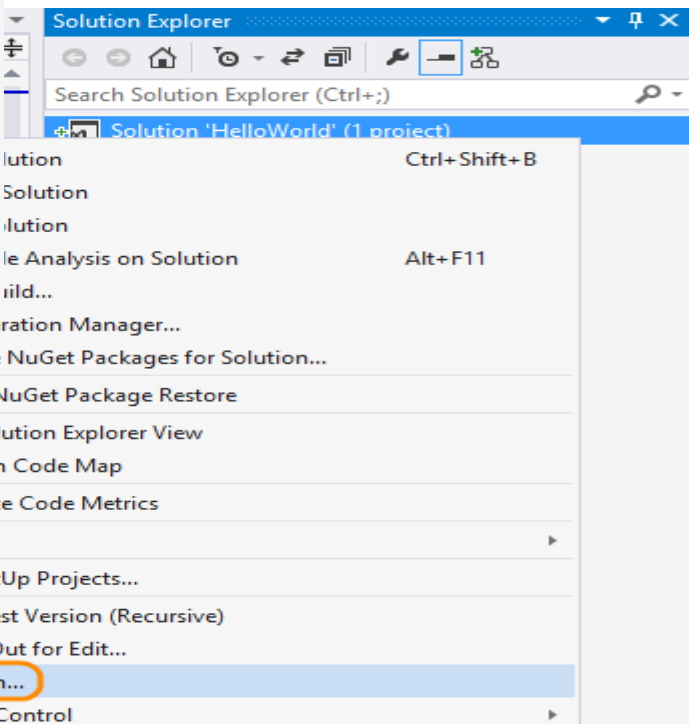
```
.-validation-error {  
    1px solid #b94a48;
```

```
['checkbox'].input-validation {  
    0 none;
```

```
.-summary-errors {  
    #b94a48;
```



# Add Source Code



# Check In

```
.-validation-error {  
    1px solid #b94a48;
```

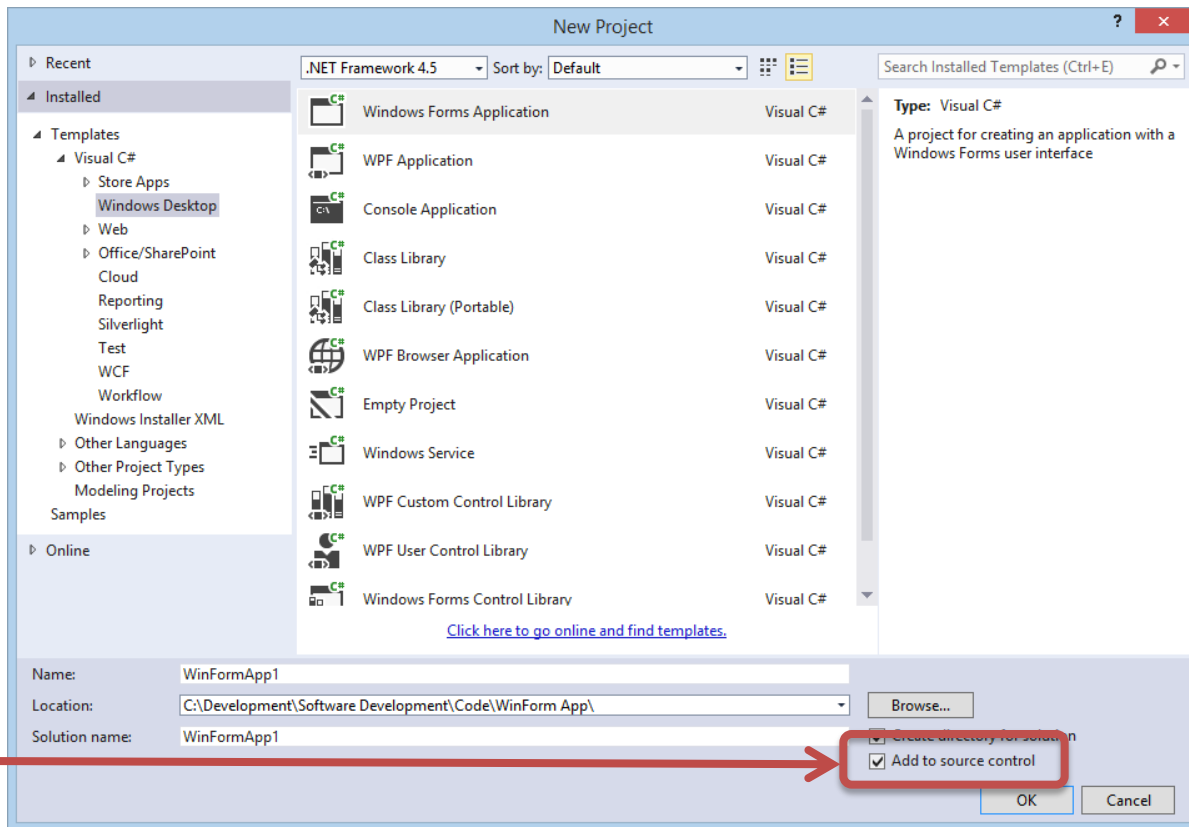
```
["checkbox"].input-validation {  
    0 none;
```

```
.-summary-errors {  
    #b94a48;
```

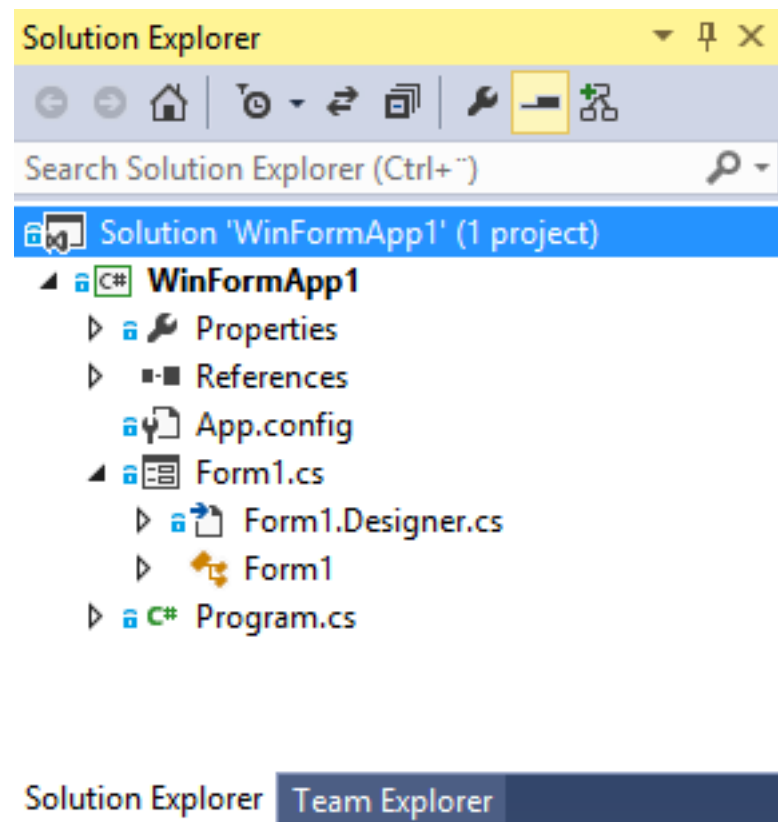
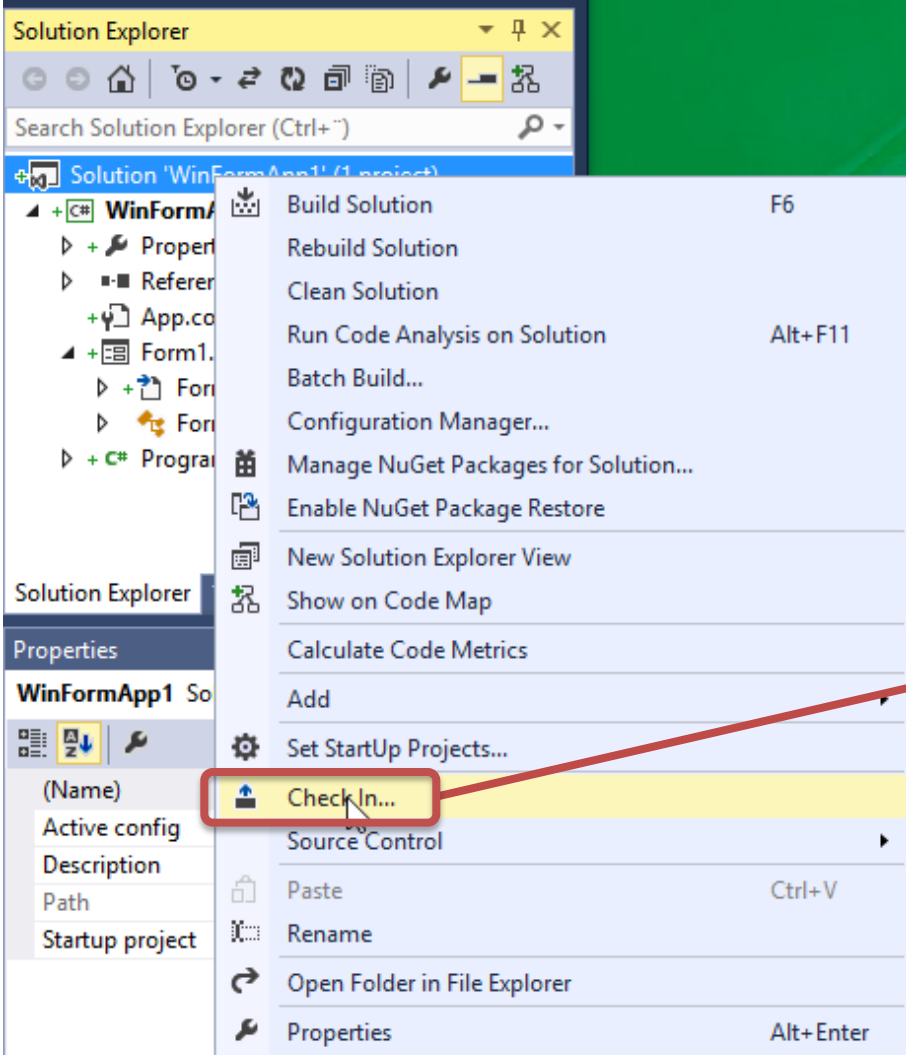
```
.-summary-valid {  
    : none;
```

# Add Code to Source Control

Create a New Project, e.g.  
Windows Desktop

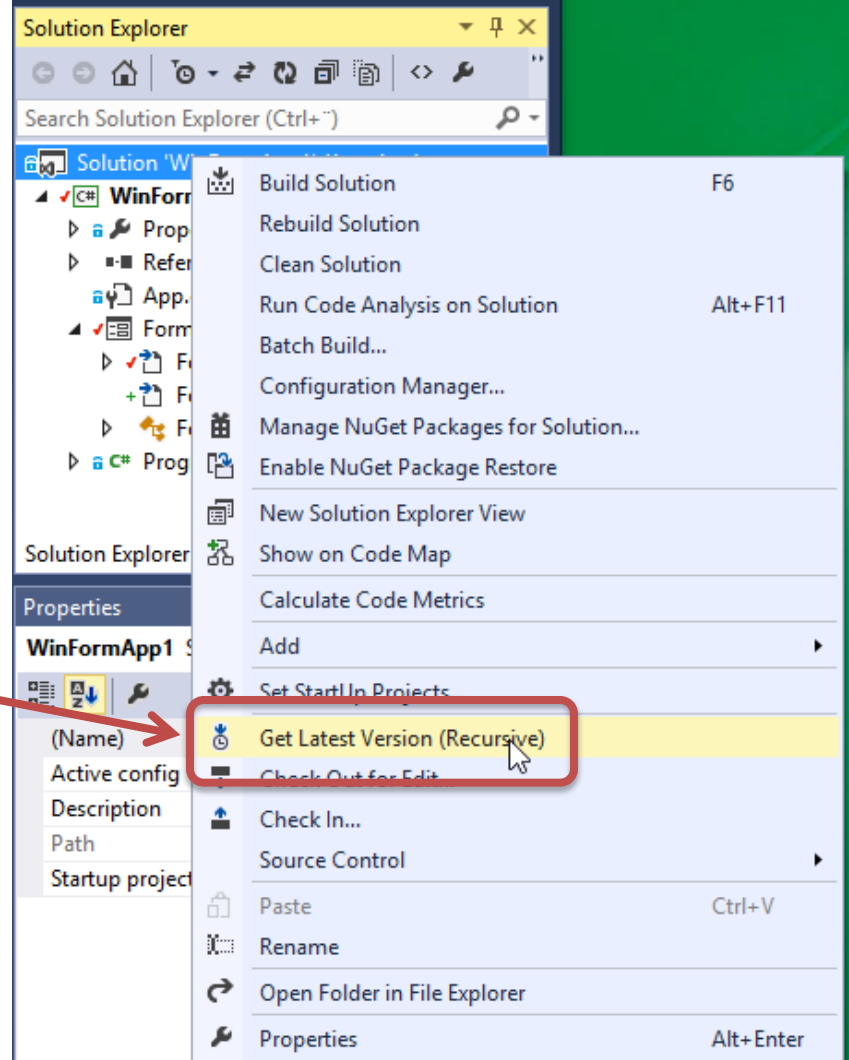


Make sure to Select  
this Option!!



# Get Latest Version

Before working on your Code, you should always get the latest version from the Server



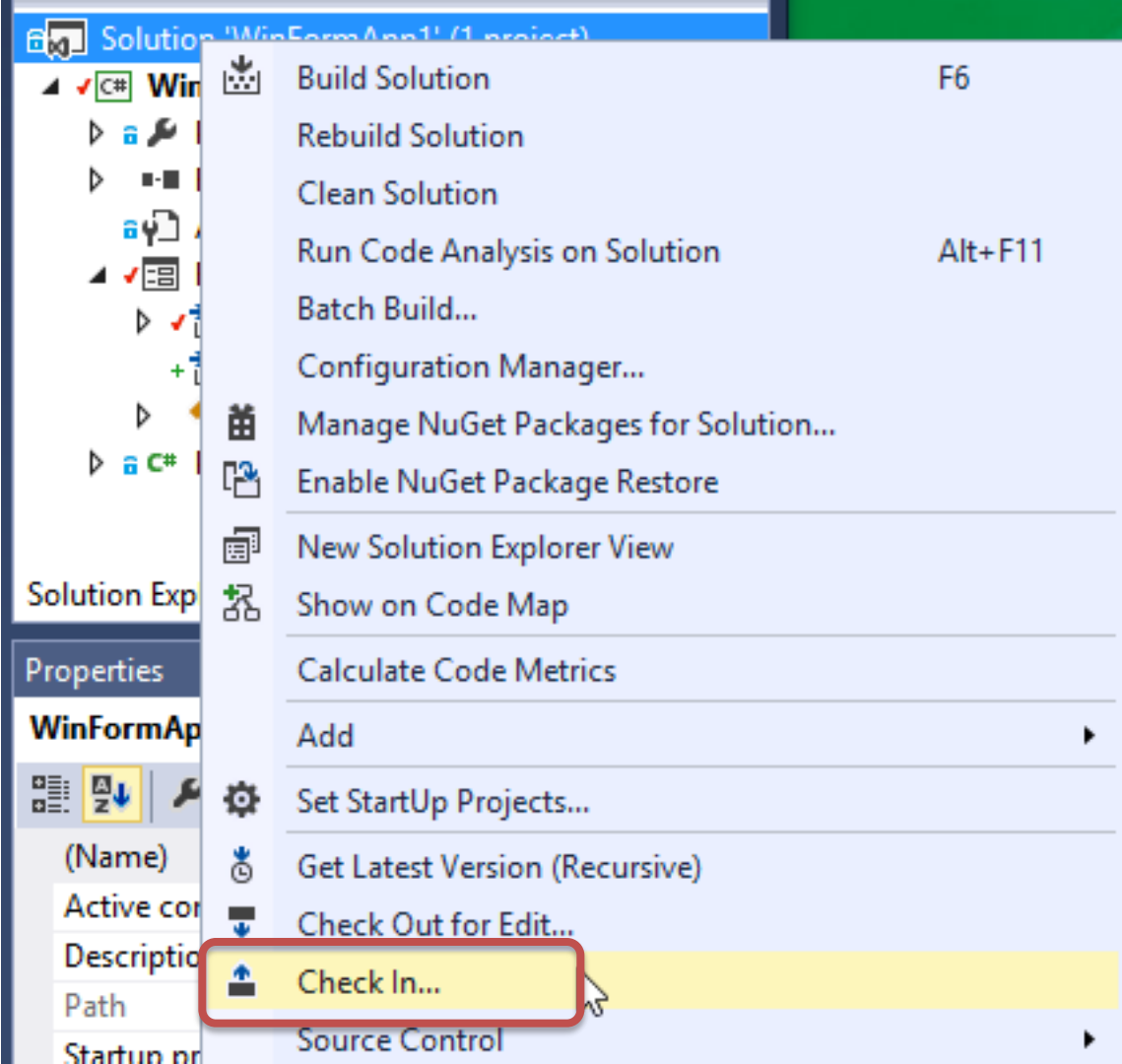
# Editing your Code



The Code you are editing are checked out automatically

# Check in your Code when Finished

But before you check in your code you should first get the latest version from the server and make sure your Code Compile without Error!



# Work Items – New Bug

New Bug 1\*: WS is not working

      Copy template URL

Tags [Add...](#)

WS is not working

## STATUS

Assigned To [<No one>](#)  
State [Active](#)  
Reason [New](#)

## CLASSIFICATION

Area [Development Project 1\Desktop](#)  
Iteration [Development Project 1\Beta](#)

## PLANNING

Stack Rank [<None>](#)  
Priority [2](#)  
Severity [3 - Medium](#)

## REPRO STEPS

## SYSTEM INFO

## TEST CASES

[B](#) [/](#) [U](#) [Add](#) [X](#) [List](#) [List](#) [Link](#) [Link](#) [Link](#)

Work Items are used to Add Items to the Product Backlog, Report Bugs, etc. Lots of different Work Items Types exists. You can even create New Work Item Types

## HISTORY

## ALL LINKS

## ATTACHMENTS

[B](#) [/](#) [U](#) [Add](#) [X](#) [List](#) [List](#) [Link](#) [Link](#) [Link](#)

## DISCUSSION ONLY

## ALL CHANGES

[No entries with comments]

# Queries

- Used to find existing Work Items
- You may create different Queries to make it easy to find the Work Items you need
- Queries may be personal or visible for everybody in the project (Team Queries)

New Query 1

5 work items (1 selected)

results editor

Column Options

Type of Query

Flat List of Work Items

Work Items and Direct Links

Tree of Work Items

Filters for top level work items

	And/Or	Field	Operator	Value
<div><div>+</div><div>×</div><div></div></div>		Team Project	=	@Project
<div><div>+</div><div>×</div><div></div></div>	And	Work Item Type	=	[Any]
<div><div>+</div><div>×</div><div></div></div>	And	State	=	[Any]

+

 Add new clause

Save query

Column Options

ID	Work Item Type	Title	Assigned To	State	Tags
1	Bug	Database Error	Hans-Pett...	Active	
2	Task	Add Web functionality		New	
4	Test Case	Test Empty Fields	Hans-Pett...	Design	
3	Test Case	Test Web Service	Hans-Pett...	Design	
5	Bug	WS is not working		Active	



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