Team Foundation Server in Software Development

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Building projects

- **Small** projects
  - Easy to code

- **Large** projects
  - Many employees
  - How do we manage them?

Large projects – Google (Android)

- **How many developers working on Android for Google?**
  - 100-170

- **How many employees at Google?**
  - Total Employees Worldwide: 31,000

- **How many Computer Programmers?**
  - About 2,000

Large projects – Apple (IOS/Max OS)

- **How many employees at Apple?**
  - Total: 33,000

- **How many Computer Programmers?**
  - Claim to have 200,000 "developers"
  - Really about 1,500 developers

Agile

- We are uncovering better ways of developing software by doing it and helping others do it.

- Through this work we have come value:
  - **Individuals and interactions** over processes and tools
  - **Working software** over comprehensive documentation
  - **Customer collaboration** over contract negotiation
  - **Responding to change** over following a plan

- That is, while there is value in the items on the right items on the left more
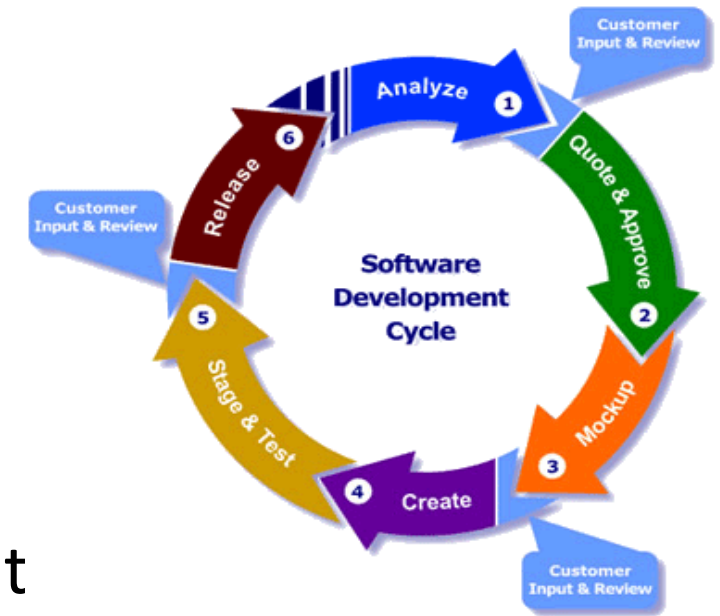
Kent Beck, Mike Beedle , Arie van Bennekum , Alistair Cockburn , Ward Cunningham , Martin Fowler , James Grenning , Jim Highsmith , Andrew Hunt , Ron Jeffries , Jon Kern , Brian Marick , Robert C. Martin , Steve Mellor , Ken Schwaber , Jeff Sutherland , Dave Thomas

Agenda

- What is TFS
    - How do we use it
    - What does it offer
    - Advantages
    - Alternatives
- Conclusions

What is TFS?

- Integrated platform for collaborating on software development projects
- **Visual Studio Team Foundation Server 2012 (TFS)** is the collaboration platform at the core of Microsoft's application lifecycle management solution. TFS automates the software delivery process and gives you the tools you need to effectively manage software development projects throughout the IT lifecycle.

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How do we use it?

- Overview of TFS Capabilities
  - Version Control (Branching and Merging)
  - Work Items
  - Project Management
  - Reporting

Version Control

- Simple and familiar interface
- Can be secured and locked down with access controls and customizable check-in rules
- Simple and efficient branching and merging
- Visually track changes across branches

Connecting to a server

- You can use a server of your own
- Already available repositories
  - Codeplex
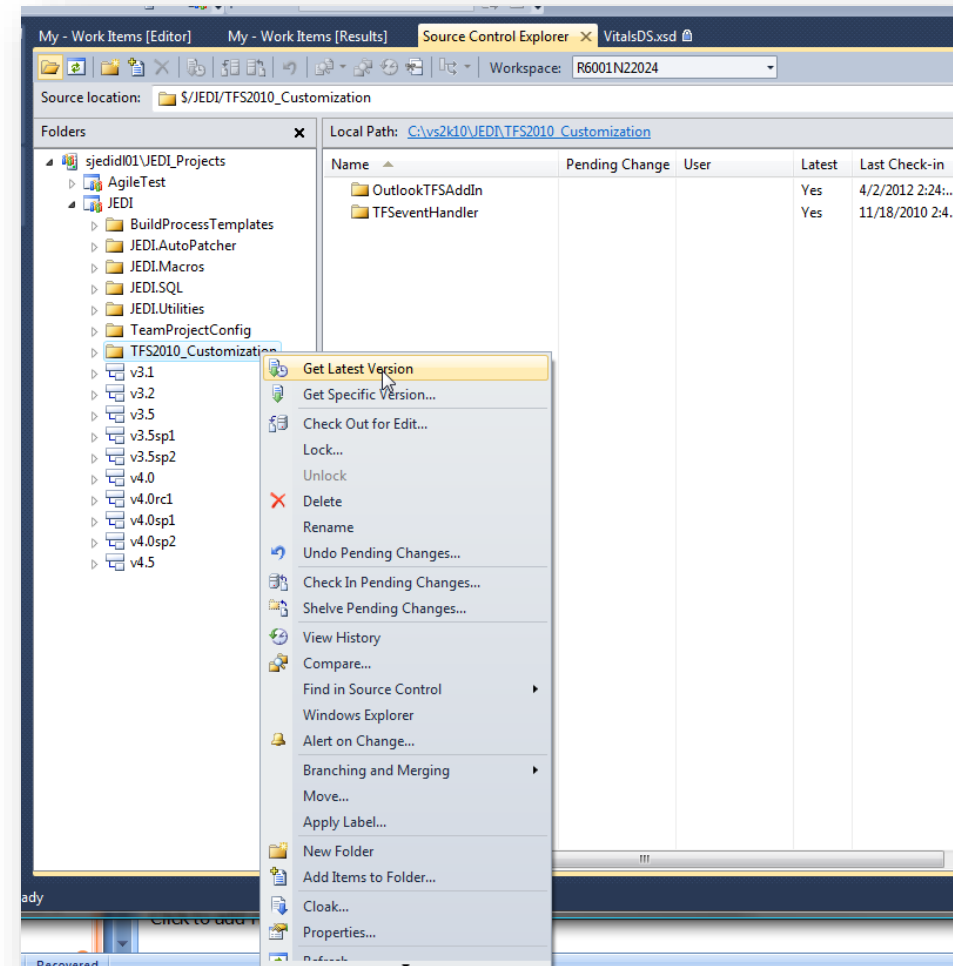
Check-In and Check-Out
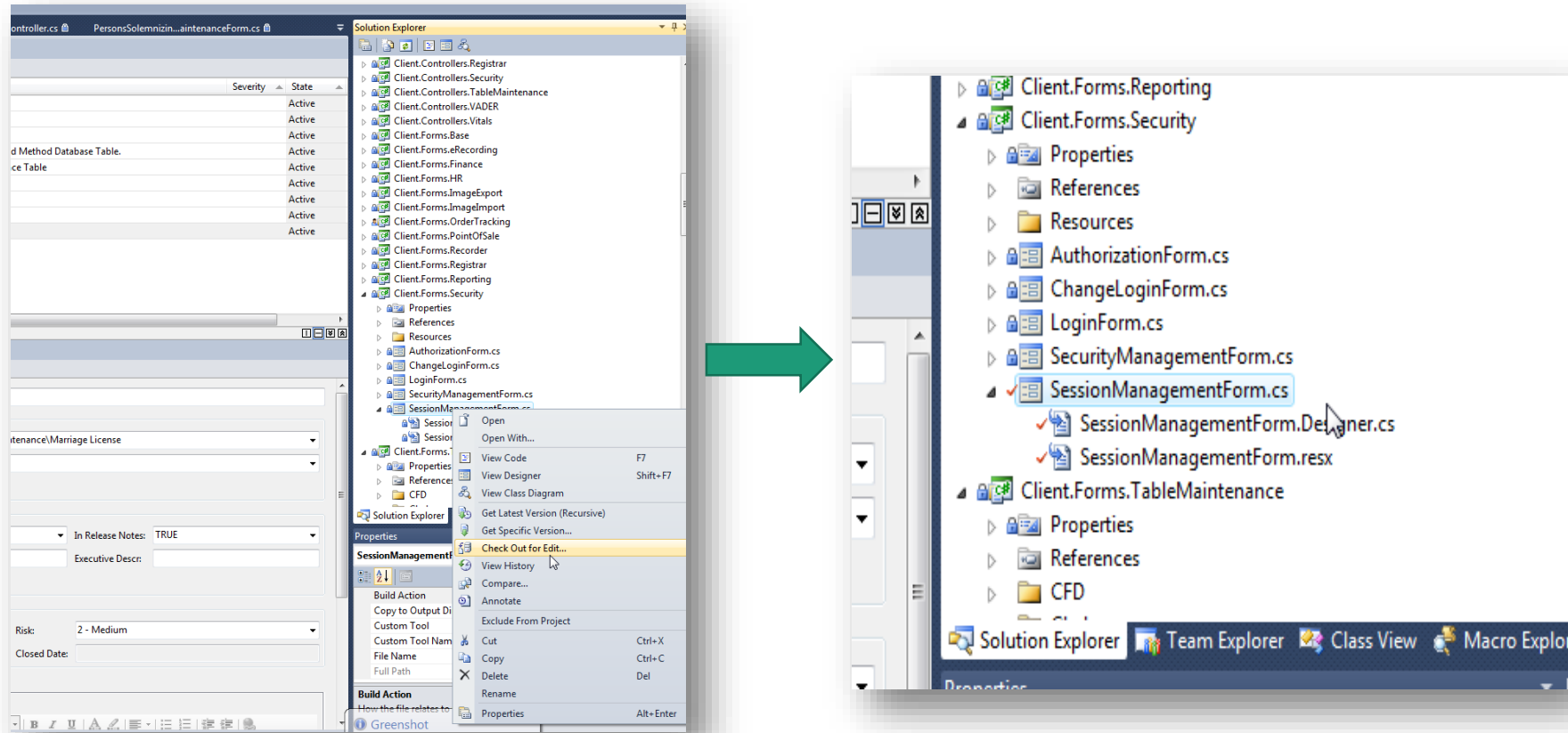
Check-In and Check-Out

- Undo pending changes

- Shelve pending changes
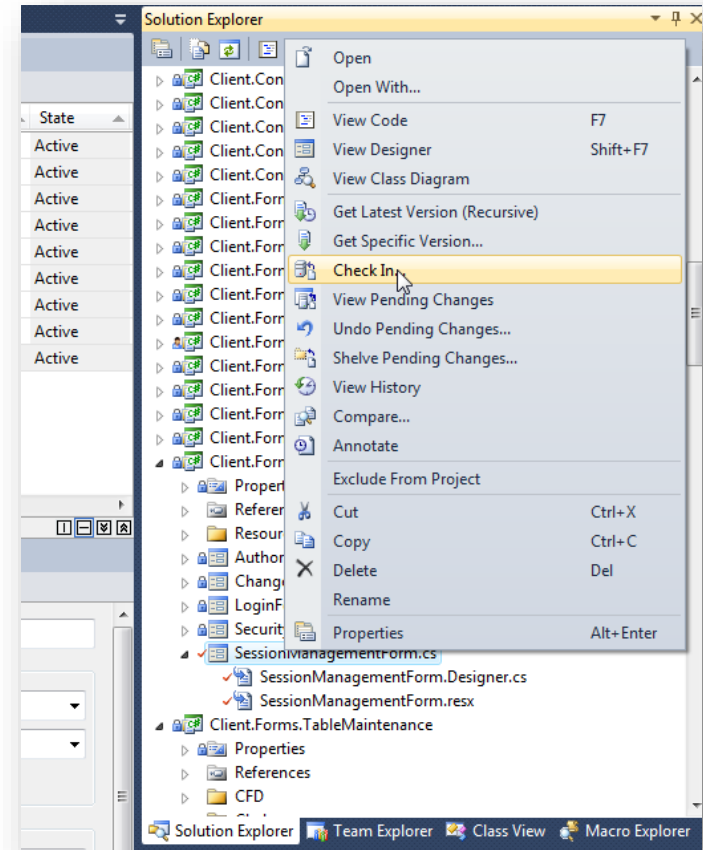
Check-In and Check-Out
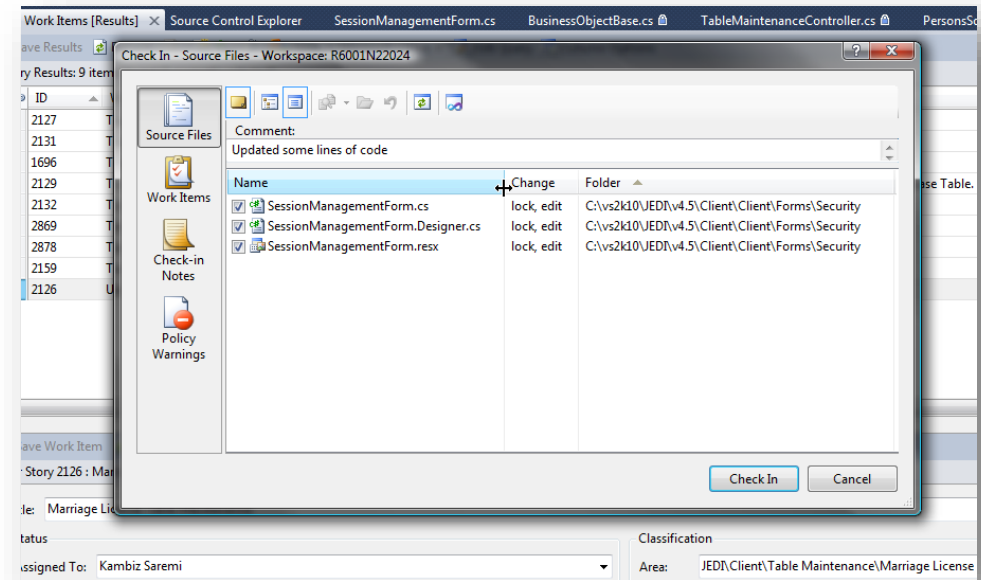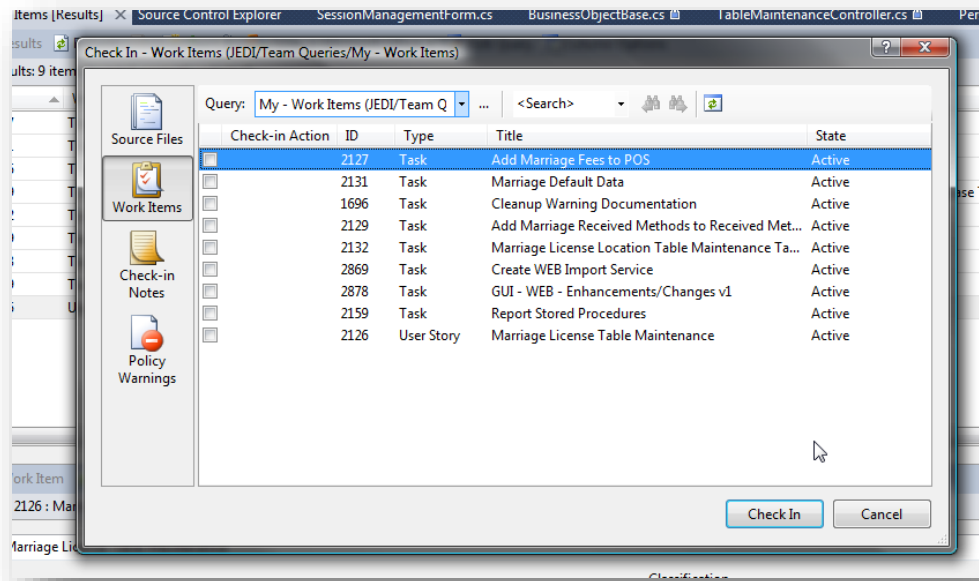
Check-In and Check-Out

- Check-Out but somebody messed up the file

- Build errors

- Who did it?
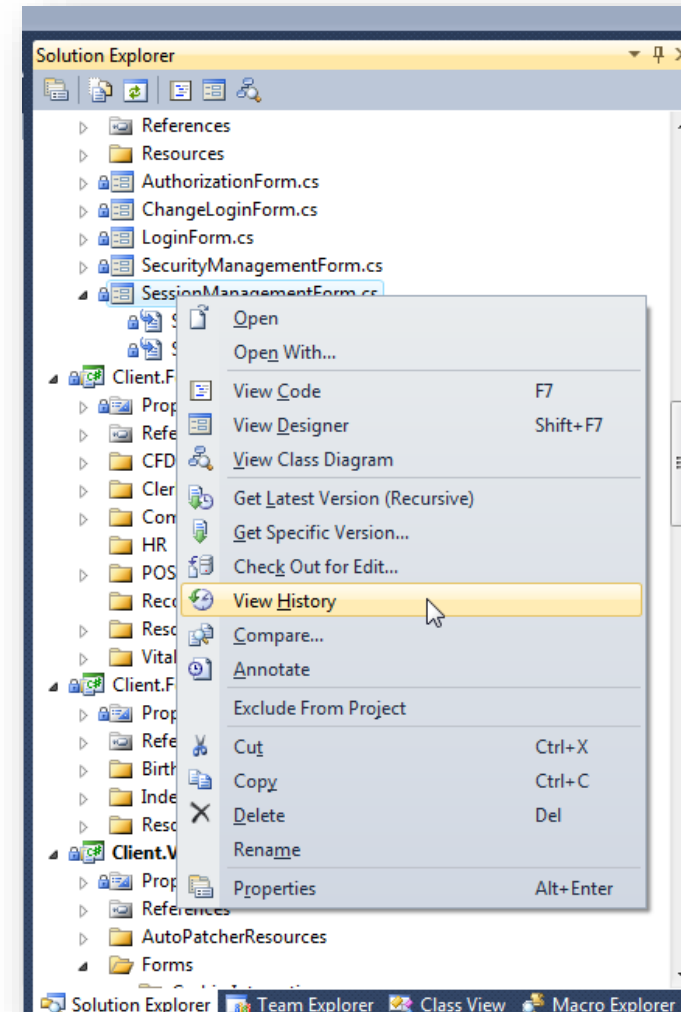
Somebody messed up a file – recovery Method 1
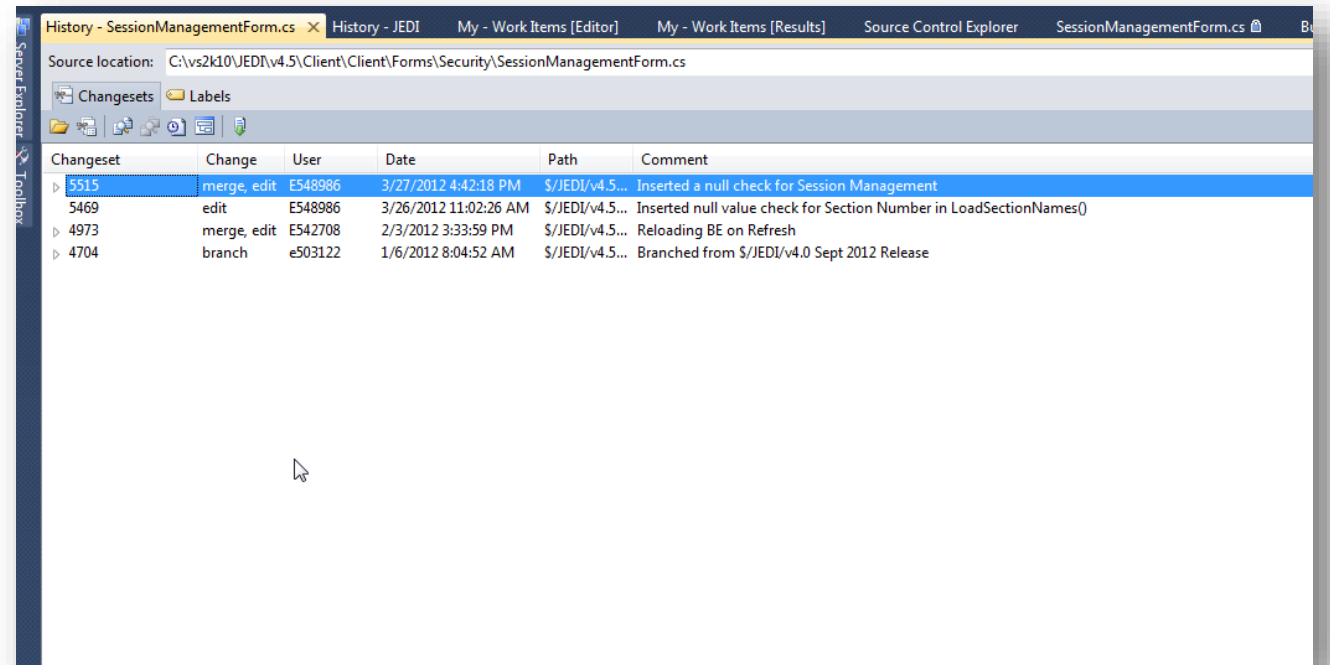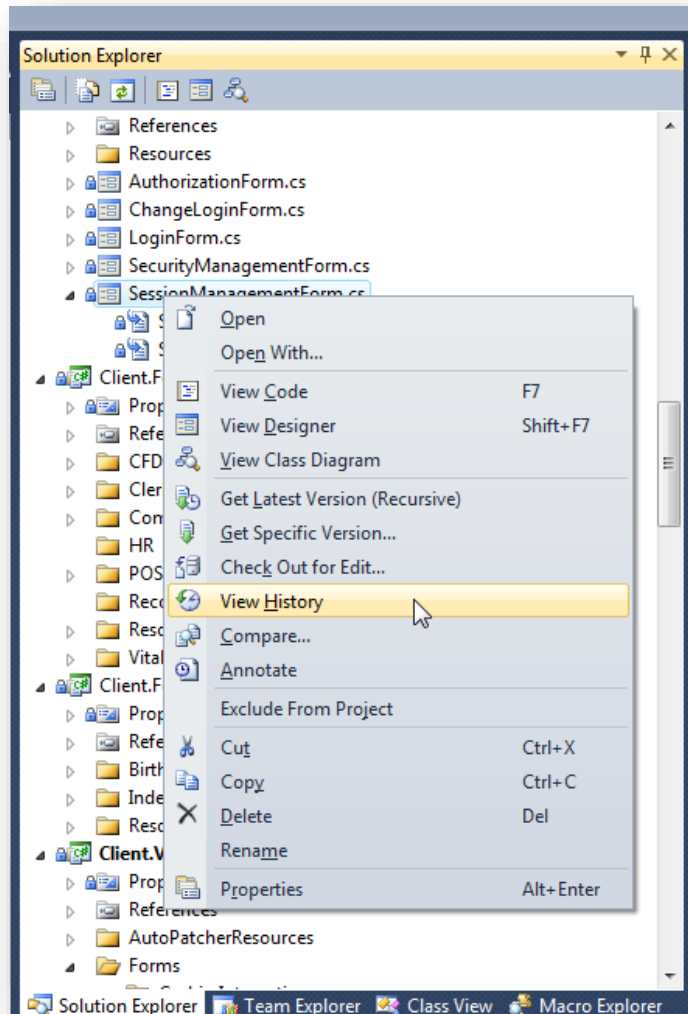
Somebody messed up a file – recovery Method 2
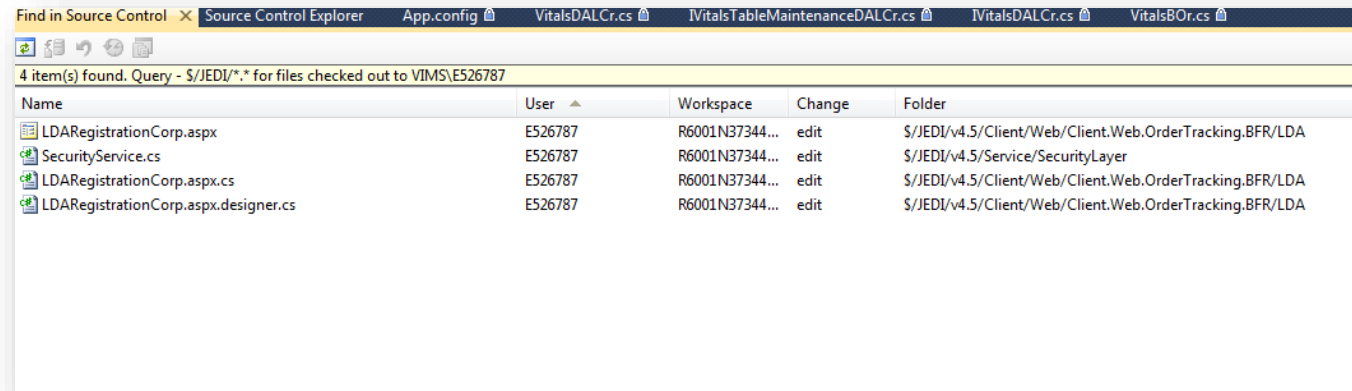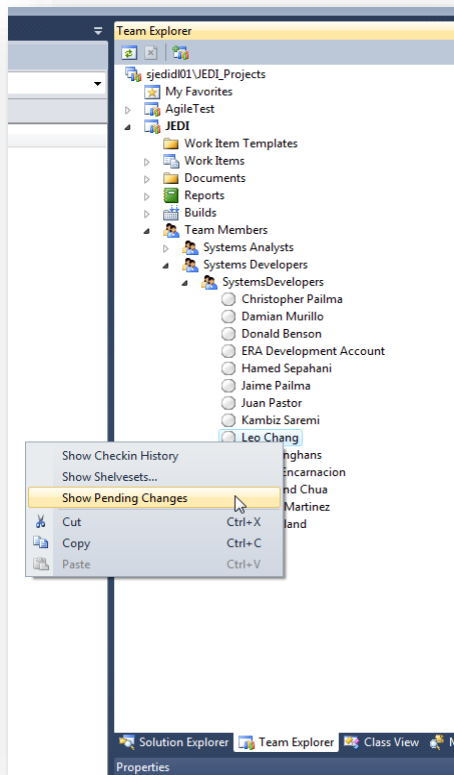
What if already checked out?
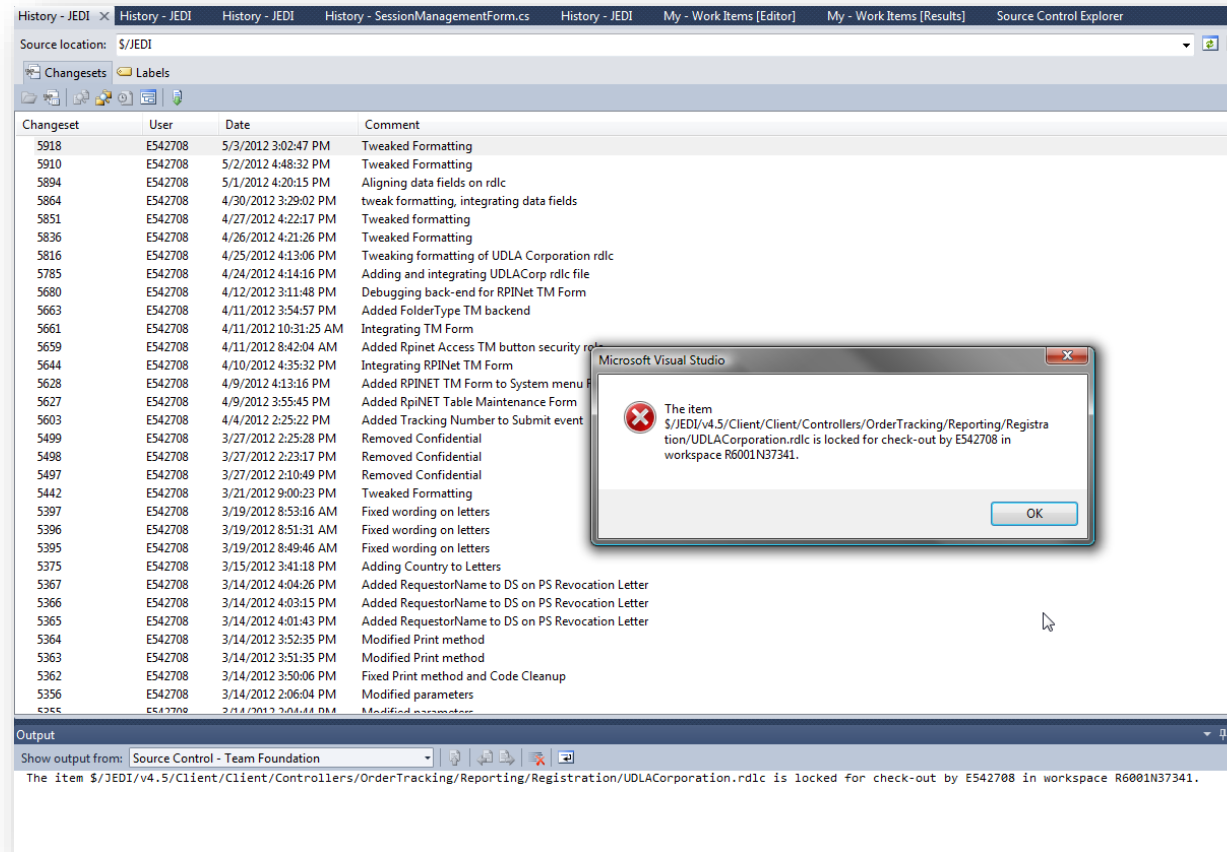
Branching and merging
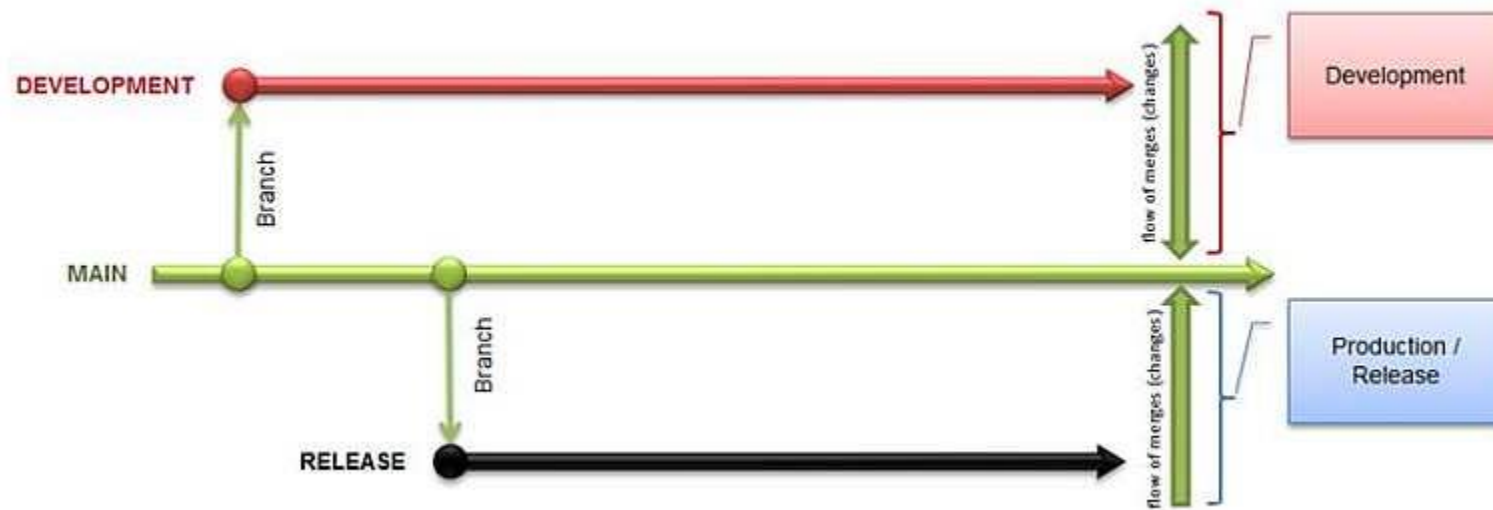
Work item

- What ties everything together and enables teams to collaborate with tasks they are all working on

- A work item can be:
  - User story
  - Tasks
  - Bugs
  - Requirements
  - Etc.

Work item tracking

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Work item tracking

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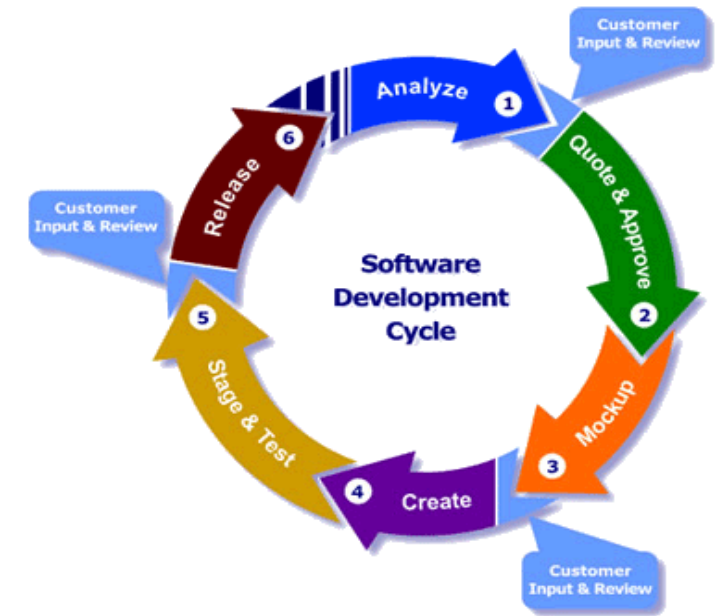
Alternatives development programs

- Visual SVN

- Apache Subversion

- Team Explorer Everywhere 2012

Conclusions

- Single integrated solution that delivers version control, work item/bug tracking and a number of other features

- Cross-functional, in-context collaboration – Project Managers, Architects, Developers, Testers, Designers

- Powerful team management system integration lets you focus on your business, by automating repetitive or otherwise time-consuming tasks

References

- *Team Foundation Server 2010*. Microsoft Visual Studio Team Foundation Server 2010, 13 March 2012. Web. 3 May 2012. http://msdn.microsoft.com/en-us/vstudio/ff637362

- *TFS 2010*. Microsoft Visual Studio, 4 July 2011. Web. 5 May 2012. http://www.microsoft.com/visualstudio/en-us/products/2010-editions/team-foundation-server/overview

- Sutherland, Jeff. *Professional Team Foundation Server*. Indianapolis: Wiley Publishing Inc, 2007. Print.

Thank you

- Questions?