

Build-Deploy-Test with Visual Studio Lab Management 2010

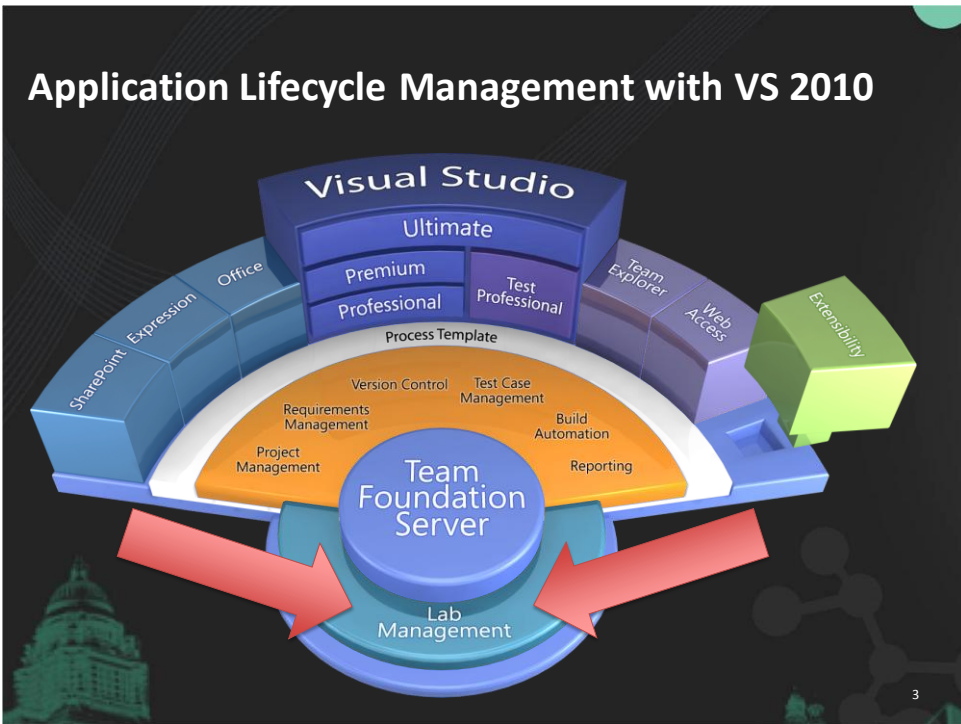
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Agenda

- ALM with Visual Studio 2010
- Why are bugs so difficult/costly to fix?
- Goals of Visual Studio Lab Management 2010
- Features of Visual Studio Lab Management 2010
- Setting up Virtual Environments + demo
- Lab Management Workflow + demo
- Takeaways
- Support matrix for Lab Management
- Q & A



Why this addition for Team Foudation Server?

3 top reasons why bugs are difficult to reproduce and fix:

1. Poorly documented steps to reproduce
2. Lack of visibility into tester's actions
3. Environment differences

RESULT ...

- >> "It works on my machine!"
- >> Developer marks bugs as "no-repro"!
- >> Ping Pong between testers and developers

A large blue curved arrow points from the list of reasons (poorly documented steps, lack of visibility, environment differences) to the 'RESULT ...' section, which lists the consequences: 'It works on my machine!', 'Developer marks bugs as "no-repro"!', and 'Ping Pong between testers and developers'.

BUG FIX BINGO!

During bug fix sessions, cross off the appropriate statements as the developers make them.

It works on my machine!	Where were you when the program blew up?	Why do you want to do it that way?	You can't use that version on your system.	Even though it doesn't work, how does it feel?
Did you check for a virus on your system?	Somebody must have changed my code!	It works, but it hasn't been tested.	THIS can't be the source of THAT!	I can't test everything!
It's just some unlucky coincidence!	You must have the wrong version.	I haven't touched that module in weeks!	There is something funky in your data...	What did you type in wrong to get it to crash?
It must be a hardware problem.	How is that possible?	It worked yesterday!	It's never done that before!	That's weird...
That's scheduled to be fixed in the next release.	Yes, we knew that would happen.	Maybe we just don't support that platform.	It's a feature. We just haven't updated the specs.	Surely nobody is going to use the program like that!

The Rules:

Rule #1: Testers must immediately call "Bingo!" upon completing a line of five squares horizontally, vertically, or diagonally.

Rule #2: Statements that arise as a result of a bug that later becomes "deferred," "as designed," or "not to be fixed" should be reclassified as not marked.

Rule #3: Only bugs that have been included in an incident report may be used.

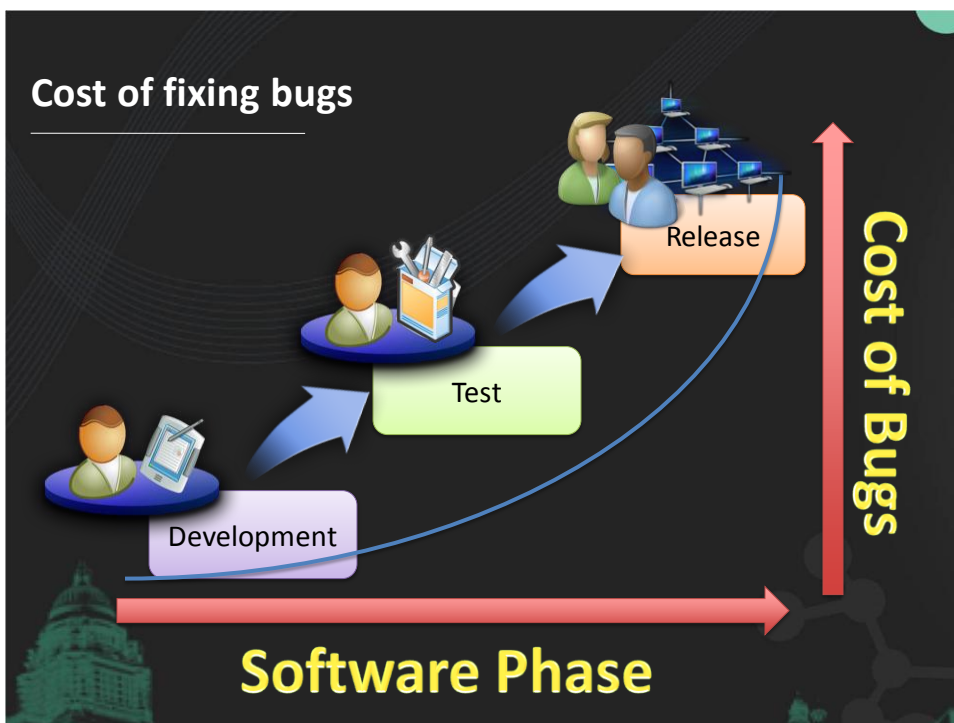
Rule #4: Statements should also be recorded against the bug in the defect tracking system for later confirmation.

Rule #5: Any tester that marks off all 25 statements should be awarded 2 weeks stress leave immediately.

Rule #6: Any developer found using all 25 statements should be seconded into the test group for a period of no less than 6 months for re-education.

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Collaboration between Developers and Testers?!



Developers

- I'm sick of poor quality bug reports!
- I waste too much time reproducing bugs!
- Sometimes I just mark bugs as no-repro!
- I waste too much time deploying apps for testing!

=> Developers are spending too much time to reproduce bugs ...



Testers

- I'm sick of developers claiming my bugs don't exist!
- Why do I always need to reopen no-repro bugs?
- Many bugs I log seem to be related to a corrupt environment or invalid data. It's such a waste of time!
- Why does it take so long to deploy apps for testing?

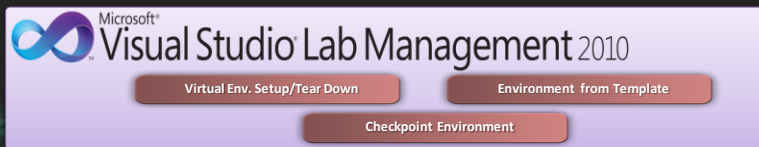
=> Testers are not spending time anymore in defining new test cases ...

Goals of Visual Studio Lab Management

- ✓ Avoid no-repro bug situations
- ✓ Reduce costs associated with physical test environments
- ✓ Improve speed of environment deployments
- ✓ Improve productivity and quality of software development projects through better cross-functional collaboration features
- ✓ Integrate automated tests in the build-deploy cycle so that the build-deploy-test cycle is born

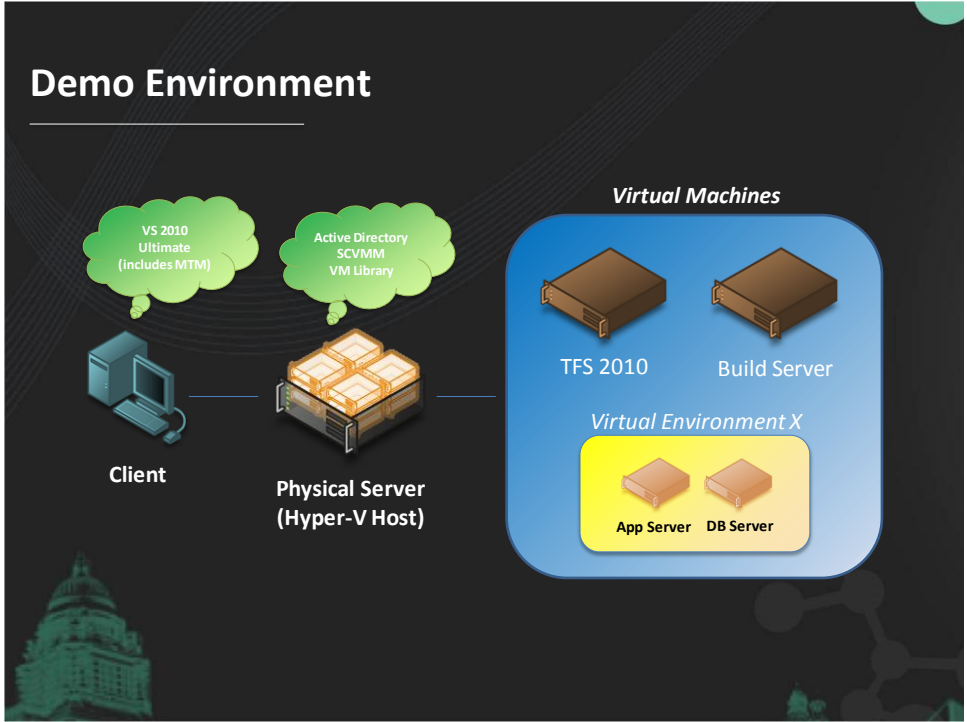
Features of Visual Studio Lab Management

- Simple setup of (virtual) test environments
- Testing of multiple configurations
- Build, Deploy and Test in a clean test environment
- Checkpoints / Snapshots for verification
 - Reproduce the exact conditions of a bug
 - No more no repro!



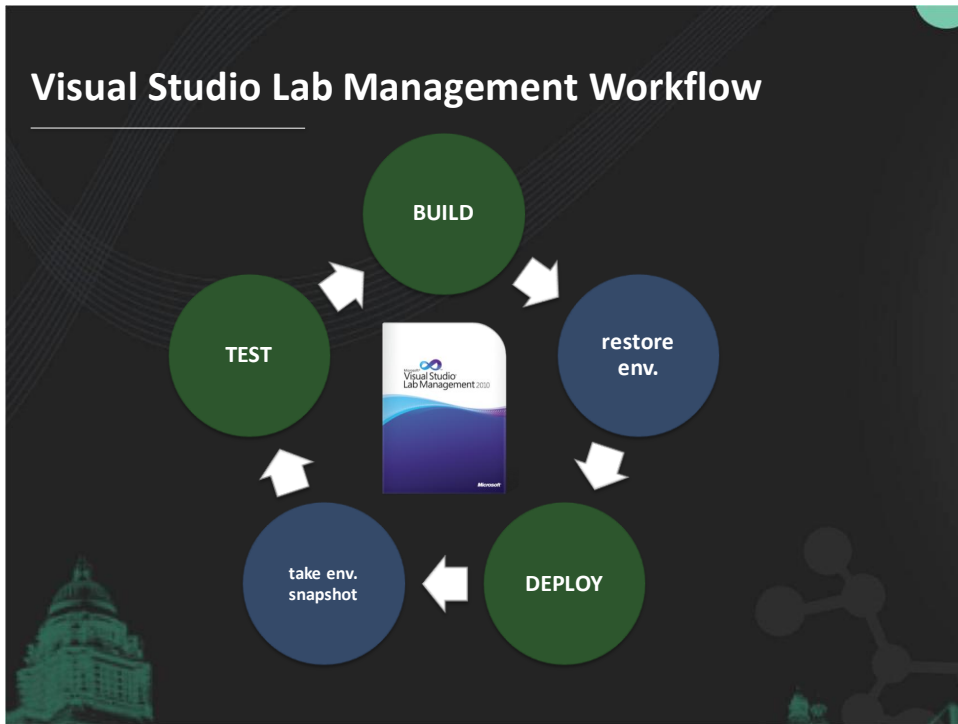
What do you need to get started?





DEMO

Virtual Environments for Visual Studio Lab Management 2010



Demo Summary

1. Regular build compiles solution and runs basic unit tests. Build output is dropped.
2. *[Lab build reverts to clean and isolated test environment]*
3. Lab build uses build output (.dbschema file) to create new SQL Server database (Database Server)
4. Lab build uses build output (MSDeploy zip file) to deploy the Web Application Project on IIS (Web Server)
5. *[Lab build creates a post-deployment snapshot]*
6. Lab build runs automated tests created by MTM and VS2010



File rich actionable bugs

Select how you want to connect to the environment

Connect to the snapshot in this environment
Any changes in this environment since the snapshot will be discarded.

Connect to the environment in its current state
This could be different than the state at the snapshot. You might disconnect the user currently connected to this environment.

i The option to create and connect to a copy of this environment is not available. If you want to create a copy, make sure that the environment is stored in the library.

Connect Don't Connect

Stack Rank: Priority: 2 Severity: 3 - Medium

Details System Info Test Cases All Links Attachments

Steps to Reproduce:

8 Passed @address1, @address2, @city, @country, @state, @postal go to billing

9 Failed Place Order by clicking on the button
Expected result: Verify that the Shipping & total is
Comments: Grand Total is wrong
Attachments: TC16Snapshot1\PlaceOrderSnapshot1.dbschema, TC16Snapshot1.dbschema

10 None Go to home page

11 None Close the browser

History:

11/5/2009 4:41:09 PM Edited (Resolved to Active) by Suresh Budhejja

11/5/2009 9:54:29 AM Edited by LM Test Lab Account

The Fixed In field was updated as part of associating work items with the build.

Test Reporting

Takeaways

- Investigate in creating good env. **templates** for the “Library”
=> *it's easy to deploy multiple environments from templates*
- Make use of the **integrated experience** to Build, Deploy and Test in isolated environments as early as possible
=> *let testers create new test cases instead of re-testing the same features over and over again!*
- Look for the most appropriate **collectors** to run during your tests
=> *file rich actionable bugs for the development team*
- Extensively make use of **checkpoints/snapshots**
=> *no more no repro!*
=> *snapshot links may become part of the bug item!*

Support matrix for Visual Studio Lab Management 2010

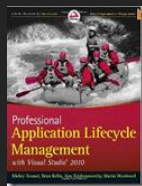
Feature	Virtual Hyper-V	Physical	Virtual non Hyper-V
Run unit tests	●	●	●
Run manual tests	●	●	●
Run Coded UI + automated tests	●	●	●
Filing rich bugs (collectors)	●	●	●
Automated build-deploy-test workflow	●	●	●
Create environment from VM templates	●	●	●
Start/stop/snapshot environment	●	●	●
Connect to environment with Environment Viewer	●	●	●
Clone Environment with network isolation	●	●	●

● Out-of-box support ● Not supported, but possible with customization ● Not supported ● Not applicable

http://blogs.msdn.com/b/lab_management/archive/2010/10/27/doeslab-management-work-on-non-hyper-v-platforms.aspx

Resources

- VHD Test Drive – Visual Studio Lab Management
<http://www.microsoft.com/downloads/en/details.aspx?FamilyID=592e874d-8fcd-4665-8e55-7da0d44b0dee&displaylang=en>
- SpeakFlow “VS2010 Testing” presentation of Brian Keller
<http://tinyurl.com/TestingSpeakFlow>
- Visual Studio Lab Management Team blog
http://blogs.msdn.com/b/lab_management/
- VM Prep Tool for Visual Studio Lab Management
<http://archive.msdn.microsoft.com/vslabmgmt>
- Screencast on Visual Studio Lab Management
<http://intovsts.net/2010/08/07/screencast-visual-studio-lab-management-2010/>
- Visual Studio ALM Rangers
<http://msdn.microsoft.com/en-us/vstudio/ee358786>
- Books



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