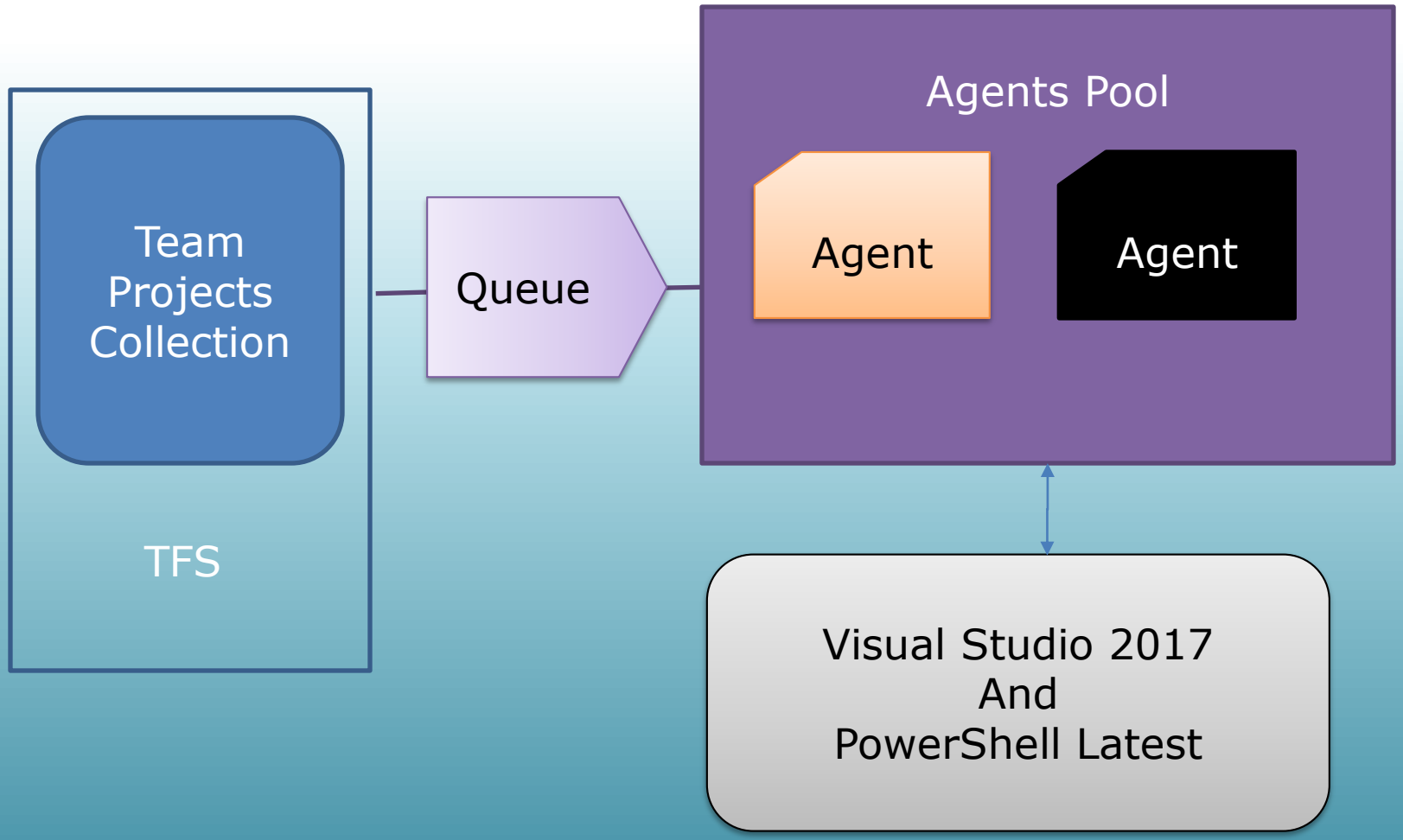
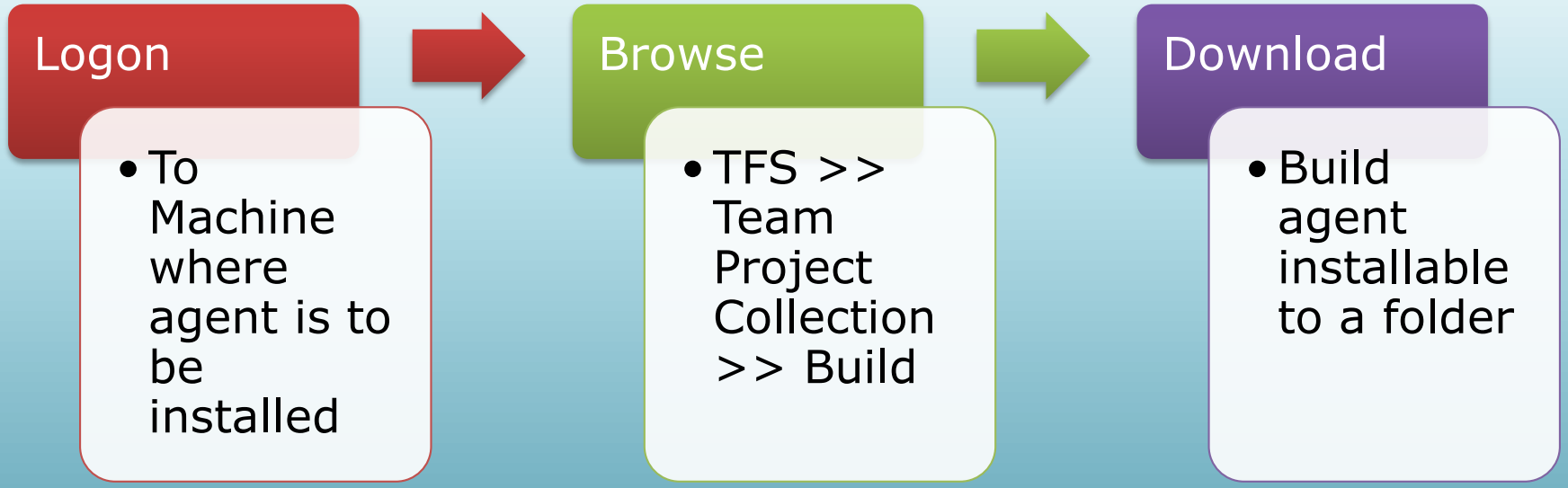
SSGS
IT EDUCON Services Pvt.Ltd.

Manage Build Service

Build Service Architecture

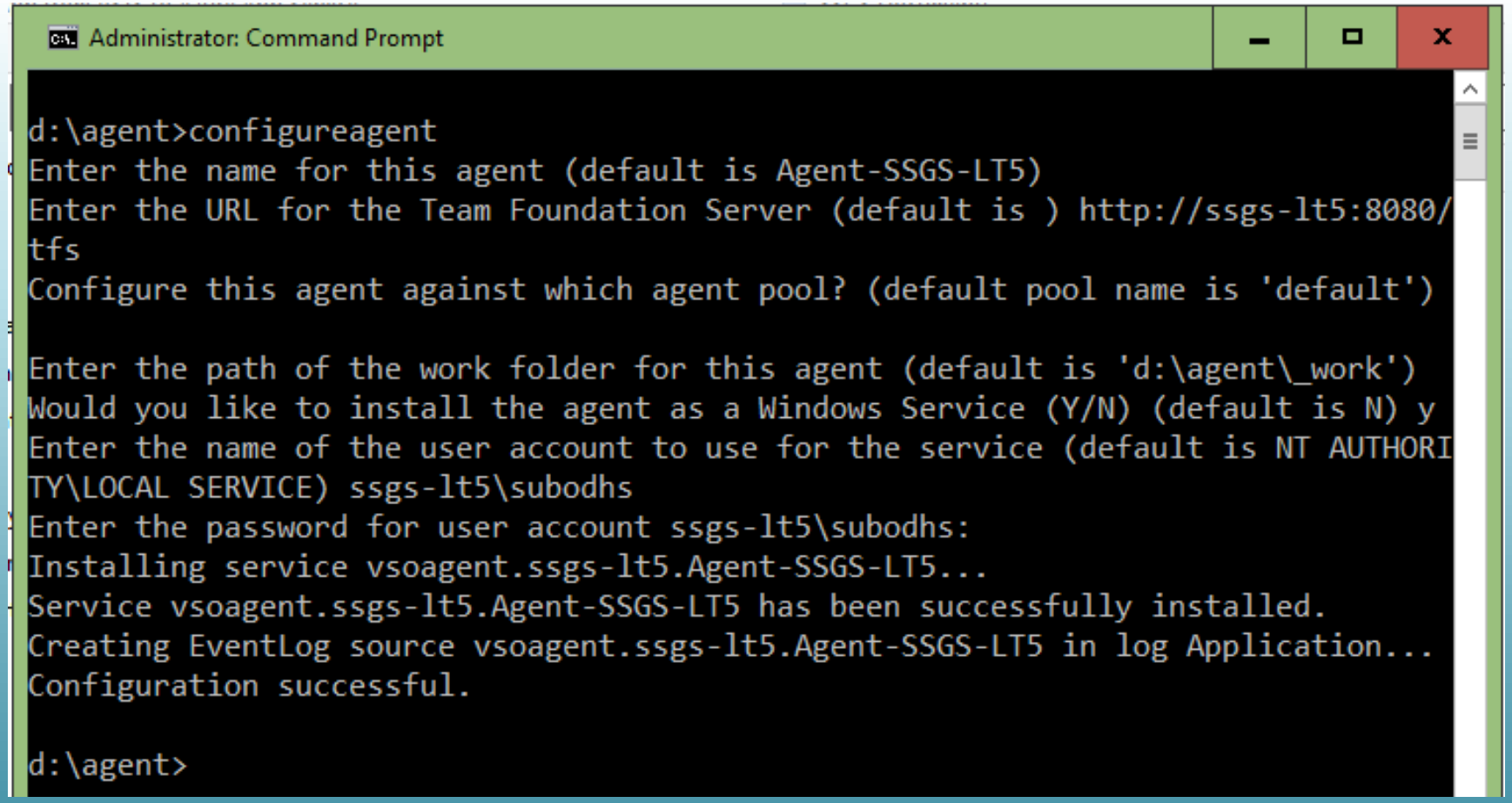


Agent Installation

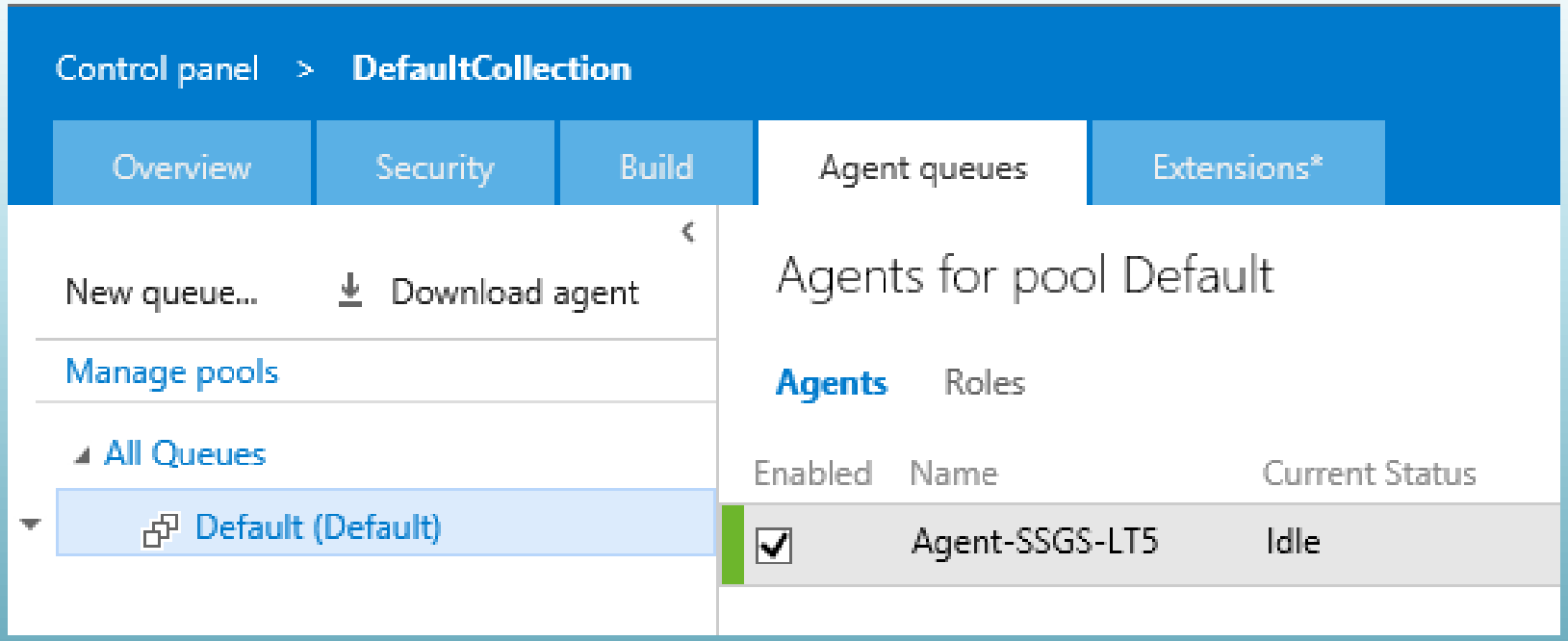


Agent Installation Parameters

- Run as Service
- Run as Interactive User
- */ServerUrl:ServerUrl*
- */Name:AgentName*
- */PoolName:PoolName*
- */WorkFolder:WorkFolder*
- */Force*
- */NoStart*
- */RunningAsService*
- */StartMode:(Automatic|Manual|Disabled)*

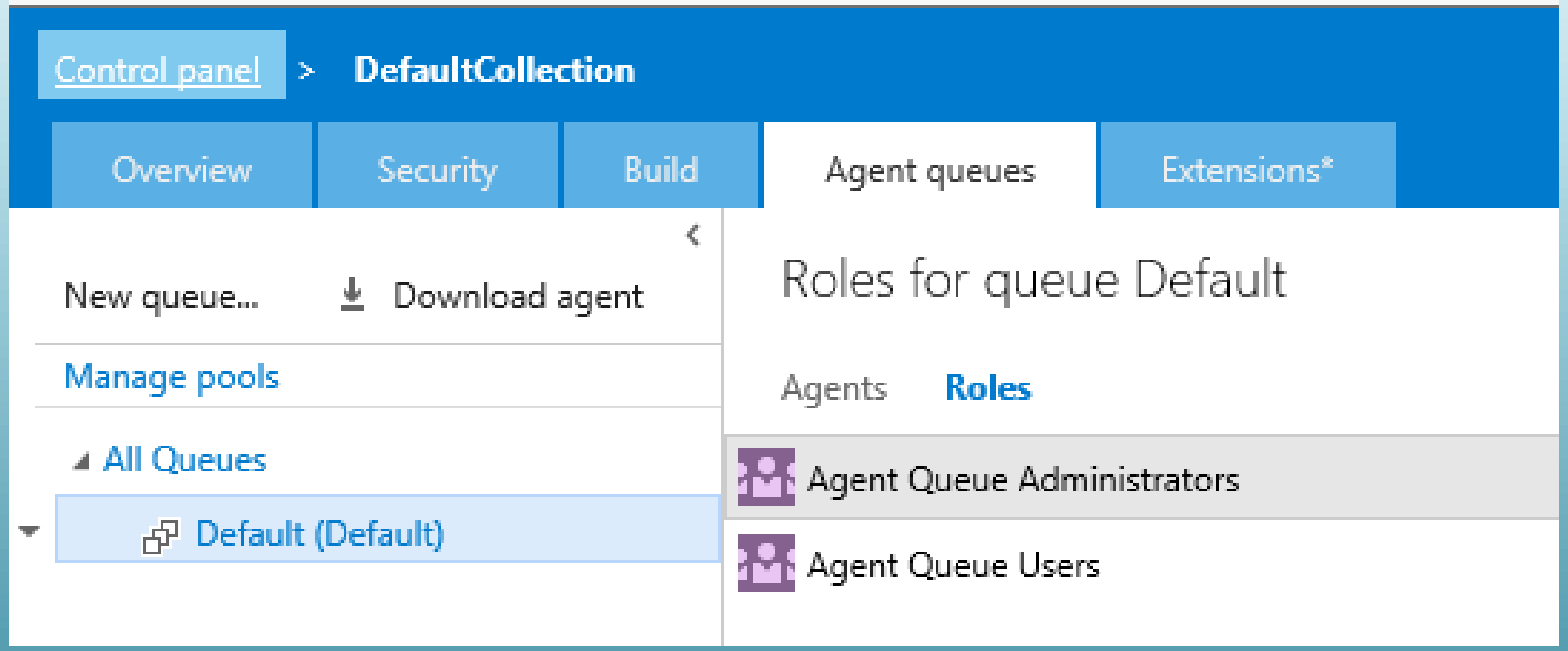

Administrator: Command Prompt
d:\agent>configureagent
Enter the name for this agent (default is Agent-SSGS-LT5)
Enter the URL for the Team Foundation Server (default is) http://ssgs-lt5:8080/tfs
Configure this agent against which agent pool? (default pool name is 'default')
Enter the path of the work folder for this agent (default is 'd:\agent_work')
Would you like to install the agent as a Windows Service (Y/N) (default is N) y
Enter the name of the user account to use for the service (default is NT AUTHORITY\LOCAL SERVICE) ssgs-lt5\subodhs
Enter the password for user account ssgs-lt5\subodhs:
Installing service vsoagent.ssgs-lt5.Agent-SSGS-LT5...
Service vsoagent.ssgs-lt5.Agent-SSGS-LT5 has been successfully installed.
Creating EventLog source vsoagent.ssgs-lt5.Agent-SSGS-LT5 in log Application...
Configuration successful.
d:\agent>

Added Agent

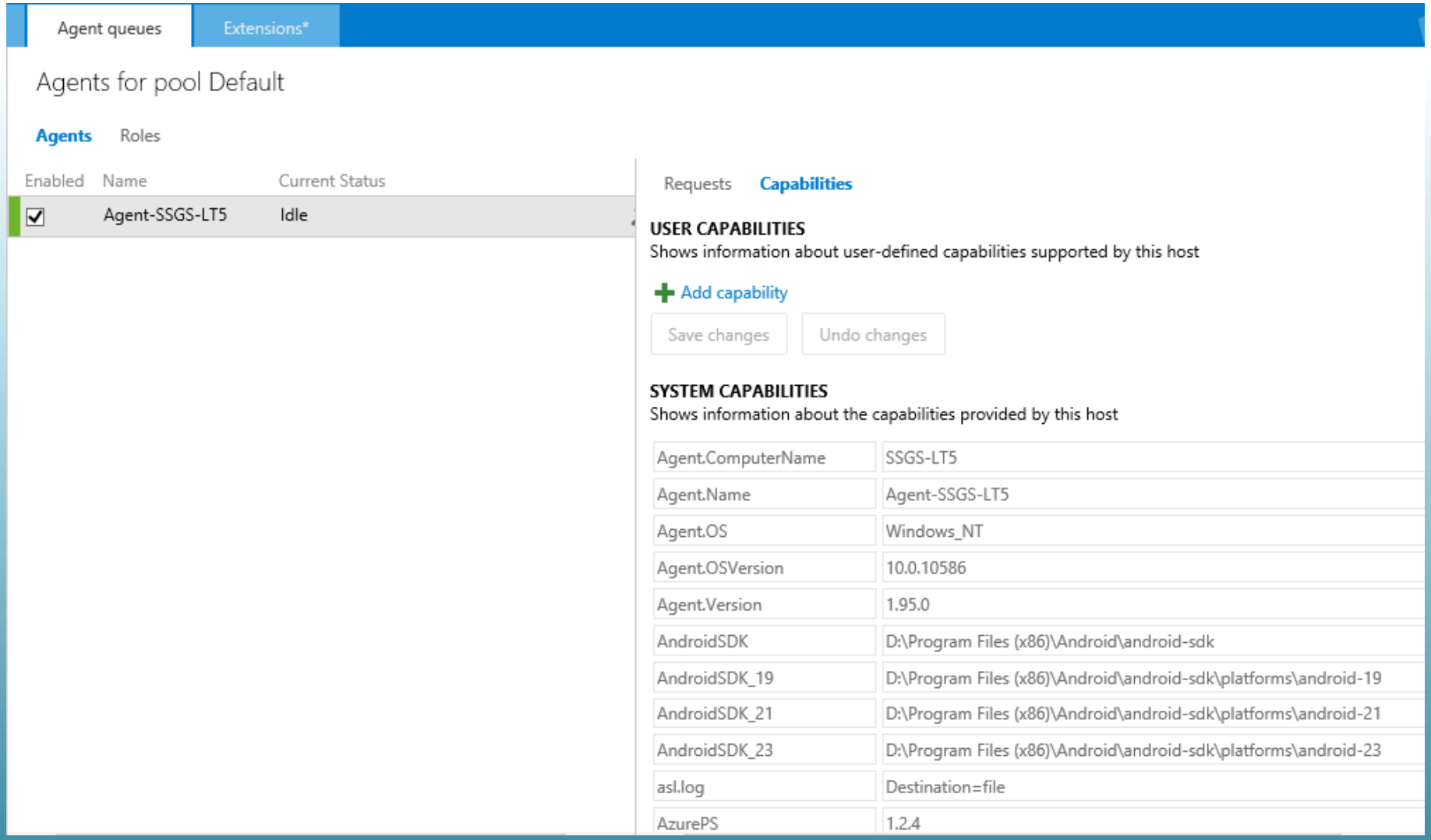

Control panel > DefaultCollection
Overview
Security
Build
Agent queues
Extensions*
New queue...
Download agent
Manage pools
All Queues
Default (Default)
Agents for pool Default
Agents
Roles
Enabled
Name
Current Status
Agent-SSGS-LT5
Idle

Agent Pool Security

- Agent Pool Administrators
- Agent Pool Service Accounts



Agent Capabilities



Build Service Security

- Contributors group members have sufficient permissions to create, edit, queue and monitor build pipeline definitions
- Each project has a Build Administrators group who can administer permissions for build pipelines.
- Each Build pipeline has a security option to override permissions set by groups

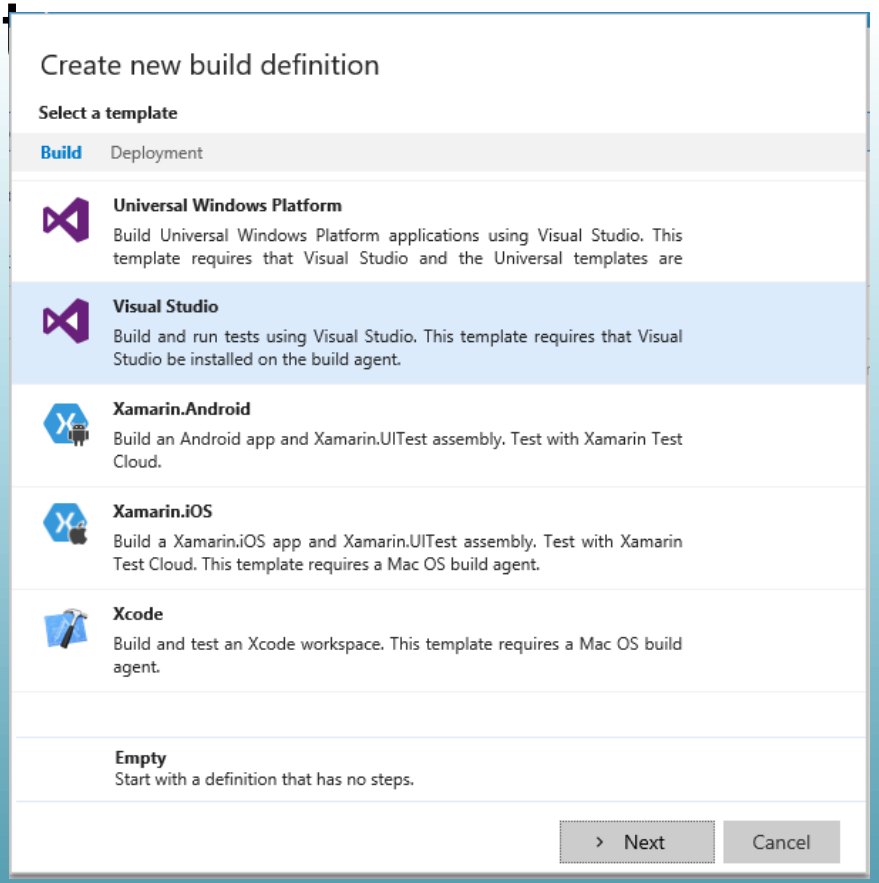
Lab 6A

- Build Agent Configuration

Build Definition Creation

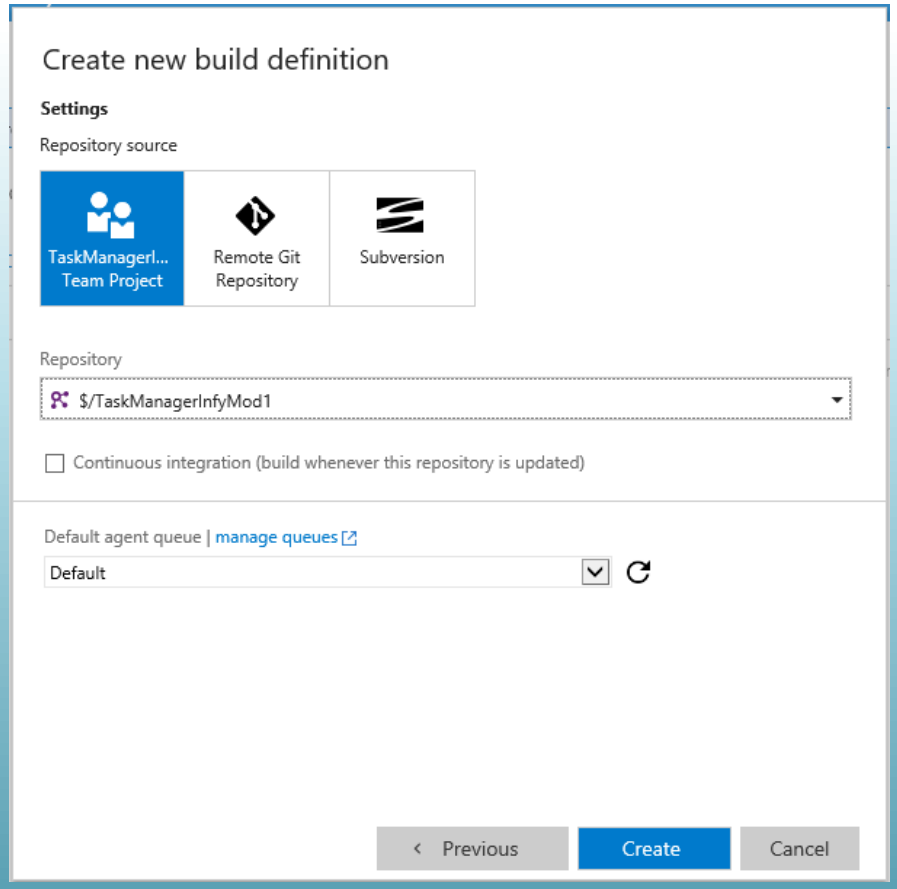
Build Definition Creation

- Select a Templat



Build Definition Creation

- Settings
  - Repository Source
  - Repository
  - CI
  - Queue

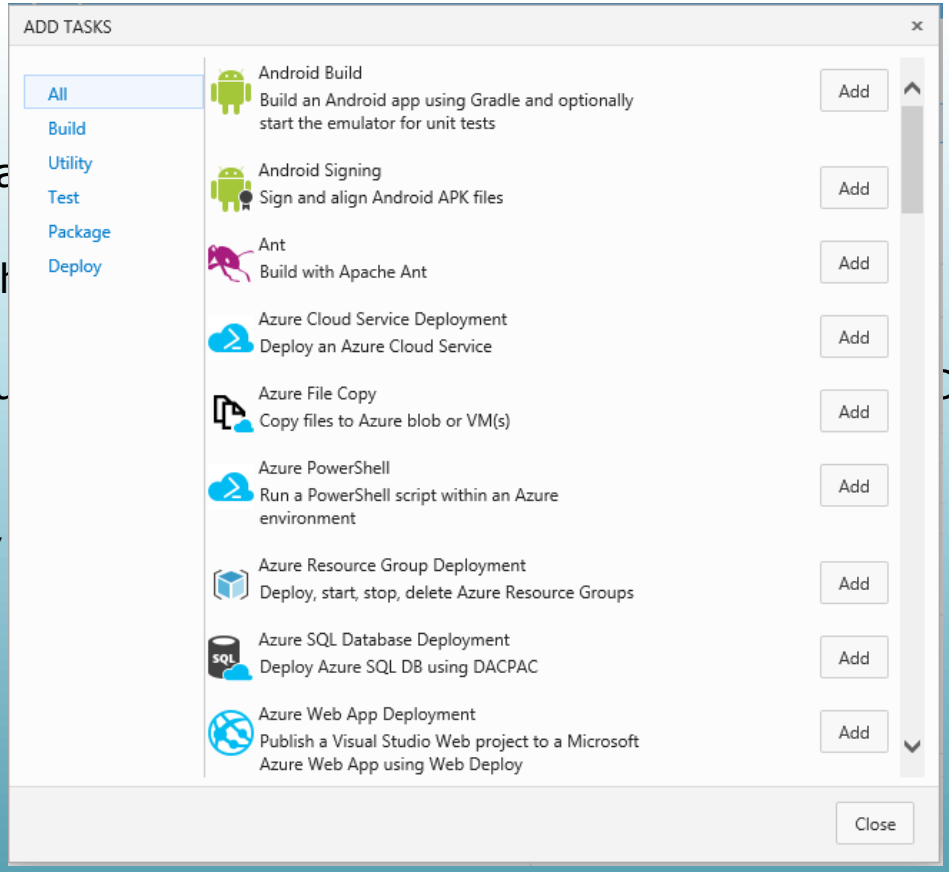


Build Definition Creation

- Build Steps
  - Build
    - Android, ant, ma
  - Utility
    - Copy and Publish
  - Test
    - VS Tests, Run Fu Test
  - Package
    - NuGet (installer,
  - Deploy
    - Azure File Copy, Machine

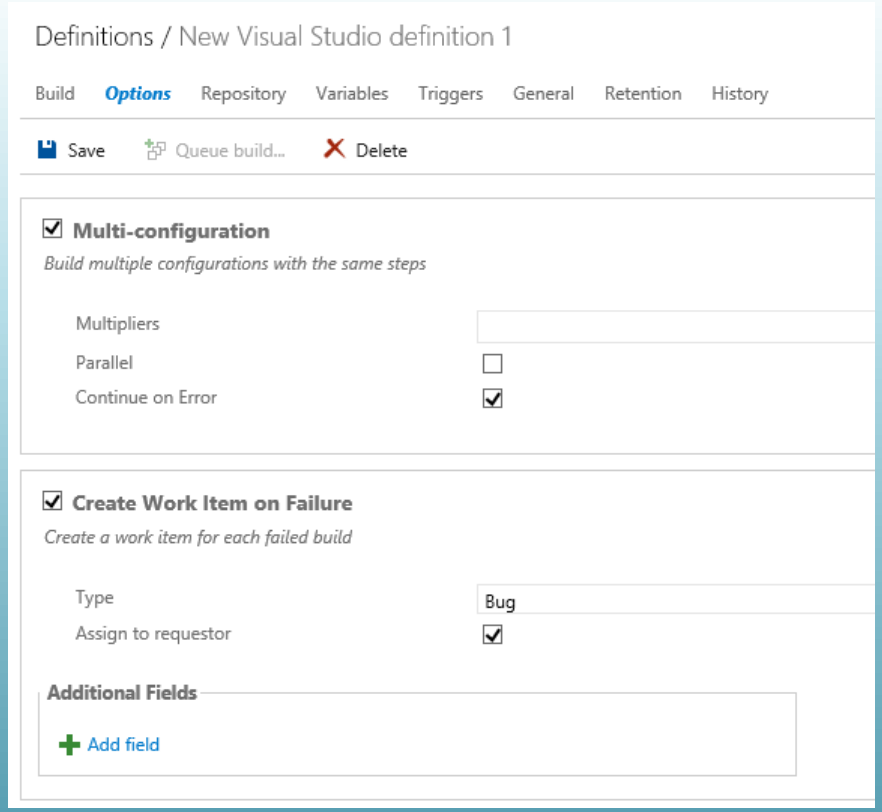
loud

Remote



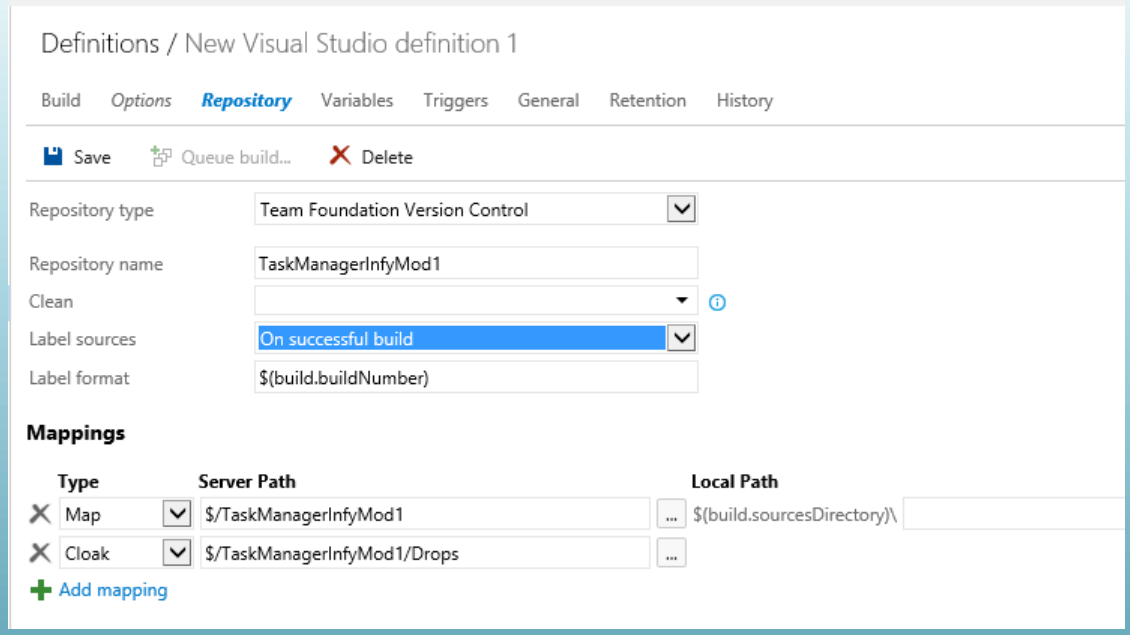
Build Definition Creation

- Options



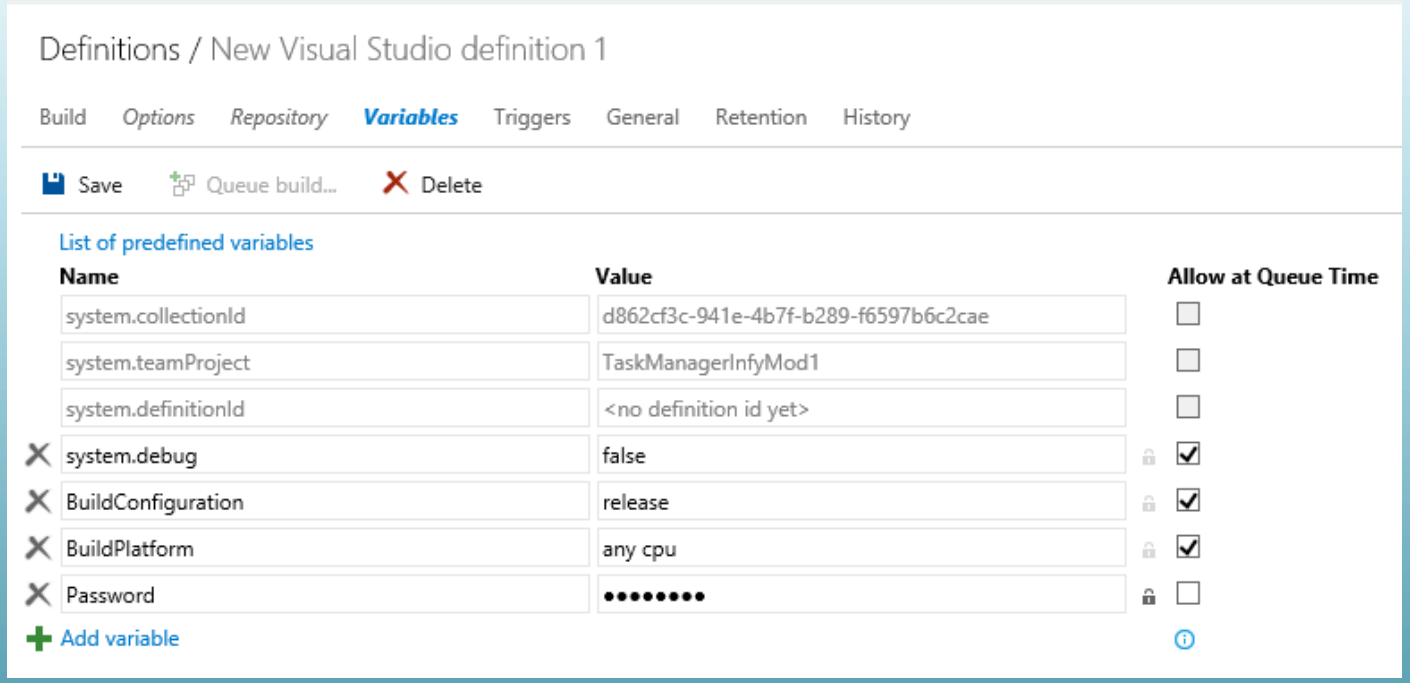
Build Definition Creation

- Repository



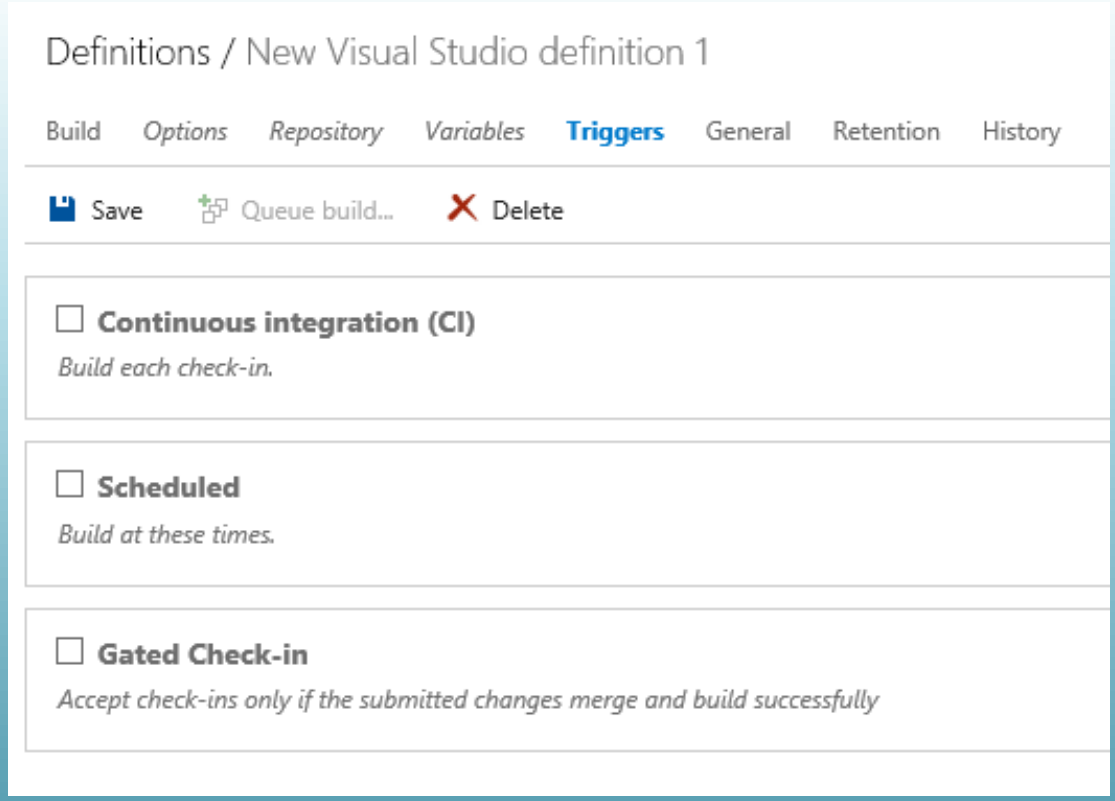
Build Definition Creation

- Variables



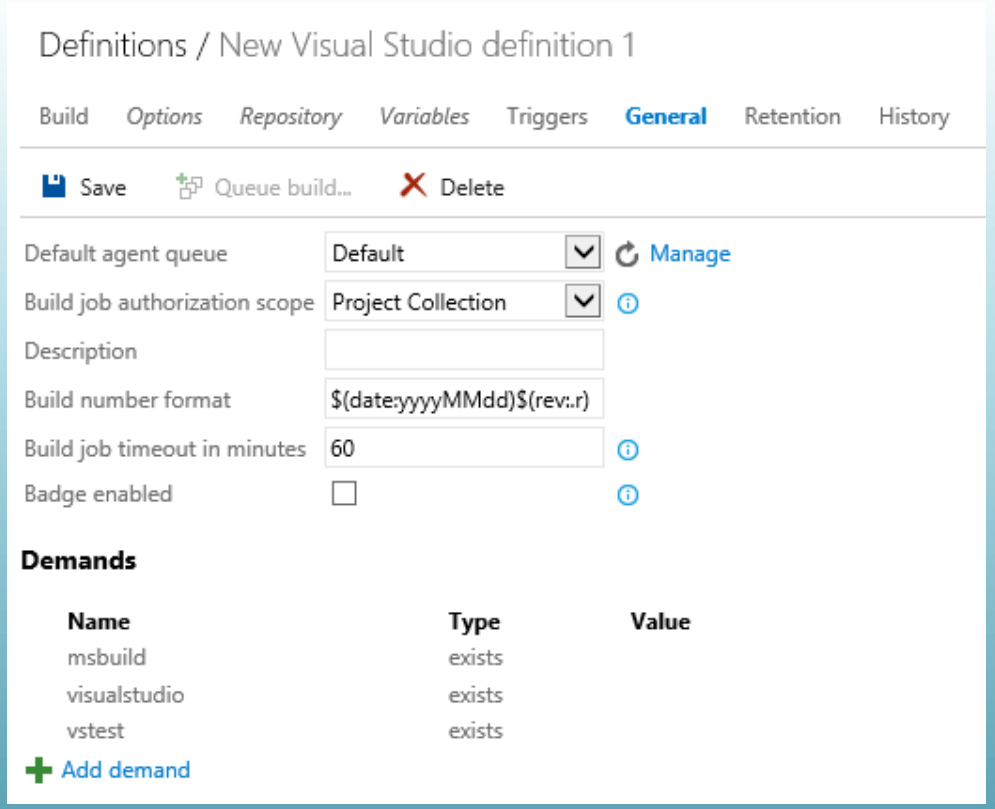
Build Definition Creation

- Triggers



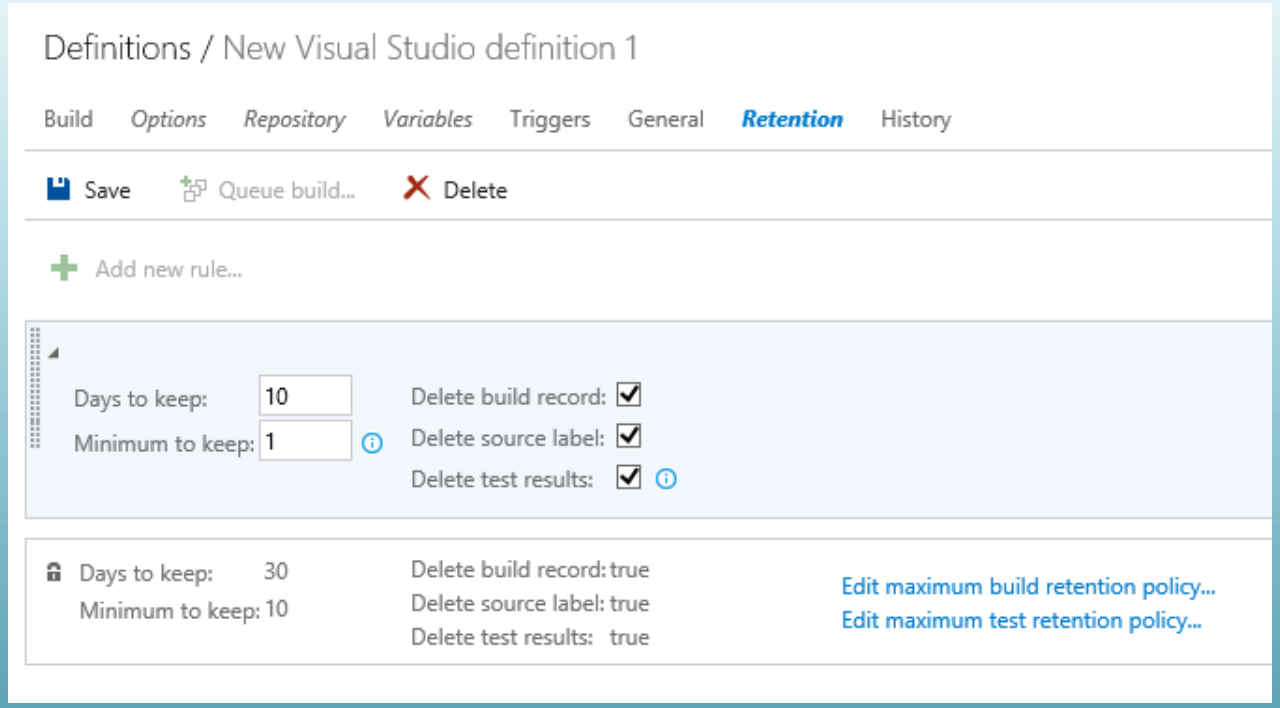
Build Definition Creation

- General
- Demands



Build Definition Creation

- Retention



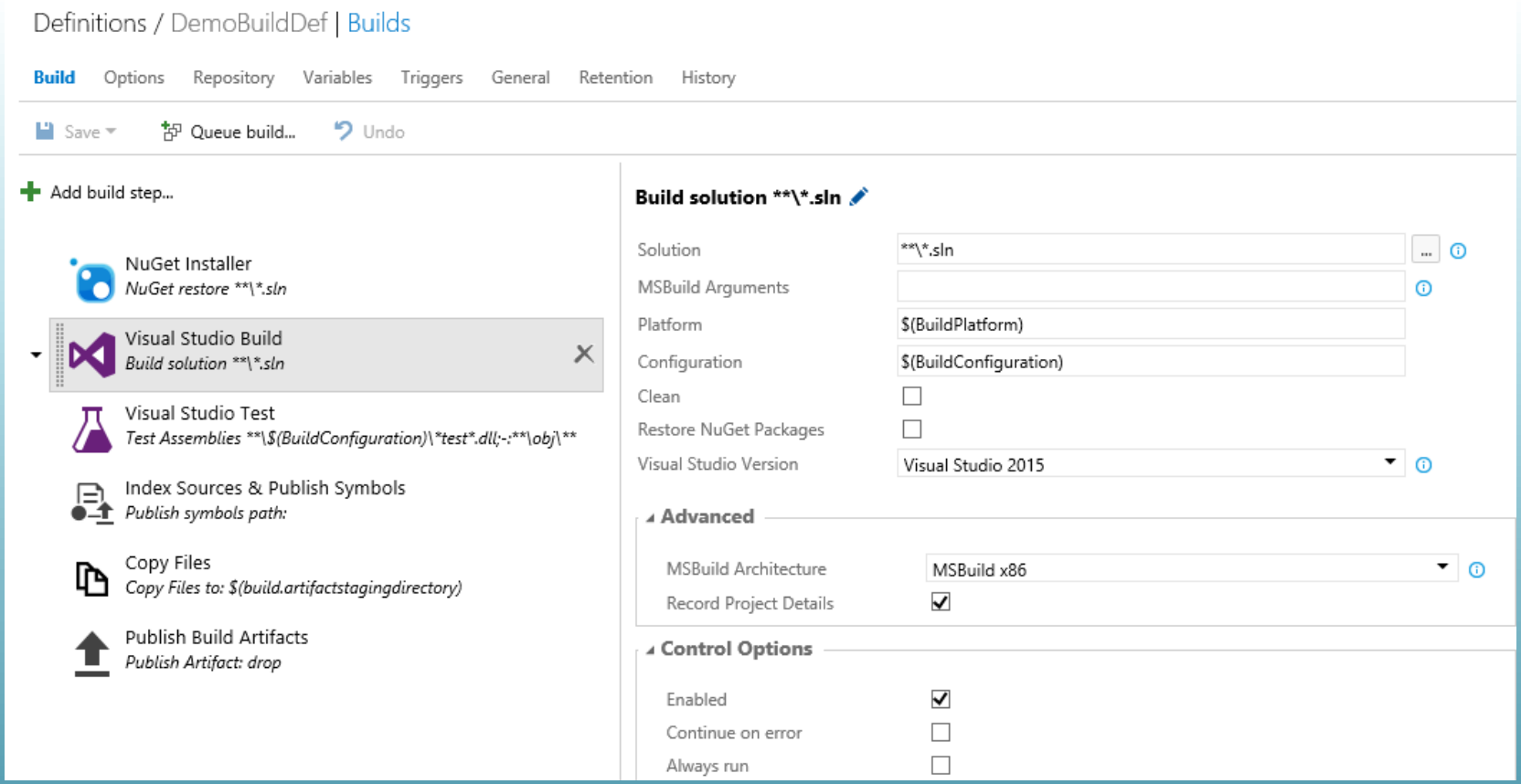
Best Practices

- Create a separate build for each scope
- Create build for the purpose e.g. Continuous Integration / Gated Check-in / For release
- Adjust scope in line with the purpose of the build – CI build scope should be small whereas build for Release should have entire solution in the build.
- Automate build triggers as per the need only.
- Use build variables that are built in to provide location transparency.
- Use Password chars in build variables wherever necessary
- While using hosted build agent use Server type artifact only

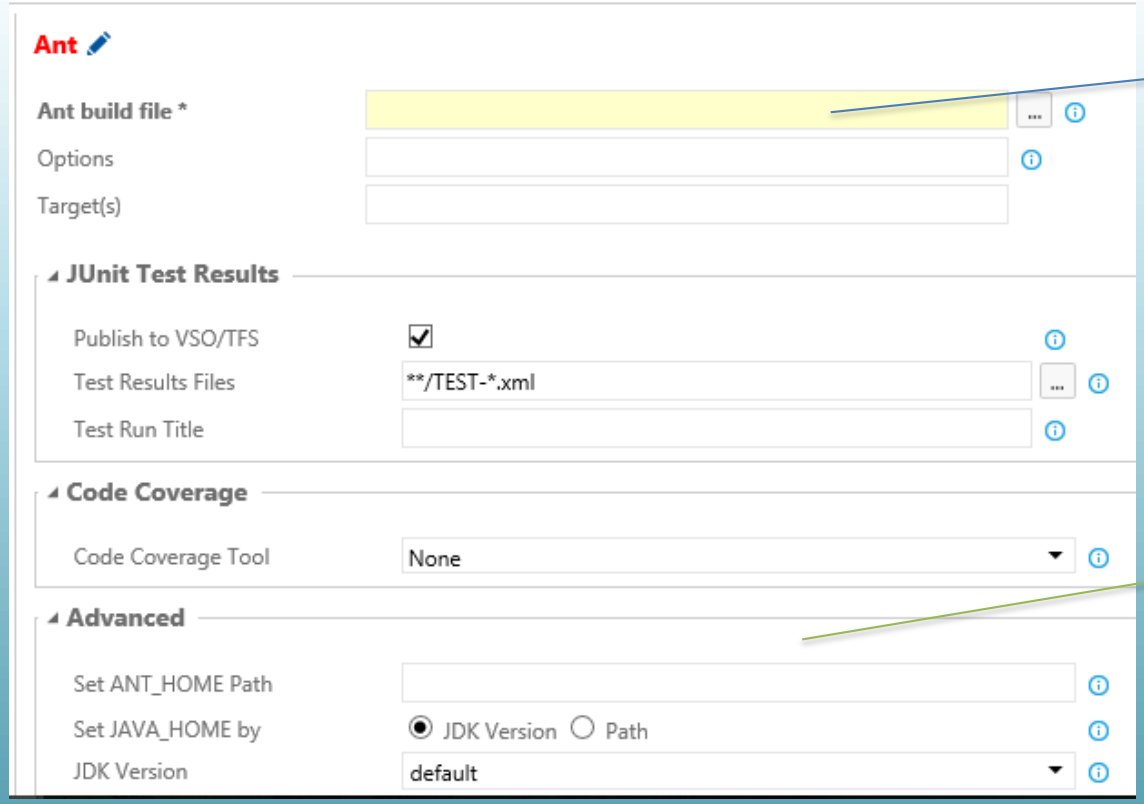
Build Steps

Tasks

Step Group – Build – Visual Studio Build



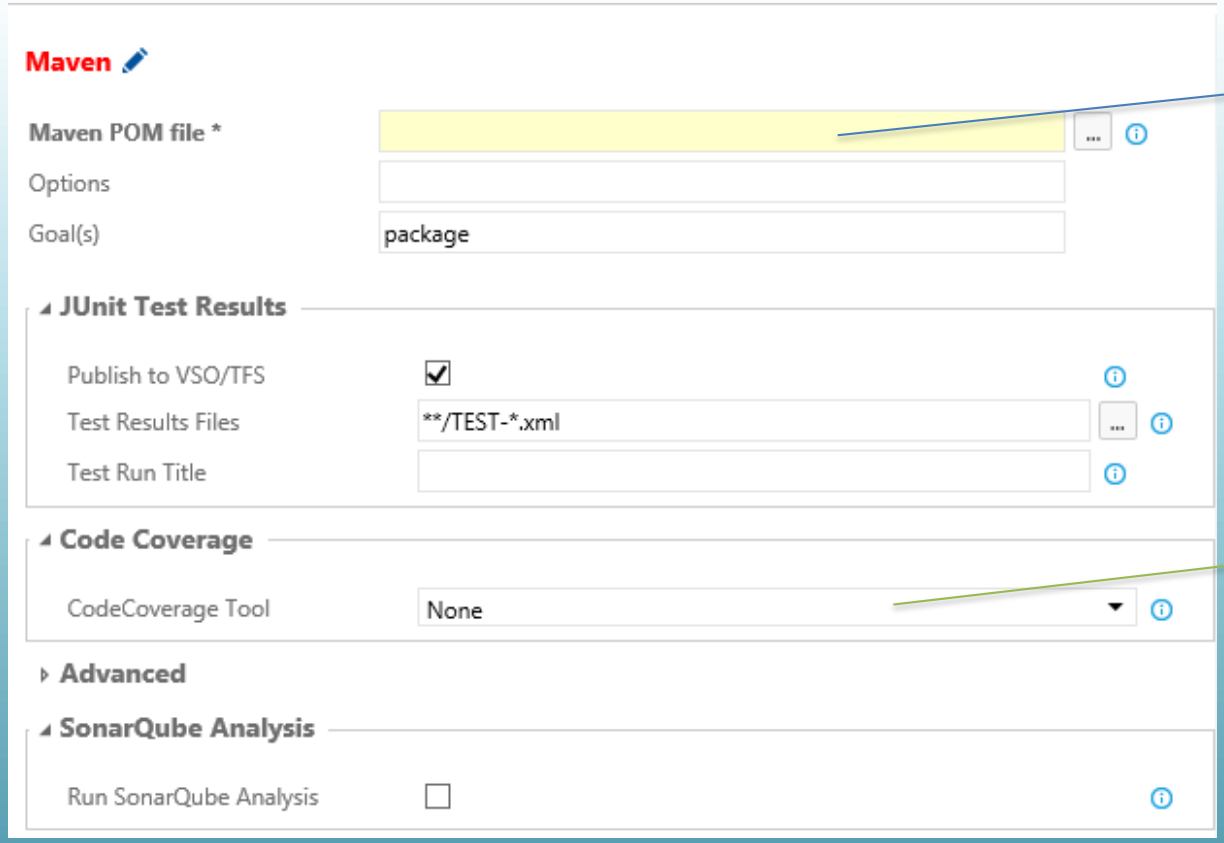
Step Group – Build – ant



Has to be under source control

If Set, Overrides environment variable

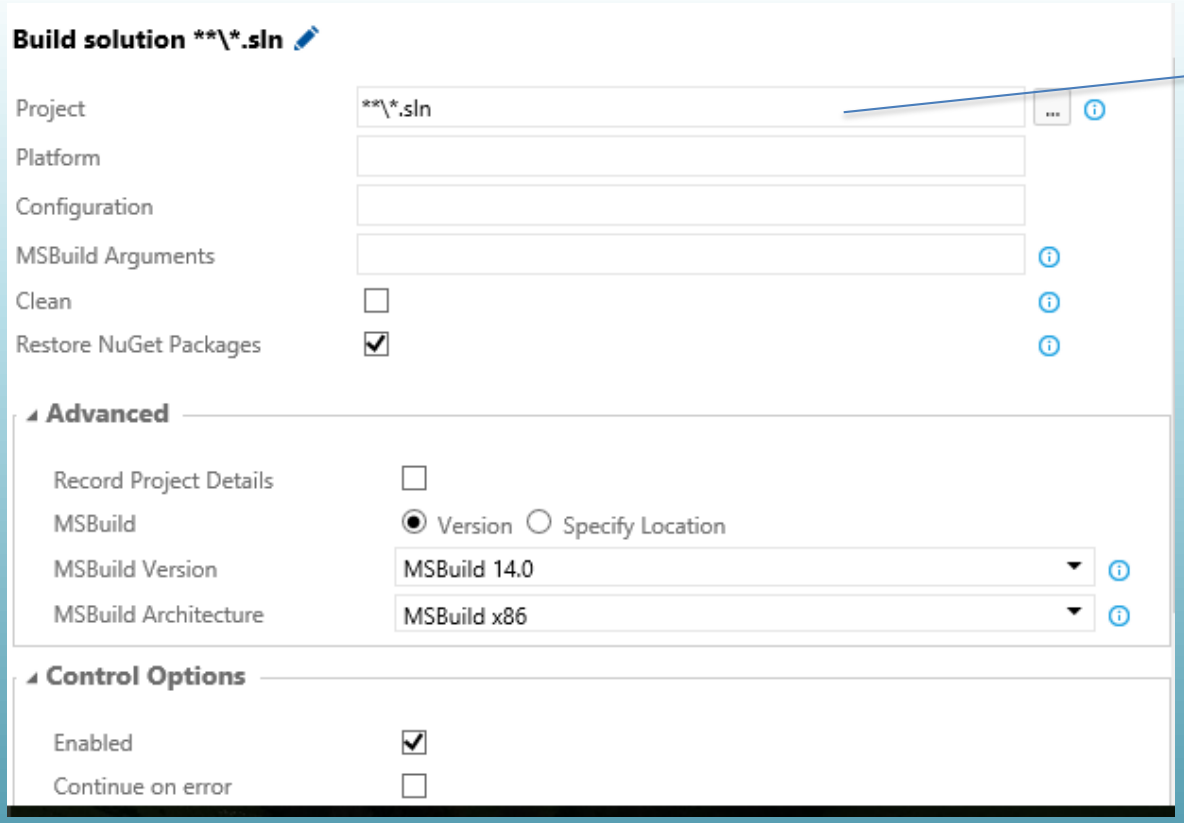
Step Group – Build – Maven



Has to be under source control

JaCoCo or Cobertura

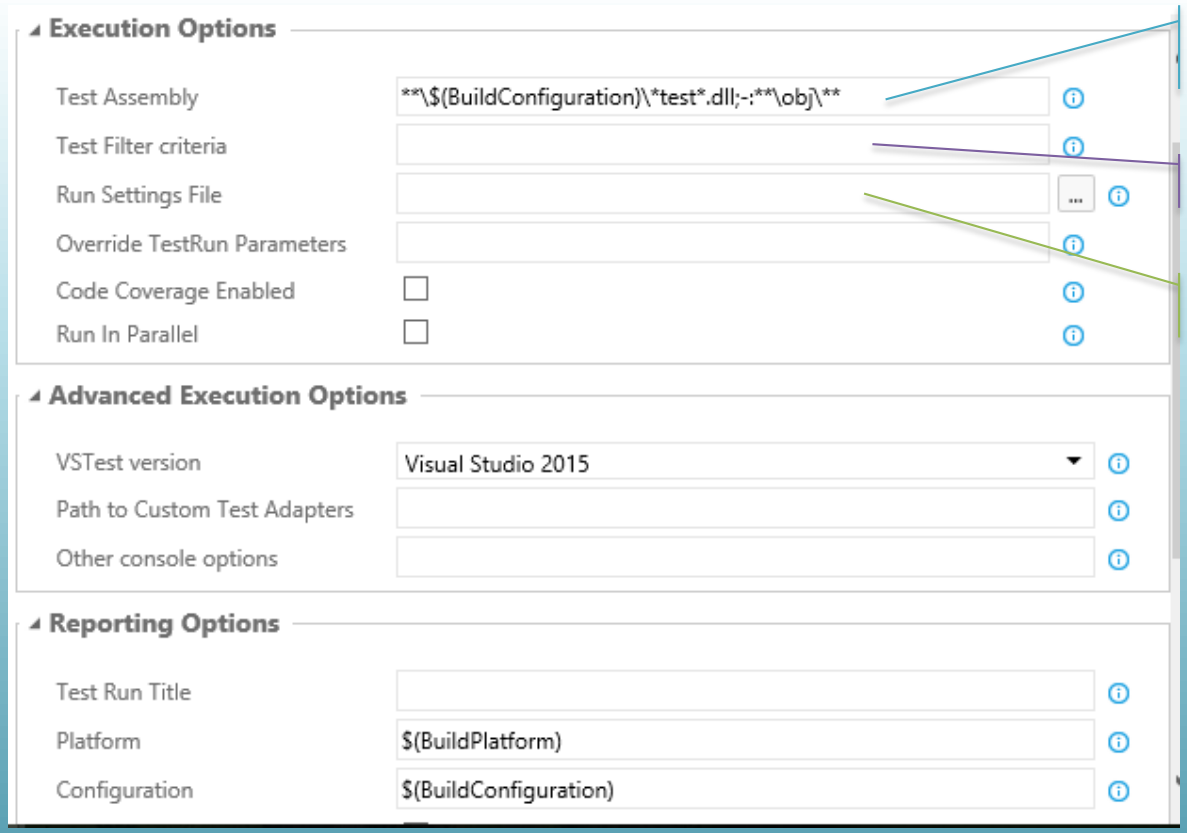
Step Group – Build – msbuild



Has to be under source control

It can be .sln file or .proj file containing msbuild script having minimum one target

Step Group – Test – VS Test

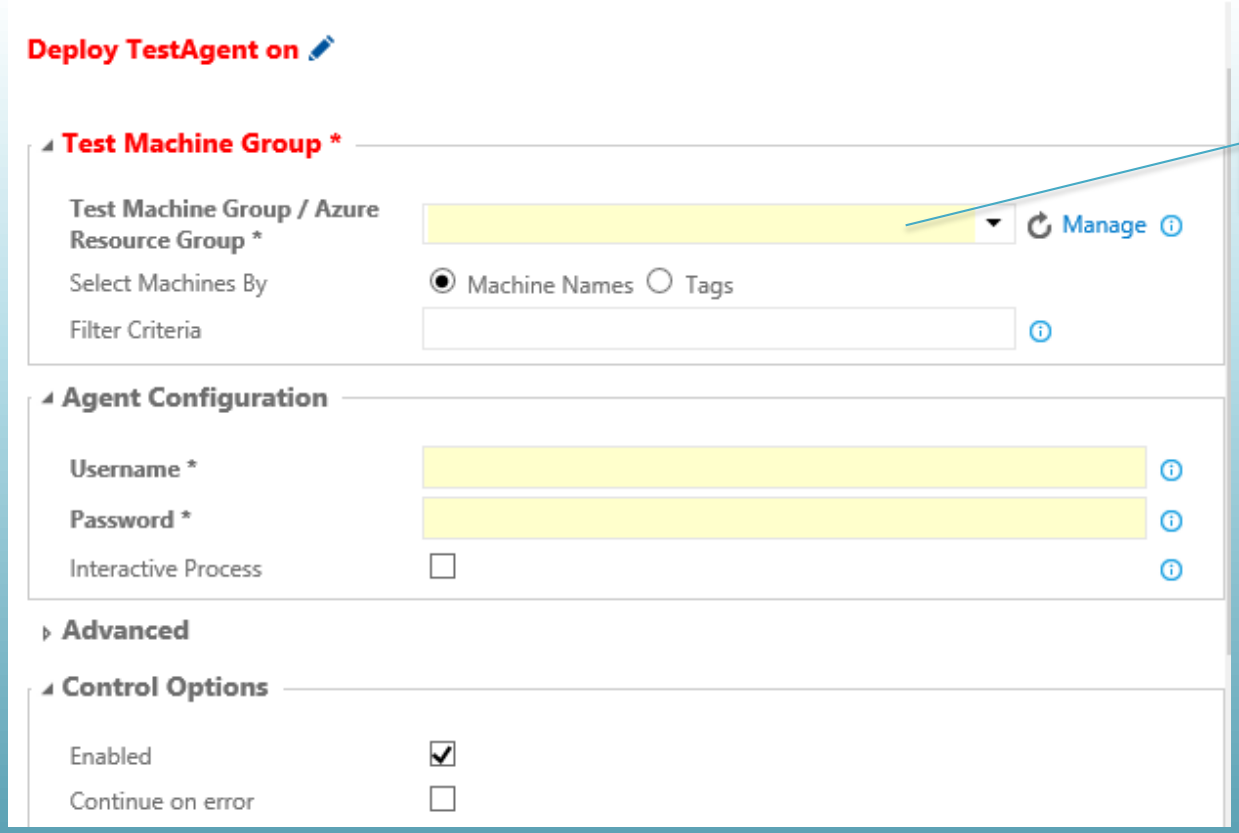


Any assy in soln containing test in name

Filter criteria like category

Custom Run Settings File

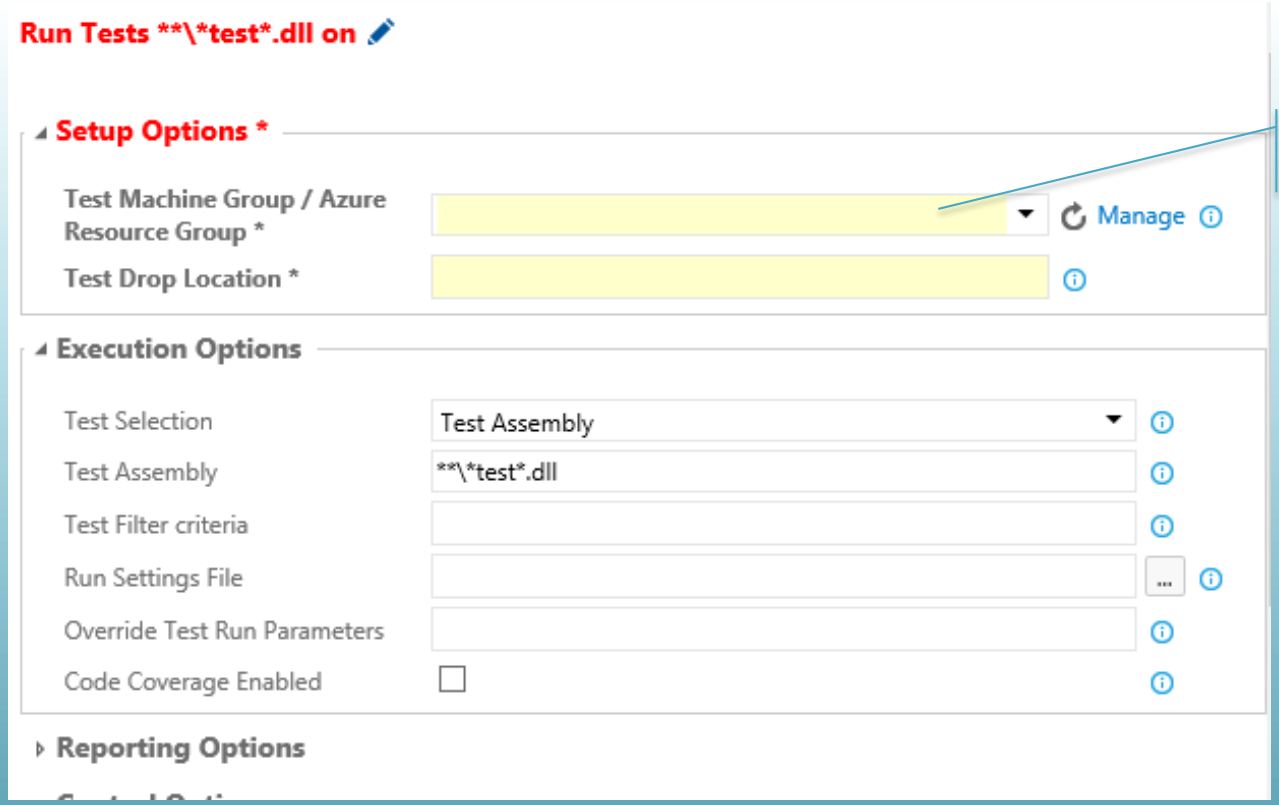
Step Group – Test – Install Agents



Part of a standard environment

Install WinRM on Target Machines as prerequisite where Test Agent is to be deployed

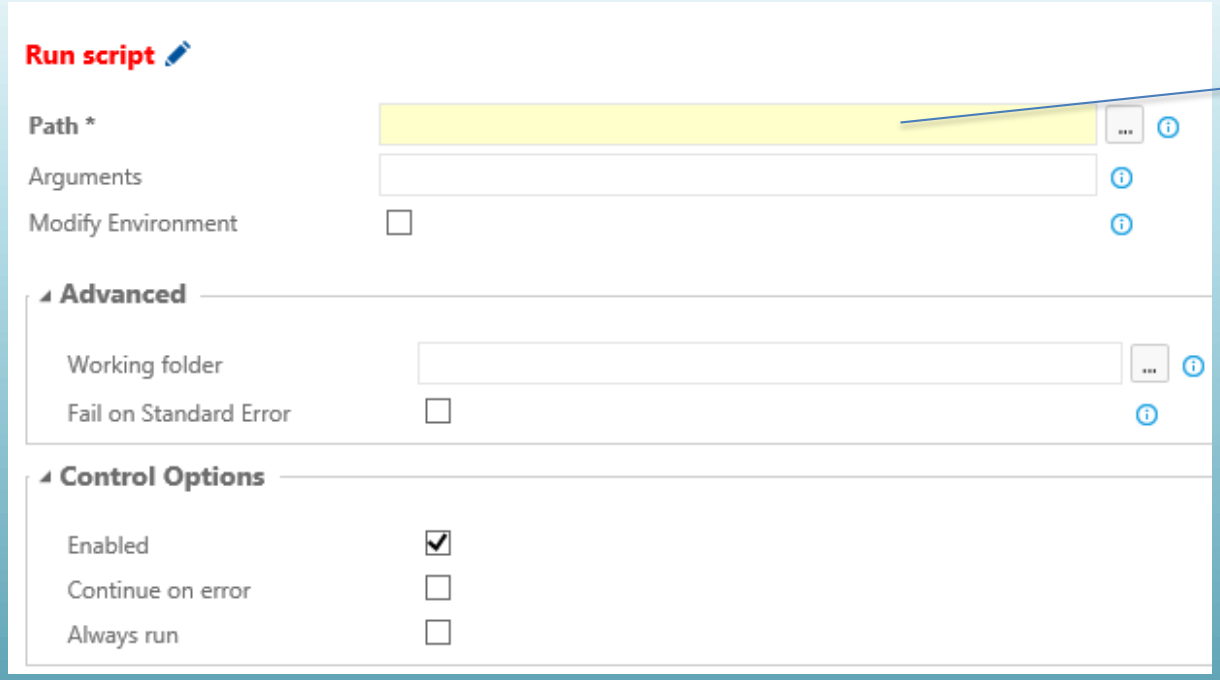
Step Group – Test – Functional Test



Part of a standard environment

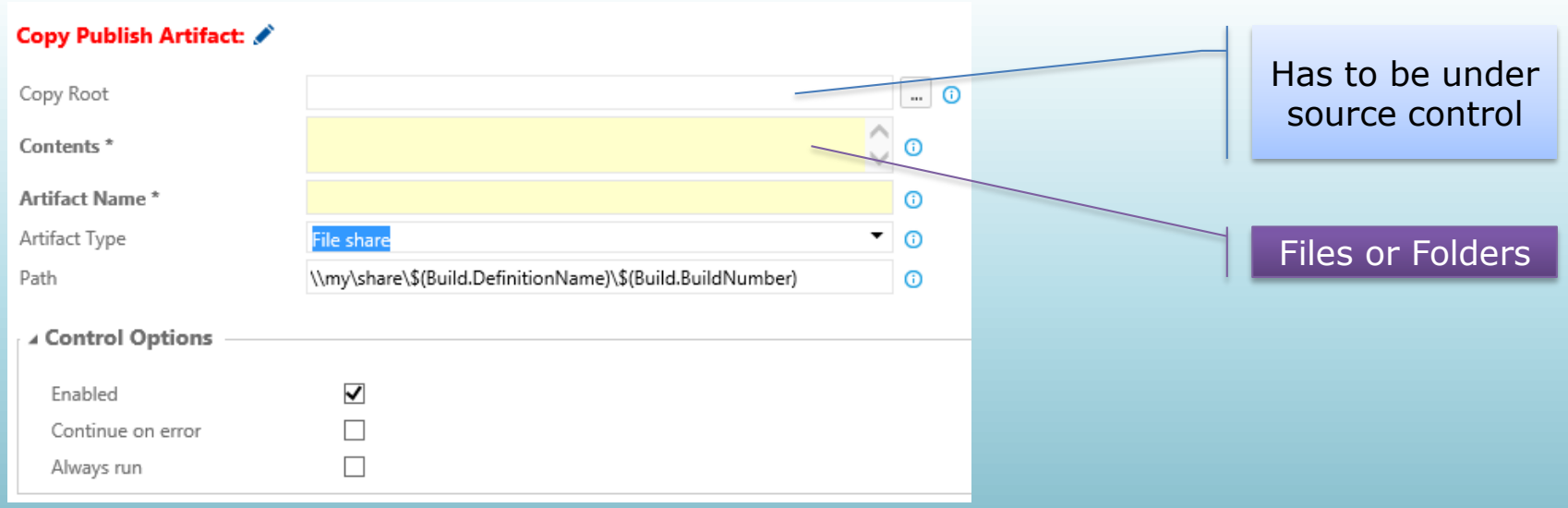
Any automated functional test can be executed: Unit Test, Coded UI Test, Selenium Test etc.

Step Group – Utilities – Batch Script

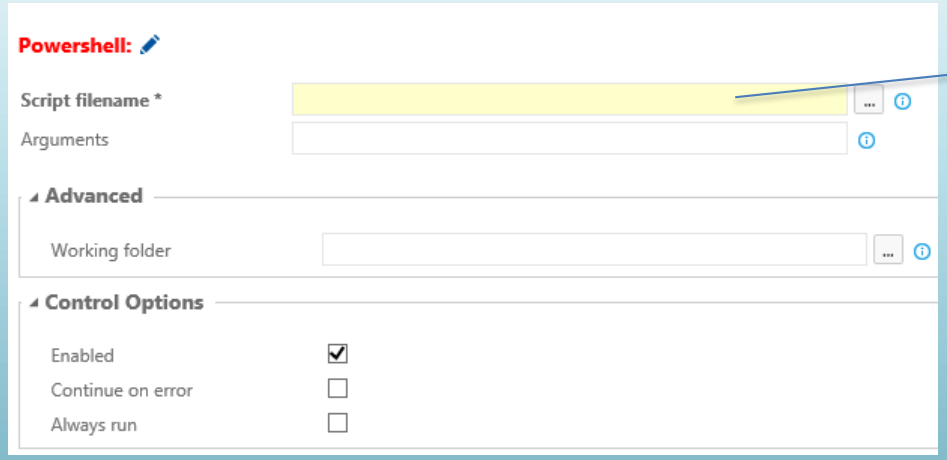


Has to be under source control

Step Group – Utilities – Copy Publish Artifact

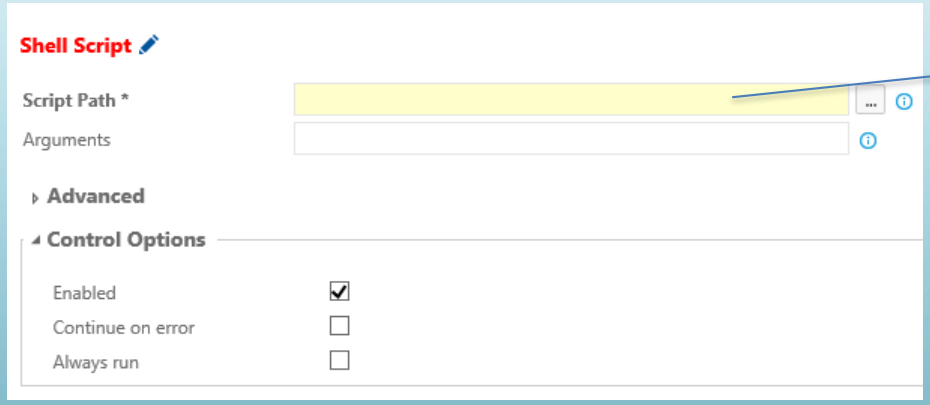


Step Group – Utilities – PowerShell Script



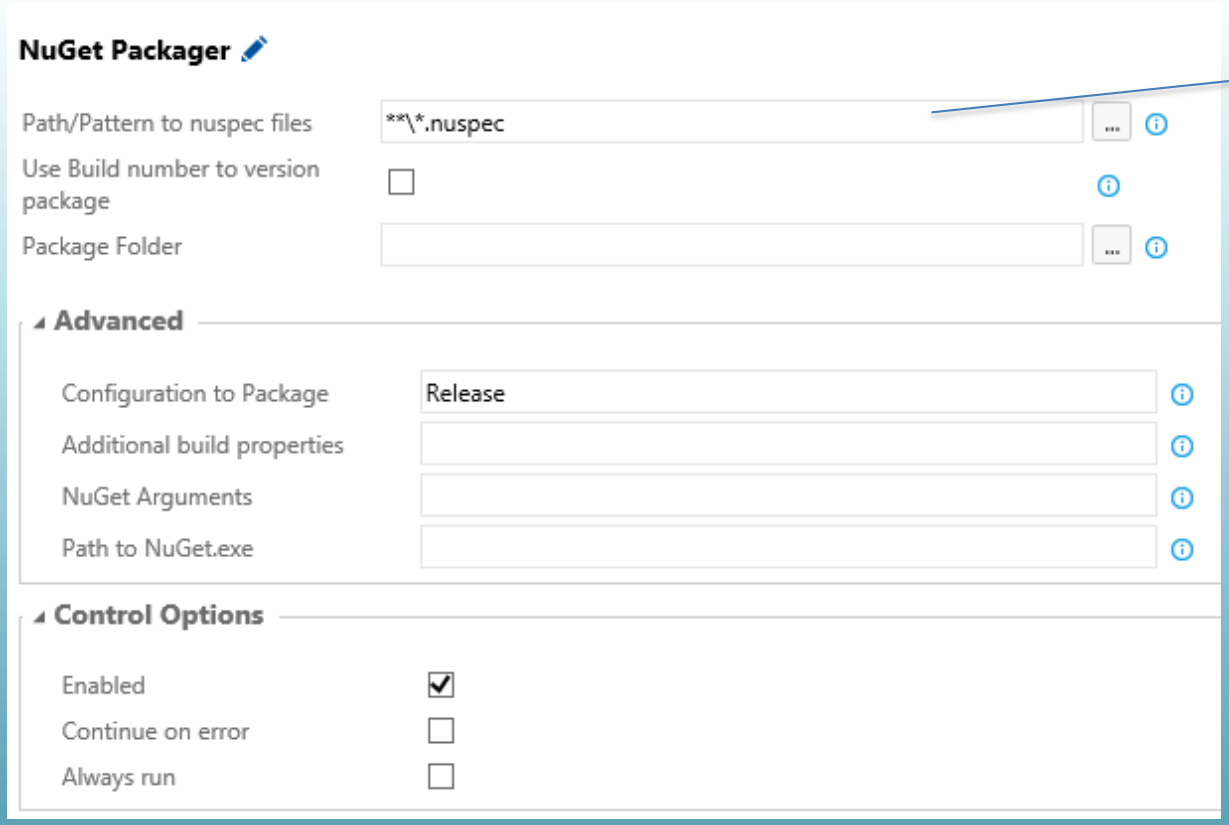
Has to be under source control

Step Group – Utilities – bash script



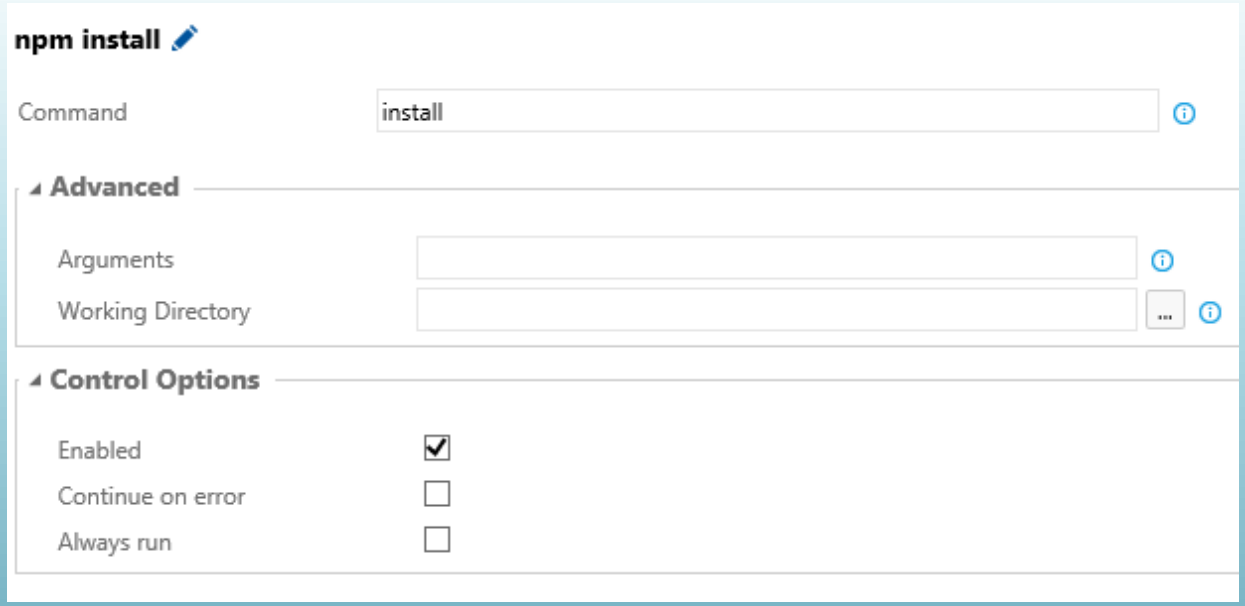
Has to be under source control

Step Group – Packaging – NuGet

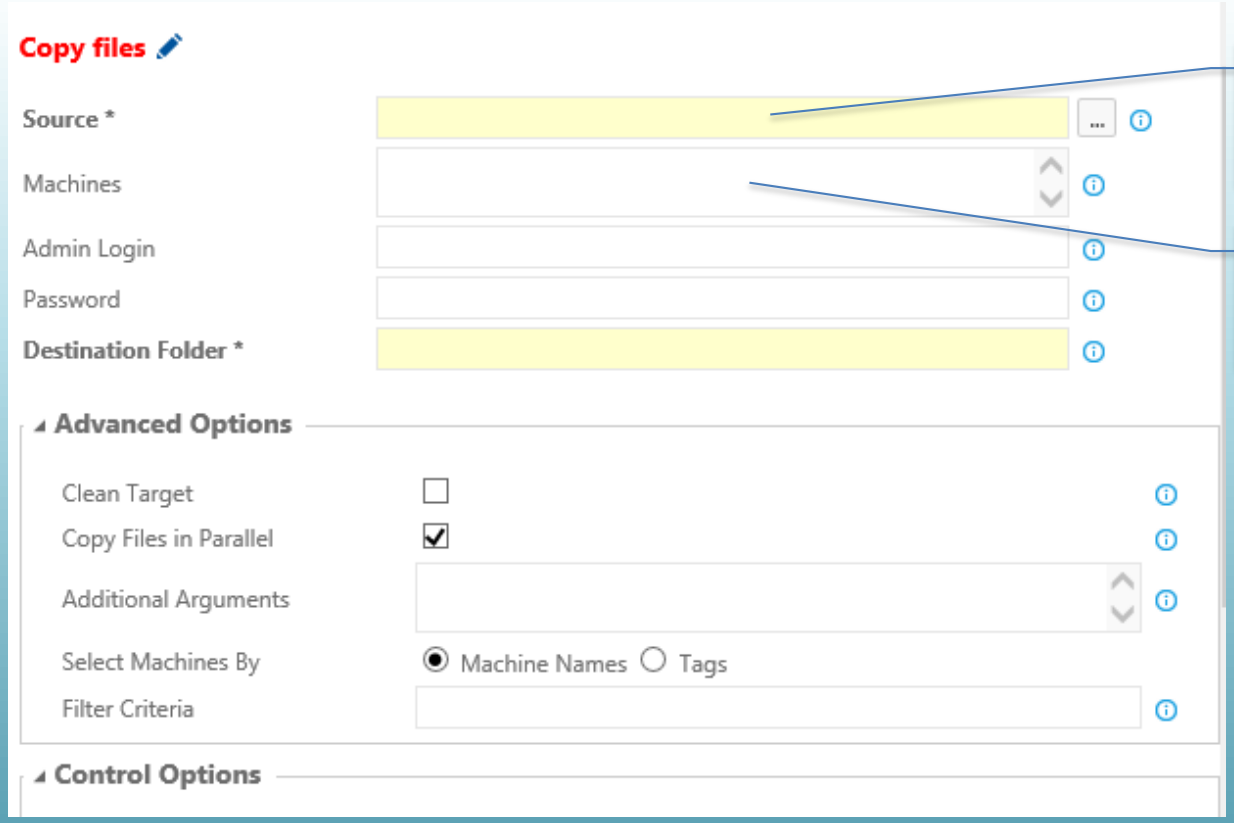


.nuspec or .csproj file

Step Group – Packaging – npm



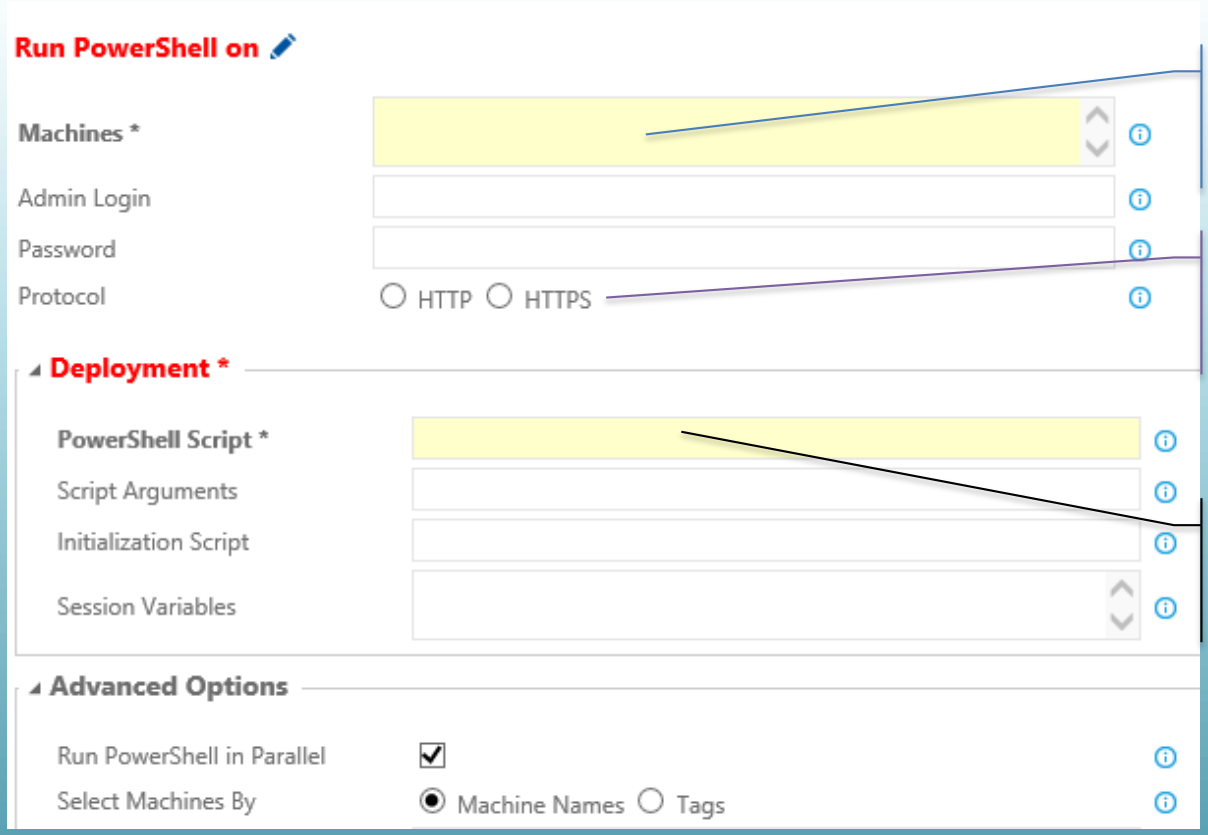
Step Group – Deploy – File Copy



Has to be under source control

FQDN or IP Address

Step Group – Deploy – PowerShell on Remote Machine



FQDN or IP Address

Required for WinRM

Has to be under source control

Lab: 6B

- Create a build definition to build a web application

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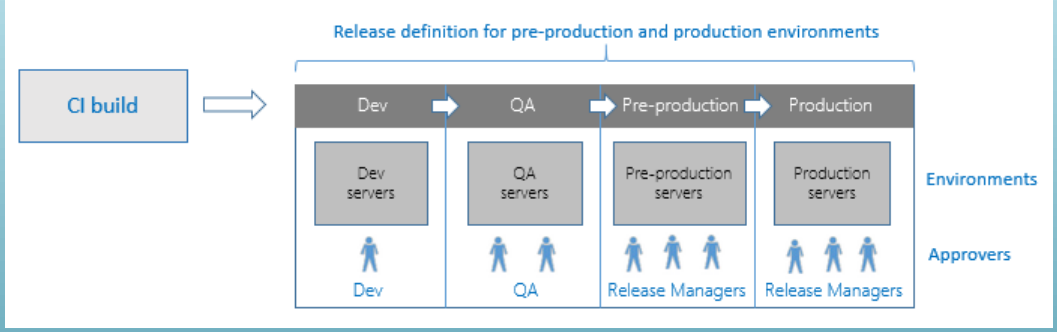
Release Management

RM Definition

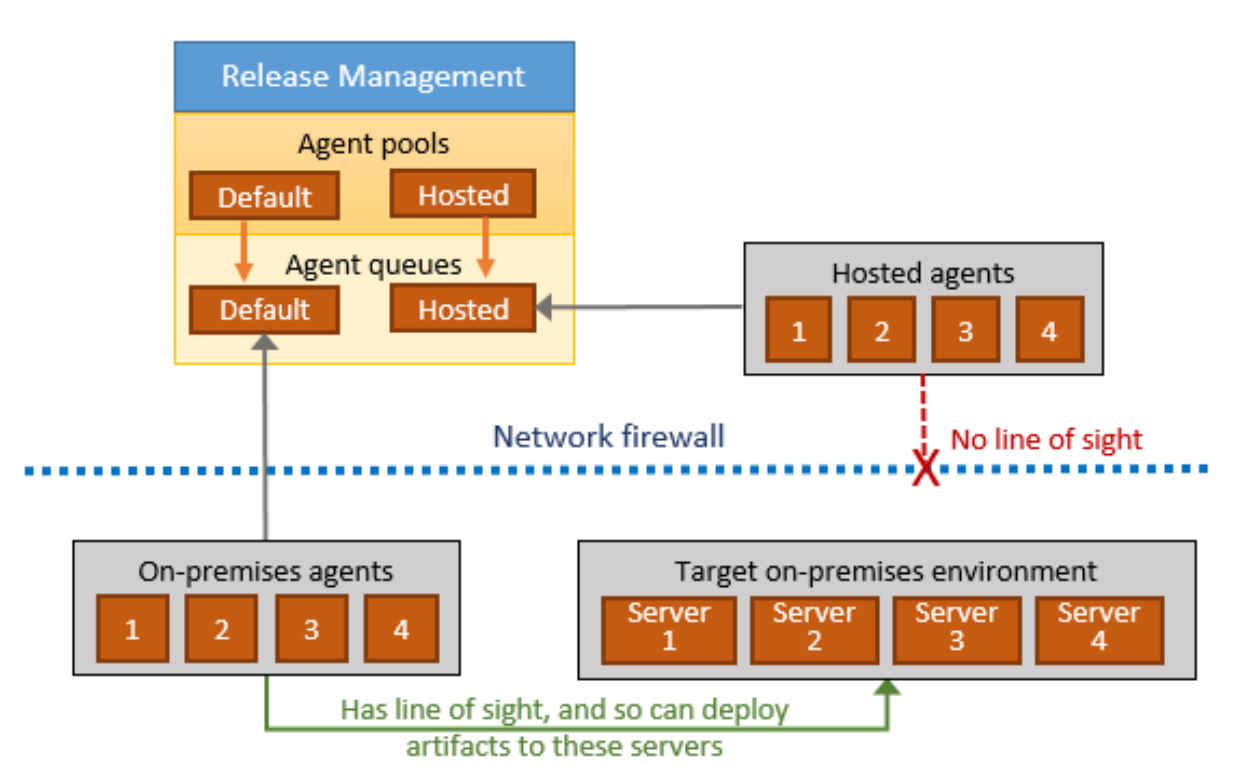
- Release Management automates the deployment and testing of your software in multiple environments.



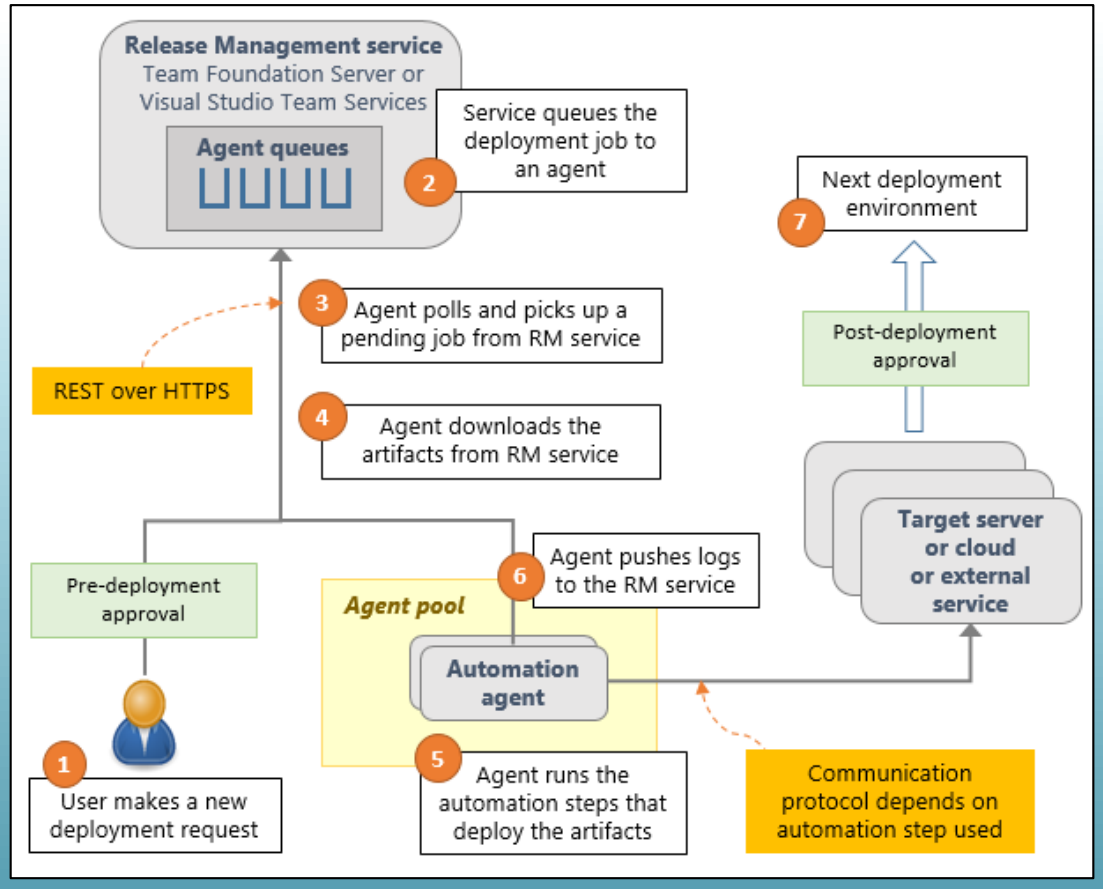
RM is needed for

- Develop applications and deploy them regularly to any platform
- Implement Continuous Integration (CI) Continuous Deployment CD
- Track the progress of releases
- Control of the deployments
- Audit history for all releases and their deployments

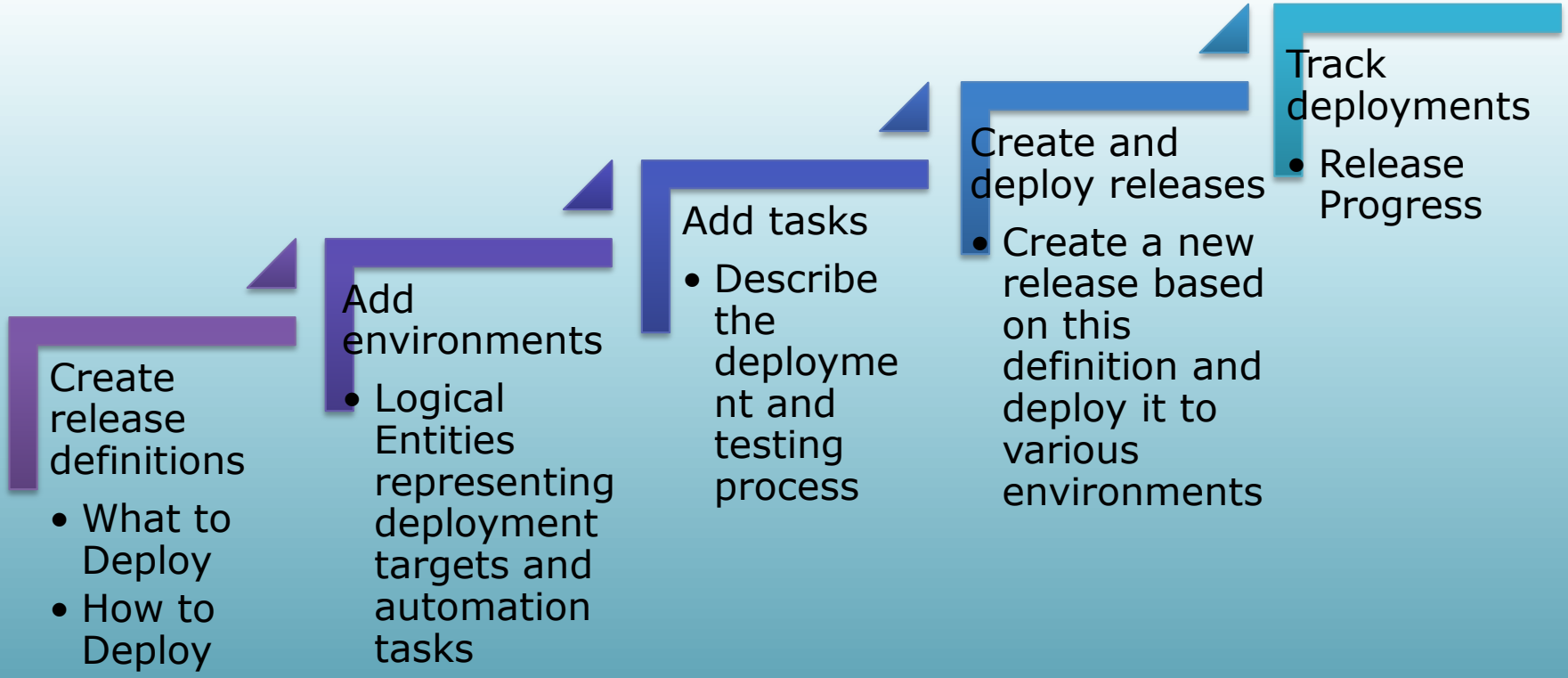
RM Architecture



RM Control flow



RM Workflow


Create release definitions
• What to Deploy
• How to Deploy
Add environments
• Logical Entities representing deployment targets and automation tasks
Add tasks
• Describe the deployment and testing process
Create and deploy releases
• Create a new release based on this definition and deploy it to various environments
Track deployments
• Release Progress