



VSTS CI/CD Tool

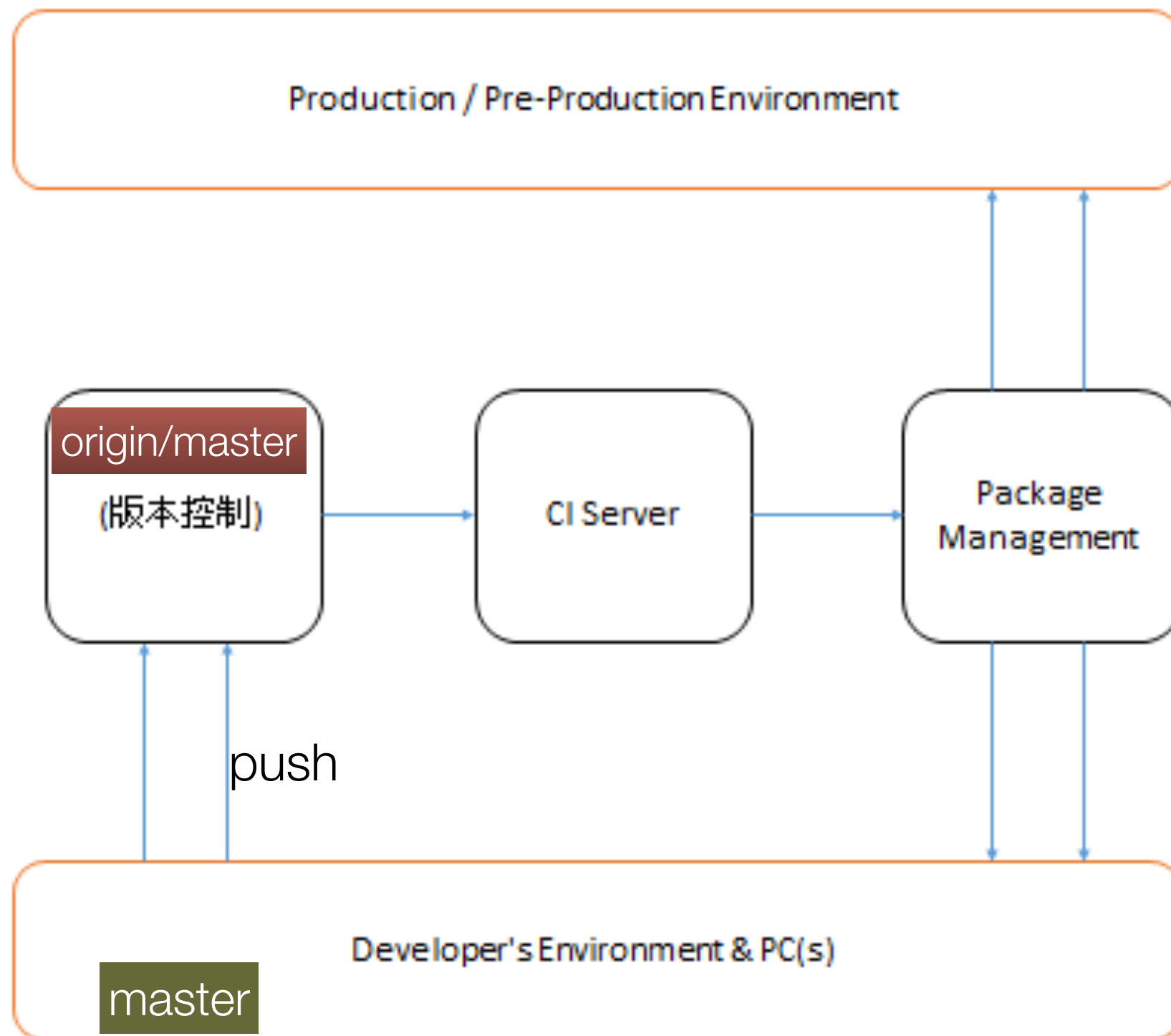
Outline

- 一、What is CI/CD
- 二、Why Use CI/CD
- 三、VSTS CI/CD Tools

一、What is CI/CD

- Devops 的其中一個環節
- 持續性整合與發佈 (Continuous Integration / Continuous Delivery)
- CI: 自動建置、測試和打包程式
- CD: 自動發佈特定版本的程式到指定環境
- 與版控工具 (Git)有著緊密的關係

一、What is CI/CD



一、Why use CI/CD

- 減少重複的手動程序
- 可隨時產生一版可部署的版本
- 統一系統上版的SOP

三、VSTS CI/CD Tools

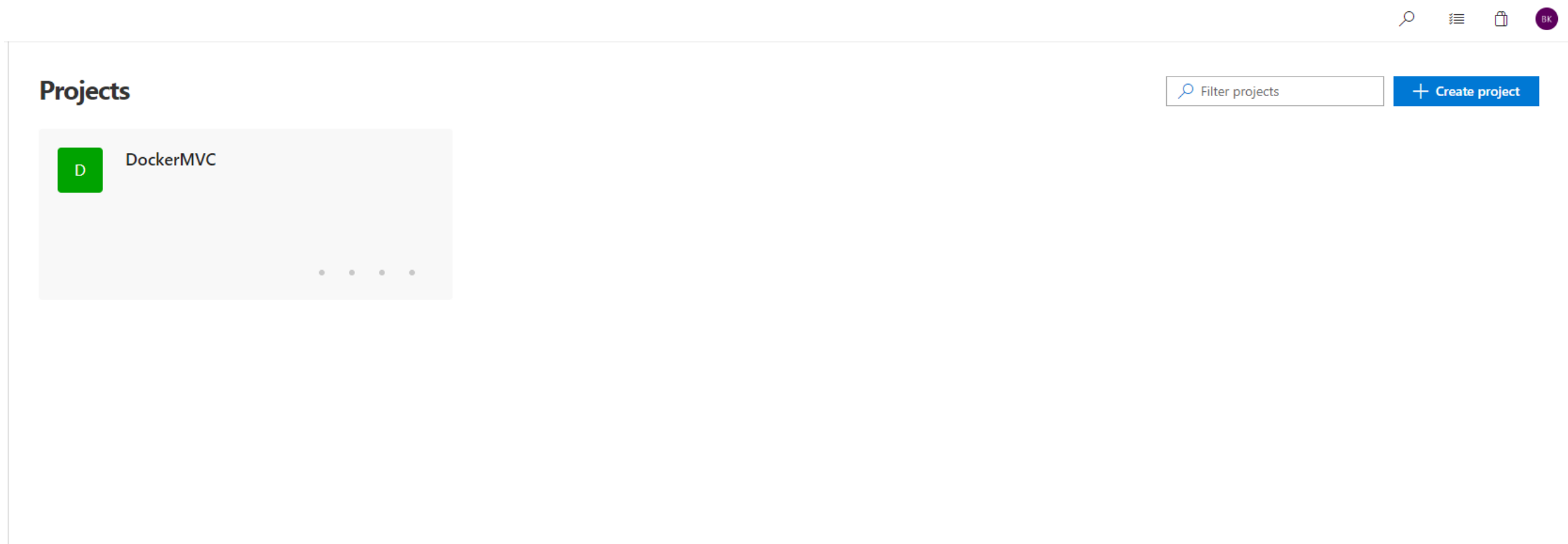
- 流程
 - 自行設計
 - 官方範本
- Agent類型
 - Hosted
 - Hosted vs2017
 - Hosted Ubuntu 16.04
 - Hosted Linux Preview
 - Hosted mac Preview
- Agent運算資源來源
 - 雲端
 - 地端

三、VSTS CI/CD Tools

- Hands-On-1
 - Clone Docker-MVC
 - 建立一個你自己的分支
 - Clone CI/CD-template
 - 修改相關參數
 - 測試CI/CD功能

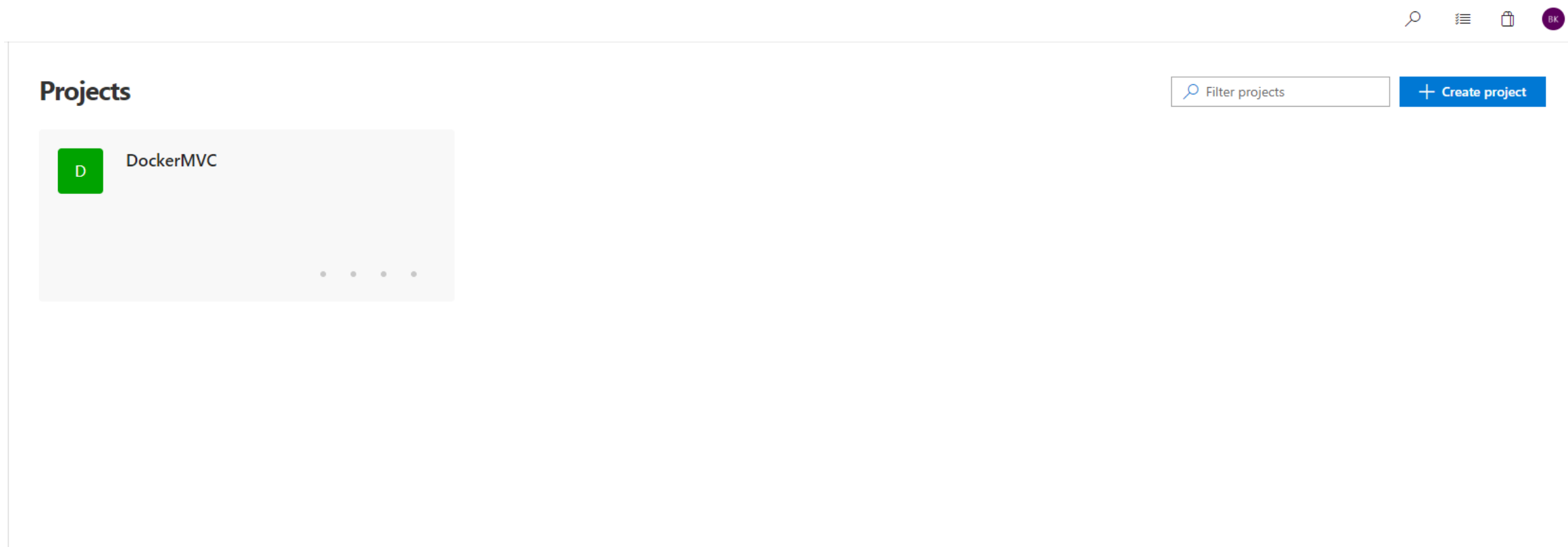
三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 前往CICD-tools 版控網站



三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 前往CICD-tools 版控網站



三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 對擊左下角的Admin settings button

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 點擊Agent pools選項

General

Overview

Projects

Policy

Users

Security

Notifications

Extensions

Usage

Work

Process

CI/CD

Agent pools

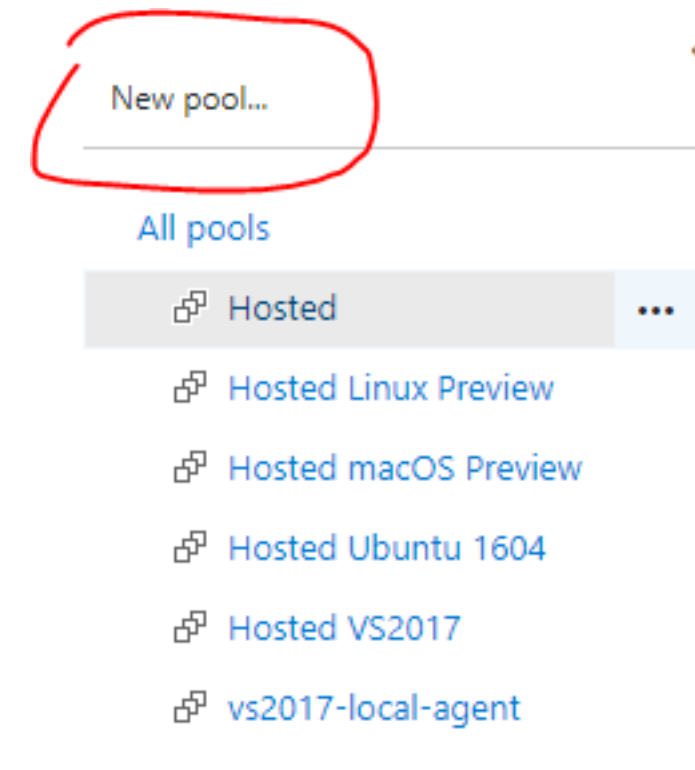
Deployment Pools

Retention and limits

OAuth Configurations

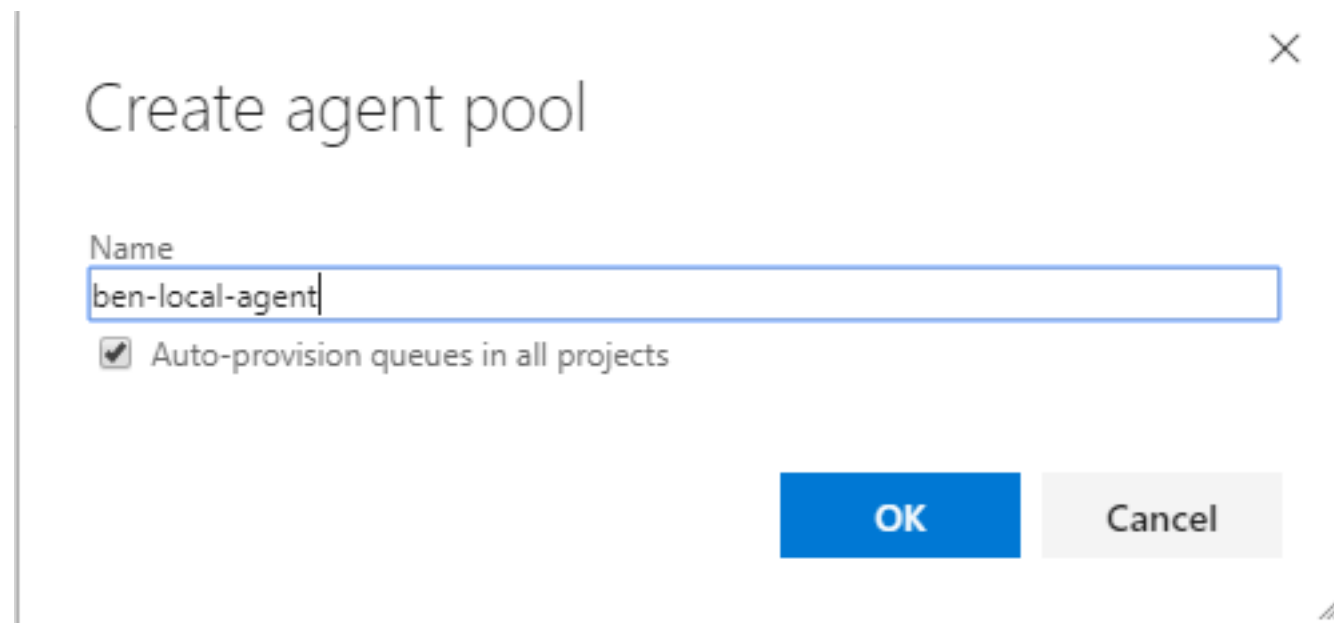
三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 點擊New pool button



三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 建立自己的local agent pool



The screenshot shows a 'Create agent pool' dialog box with a close button (X) in the top right corner. The dialog has a title bar and a main content area. Inside, there is a text input field labeled 'Name' containing the text 'ben-local-agent'. Below the input field is a checkbox labeled 'Auto-provision queues in all projects' which is checked. At the bottom right of the dialog are two buttons: 'OK' (blue) and 'Cancel' (gray). A small icon is visible in the bottom right corner of the dialog box.

Create agent pool

Name
ben-local-agent

☒ Auto-provision queues in all projects

OK Cancel

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
- 點擊Download agent button

Agent pools

New pool...

All pools

- Hosted
- Hosted Linux Preview
- Hosted macOS Preview
- Hosted Ubuntu 1604
- Hosted VS2017
- vs2017-local-agent

Agents for pool Hosted

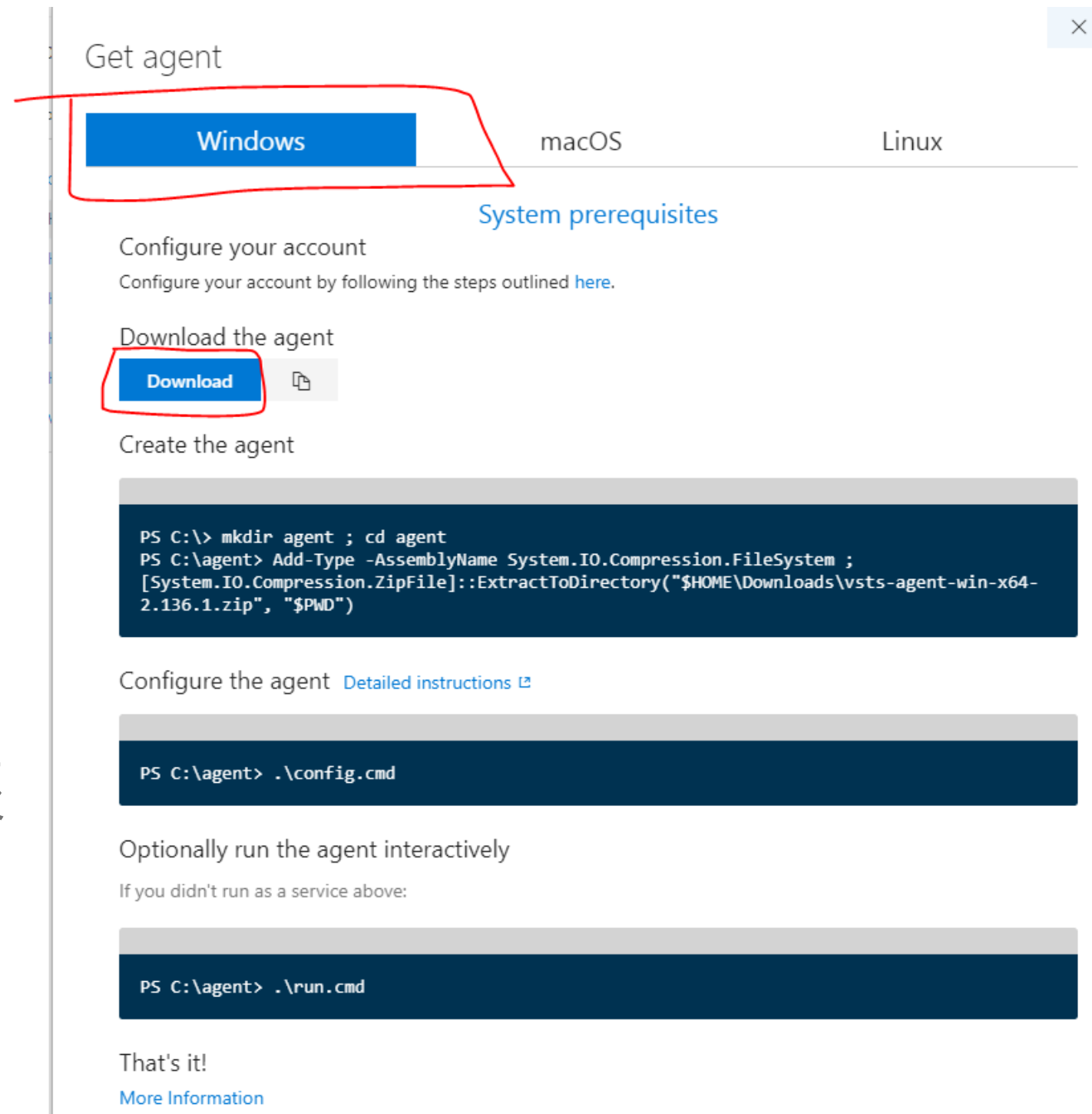
↓ Download agent

Agents Roles Details

Enabled	Name	State	Current status
<input checked="" type="checkbox"/>	Hosted Agent	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 2	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 3	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 4	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 5	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 6	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 7	Online	Idle
<input checked="" type="checkbox"/>	Hosted Agent 8	Online	Idle

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 選取Windows
 - 點擊Download button
 - 地端agent下載完成後
 - 解壓縮至一個新資料夾



Get agent

Windows macOS Linux

System prerequisites

Configure your account
Configure your account by following the steps outlined [here](#).

Download the agent

Download

Create the agent

```
PS C:\> mkdir agent ; cd agent
PS C:\agent> Add-Type -AssemblyName System.IO.Compression.FileSystem ;
[System.IO.Compression.ZipFile]::ExtractToDirectory("$HOME\Downloads\vsts-agent-win-x64-2.136.1.zip", "$PWD")
```

Configure the agent [Detailed instructions](#)

```
PS C:\agent> .\config.cmd
```

Optionally run the agent interactively
If you didn't run as a service above:

```
PS C:\agent> .\run.cmd
```

That's it!
[More Information](#)

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 解壓縮完成後的檔案和資料夾

📁 > 本機 > 本機磁碟 (D:) > vs2017-cicd-agent				
名稱	修改日期	類型	大小	
📁 bin	2018/8/6 上午 09	檔案資料夾		
📁 externals	2018/8/6 上午 09	檔案資料夾		
📄 config.cmd	2018/8/6 上午 09	Windows 命令指	3 KB	
📄 run.cmd	2018/8/6 上午 09	Windows 命令指	3 KB	

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 以系統管理者身份執行Commandline進入地端Agent資料夾
 - 輸入config.cmd以執行地端Agent連接設定

 Cmder | vs2017-cicd-agent

```
D:\vs2017-cicd-agent  
λ config.cmd|
```

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 輸入伺服器url (版控網站url)
 - 驗證類型直接按Enter
 - 個人存取權杖需透過vsts產生

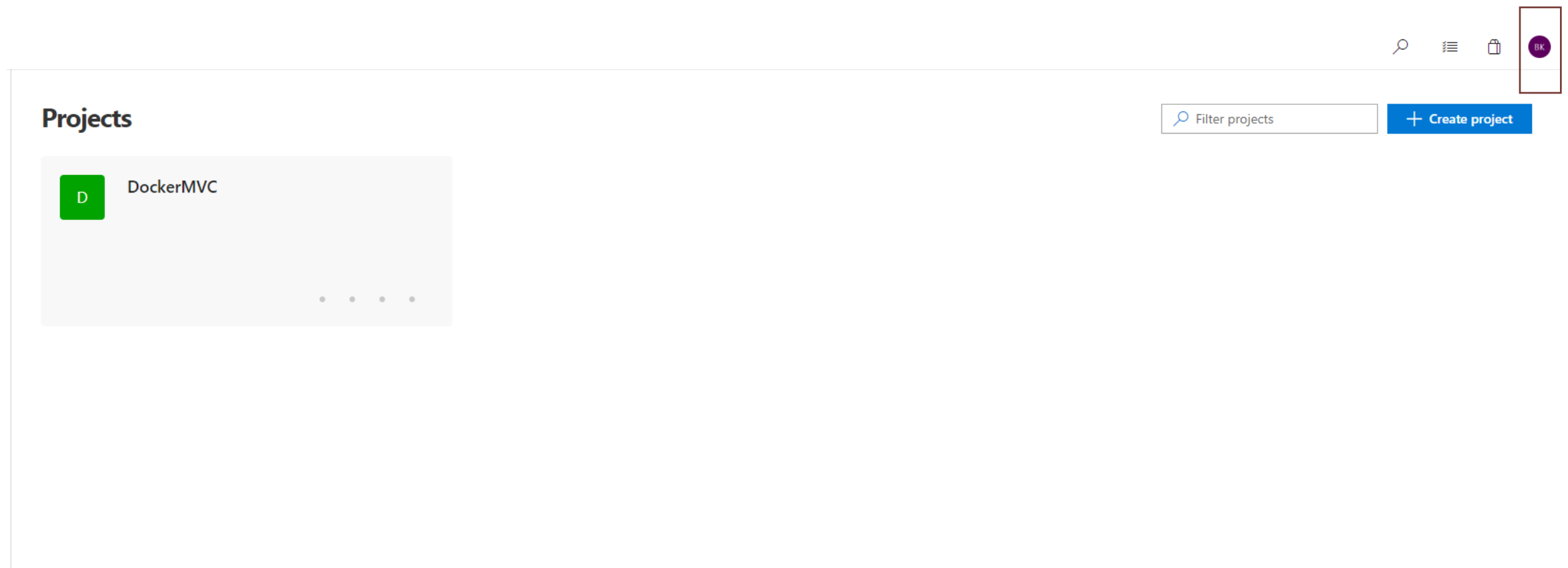
```
D:\vs2017-cicd-agent
λ config.cmd

VSTS
>> 連線:

請輸入 伺服器 URL > https://cloud.visualstudio.com/
請輸入 驗證類型 (請為 PAT 按 Enter) >
請輸入 個人存取權杖 > |
```

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent (個人存取權杖產生方式)
 - 進入版控網站
 - 點擊右上角使用者名稱後，並點擊Security下拉選單



三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent (個人存取權杖產生方式)
 - 選取Personal access tokens

^ General

Notifications

Usage

^ Security

Personal access tokens

Alternate credentials

SSH public keys

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent (個人存取權杖產生方式)
- 點擊Add button

Personal access tokens can be used instead of a password to allow applications outside the browser access to VSTS.

Your tokens are like passwords. Keep them secret.

Add

Revoke All

Show Revoked Tokens

Description	Expiration	Status ↑	Actions
Git: https://cicd-tools.visuals...	8/2/2019 8:55:14 AM	Active	×
Git: https://benbotchat.visua...	4/22/2019 11:30:07 AM	Active	×
cicdtoken	7/26/2019 8:31:32 AM	Active	×

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent (個人存取權杖產生方式)
 - 輸入token的Description, 按下Create Token button

Create a personal access token

Applications that work outside the browser may require access to your projects. Generate personal access tokens for applications that require a username and password.

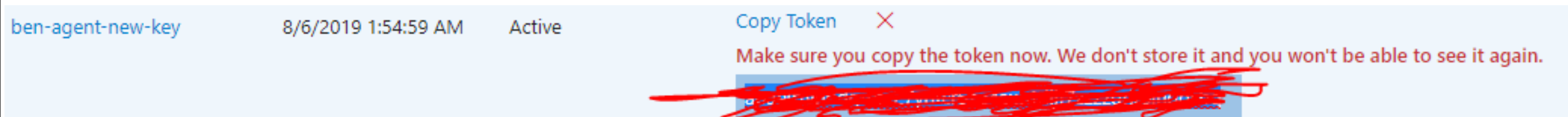
Description	<input type="text" value="ben-agent-new-key"/>
Expires In	<input type="text" value="1 year"/>
Organizations	<input type="text" value="CICD-Tools"/>

Authorized Scopes

- ☒ All scopes
☐ Selected scopes

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent (個人存取權杖產生方式)
 - 複製token字串



三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 貼上前一步驟所產生的token

```
D:\vs2017-cicd-agent
```

```
λ config.cmd
```

```
>> 連線:
```

```
請輸入 伺服器 URL > https://cicd-tools.visualstudio.com/
```

```
請輸入 驗證類型 (請為 PAT 按 Enter) >
```

```
請輸入 個人存取權杖 > ****
```


三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 代理程式集區輸入區，並須輸入先前所自行建立的 local agent pool name
 - 代理程式名稱和工作資料夾輸入區可按enter跳過
 - 最後一個選項，輸入是後，按下enter

```
請輸入 代理程式集區 (請為 default 按 Enter) > ben-local-agent
請輸入 代理程式名稱 (請為 DESKTOP-GJHN287 按 Enter) >
正在掃描工具功能。
正在連接至伺服器。
已成功新增代理程式
正在測試代理程式連線。
請輸入 工作資料夾 (請為 _work 按 Enter) >
2018-08-06 02:04:28Z: 已儲存設定。
請輸入 將代理程式作為服務執行? (是/否) (請為 否 按 Enter) > 是
```

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 代理程式集區輸入區，並須輸入先前所自行建立的 local agent pool name
 - 代理程式名稱和工作資料夾輸入區可按enter跳過
 - 最後一個選項，輸入是後，按下enter

```
請輸入 代理程式集區 (請為 default 按 Enter) > ben-local-agent
請輸入 代理程式名稱 (請為 DESKTOP-GJHN287 按 Enter) >
正在掃描工具功能。
正在連接至伺服器。
已成功新增代理程式
正在測試代理程式連線。
請輸入 工作資料夾 (請為 _work 按 Enter) >
2018-08-06 02:04:28Z: 已儲存設定。
請輸入 將代理程式作為服務執行? (是/否) (請為 否 按 Enter) > 是
```

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 以系統管理者身份用Command line進入local agent資料夾，並輸入run.cmd以執行local agent工作監聽和執行

λ Cmder

D:\vs2017-cicd-agent

λ run.cmd

正在掃描工具功能。

正在連接至伺服器。

2018-08-06 02:19:56Z: 正在接聽作業

2018-08-06 02:19:58Z: 正在執行作業: Job

三、VSTS CI/CD Tools

- Hands-On-2: 地端Agent
 - 前往自己所建立的CI/CD流程，並將Agent queue改成自己的建立的local agent

The screenshot displays the VSTS CI/CD interface for a pipeline named 'ben-dev-cicd'. The left sidebar shows the pipeline structure with tasks like 'Get sources', 'Build an image', 'Push an image', and 'helm upgrade'. The right pane shows the configuration for the 'Agent queue', which is currently set to 'ben-local-agent'. A red box highlights the 'ben-local-agent' option in the dropdown menu, indicating the selection of a local agent.

ben-dev-cicd

Tasks Variables Triggers Options Retention History | Save & queue Discard Summary Queue ...

Process
Build process

Get sources
DockerMVC ben-dev

Phase 1
Run on agent

Build an image
PREVIEW Docker

Push an image
Docker

helm upgrade
PREVIEW Package and deploy Helm charts

Name *
ben-dev-cicd

Agent queue * | Pool information | Manage

ben-local-agent

Hosted

- Hosted
- Hosted Linux Preview
- Hosted macOS Preview
- Hosted Ubuntu 1604
- Hosted VS2017

Private

ben-local-agent