



MC2MC

Azure DevOps + Azure Image Builder =
Automated WVD images

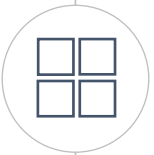
Deploying WVD



In the Portal

Clicking around in the portal, creating WVD Workspace, Hostpool & App Groups

- Just before creating, you can export the ARM template & parameters



ARM Templates

Deploy WVD using ARM Templates in the portal or through Powershell



Azure DevOps

Deploy WVD using ARM Templates in Azure DevOps in a CI/CD Pipeline

Deploying WVD

Sources

Azure Marketplace



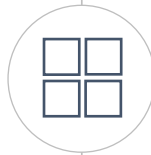
Custom Images



In the Portal

Clicking around in the portal, creating WVD Workspace, Hostpool & App Groups

- Just before creating, you can export the ARM template & parameters



ARM Templates

Deploy WVD using ARM Templates in the portal or through Powershell



Azure DevOps

Deploy WVD using ARM Templates in Azure DevOps in a CI/CD Pipeline

Short intro

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*Azure Solution Architect @
Cloud.Architect*

Technology Strategist @ ASPEX

Microsoft MVP on WVD



Why customized images?

- » Performance
- » Compliance

How?

- » From onPrem
- » Manually through the portal

Image from onPrem

The screenshot shows a web browser window displaying the Microsoft Docs page for "Prepare and customize a master VHD image". The browser's address bar shows the URL `docs.microsoft.com/en-us/azure/virtual-desktop/set-up-customize-master-image`. The page header includes the Microsoft logo, navigation links (Docs, Documentation, Learn, Q&A, Code Samples), a search bar, and a "Sign in" button. The breadcrumb trail indicates the path: Azure / Windows Virtual Desktop. The left sidebar contains a "Filter by title" search bar and a list of navigation items. The main content area features the article title, a date (10/14/2019), a reading time (6 minutes), and a summary paragraph. The article is divided into sections: "Create a VM" and "Local image creation". The right sidebar includes a "Is this page helpful?" feedback section and a list of related articles.

Prepare and customize a master VHD image

10/14/2019 • 6 minutes to read • +13

This article tells you how to prepare a master virtual hard disk (VHD) image for upload to Azure, including how to create virtual machines (VMs) and install software on them. These instructions are for a Windows Virtual Desktop-specific configuration that can be used with your organization's existing processes.

Create a VM

Windows 10 Enterprise multi-session is available in the Azure Image Gallery. There are two options for customizing this image.

The first option is to provision a virtual machine (VM) in Azure by following the instructions in [Create a VM from a managed image](#), and then skip ahead to [Software preparation and installation](#).

The second option is to create the image locally by downloading the image, provisioning a Hyper-V VM, and customizing it to suit your needs, which we cover in the following section.

Local image creation

Once you've downloaded the image to a local location, open **Hyper-V Manager** to create a VM

Image in Azure: Create VM, customize, sysprep and capture

Microsoft Azure Search resources, services, and docs (G+/)

Home > New > Marketplace

Microsoft Windows 10

Microsoft

Select a plan Windows 10 Pro, Version 2004 Create Start with a pre-set configuration

Overview Plans Usage In

Filter

- Windows 10 Enterprise N, version 20H2
- Windows 10 Enterprise N 2019 LTSC
- Windows 10 Enterprise N 2016 LTSC
- Windows 10 Enterprise multi-session, Version 2004
- Windows 10 Enterprise multi-session, Version 1909
- Windows 10 Enterprise multi-session, Version 1903
- Windows 10 Enterprise multi-session, Version 1809
- Windows 10 Enterprise multi-session, Version 20H2
- Windows 10 Enterprise 2019 LTSC

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Learn more

What's new for Business in the Windows 10

What's new for IT pros in the Windows 10

Media

Microsoft Azure Search resources, services, and docs (G+/)

Home > New > Marketplace

Windows 10 multi-session + Microsoft 365 Apps

Microsoft

Select a plan Windows 10 Enterprise multi-session, Version 2004 + Microsoft 365 Apps Create Start with a pre-set configuration

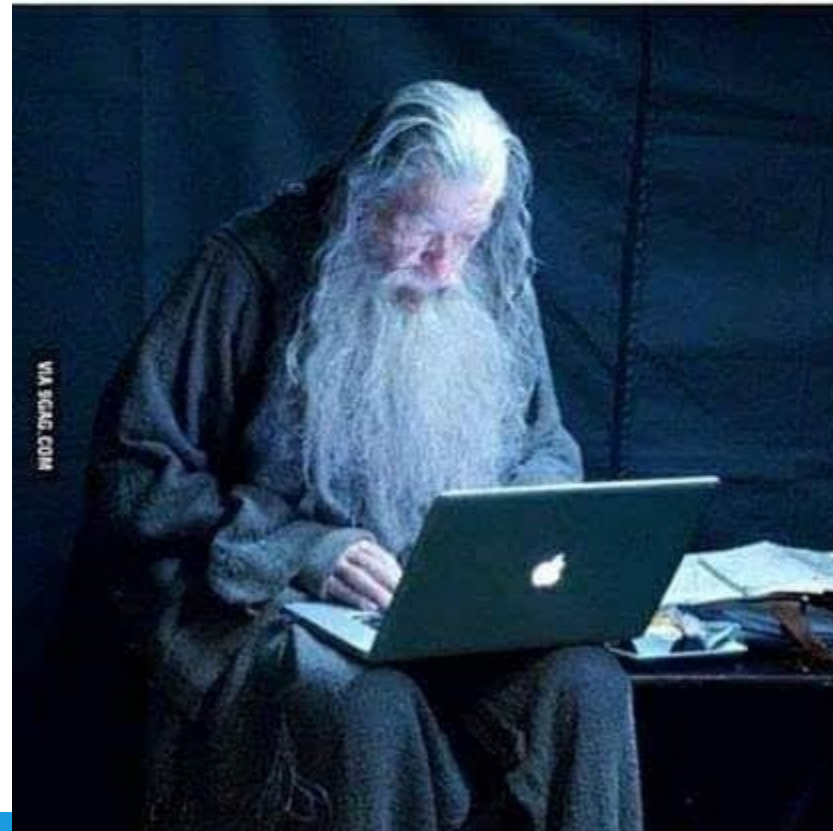
Filter

- Windows 10 Enterprise multi-session, Version 2004 + Microsoft 365 Apps
- Windows 10 Enterprise multi-session, Version 1909 + Microsoft 365 Apps
- Windows 10 Enterprise multi-session, Version 1903 + Microsoft 365 Apps
- Windows 10 Enterprise multi-session, Version 1809 + Microsoft 365 Apps
- Windows 10 Enterprise multi-session, Version 20H2 + Microsoft 365 Apps

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Media

By clicking 'Create', I acknowledge that I or the organization I represent agree to the license agreement with Microsoft. By clicking 'Create', I acknowledge that I or the organization I represent agree to the license agreement with Microsoft.

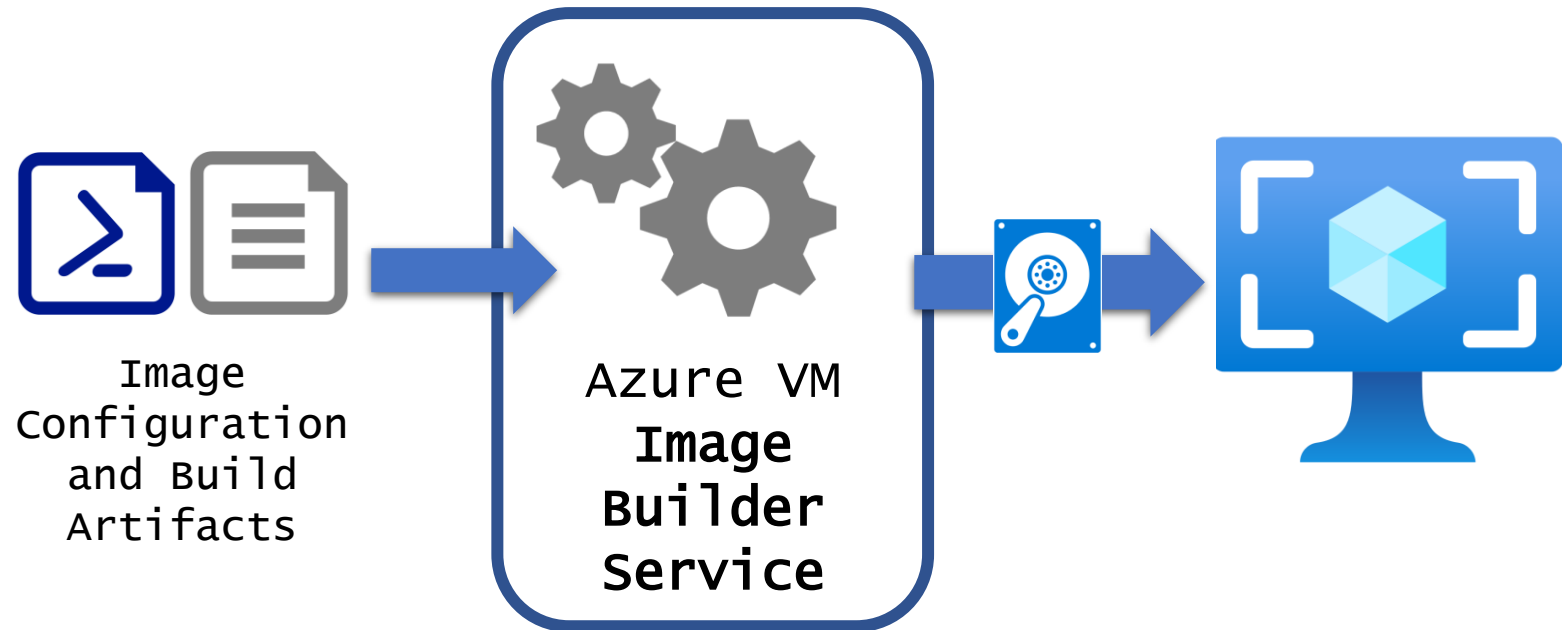


Azure Image Builder (AIB)

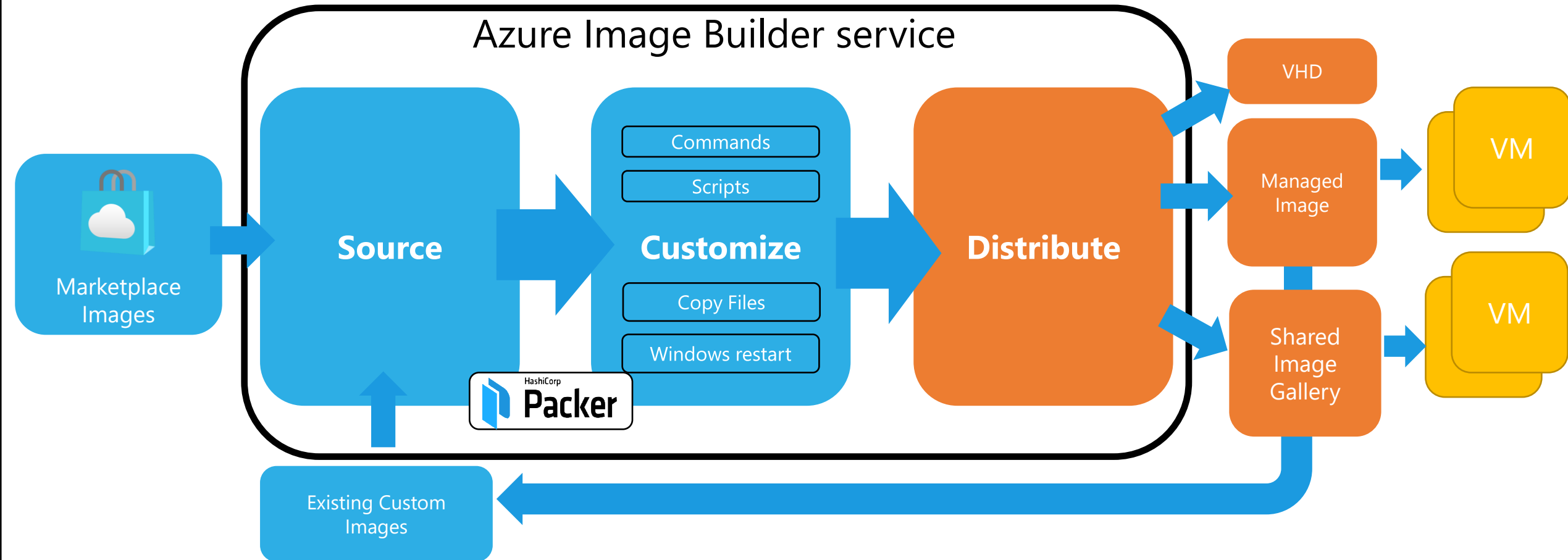
- ⌘ Automatic Image creation system
- ⌘ Customize your image
- ⌘ Multiple distribution options

Azure Image Builder (AIB)

- » Unification
- » Simplification
- » Compliance
- » Management
- » Upgrade



Azure Image Builder flow



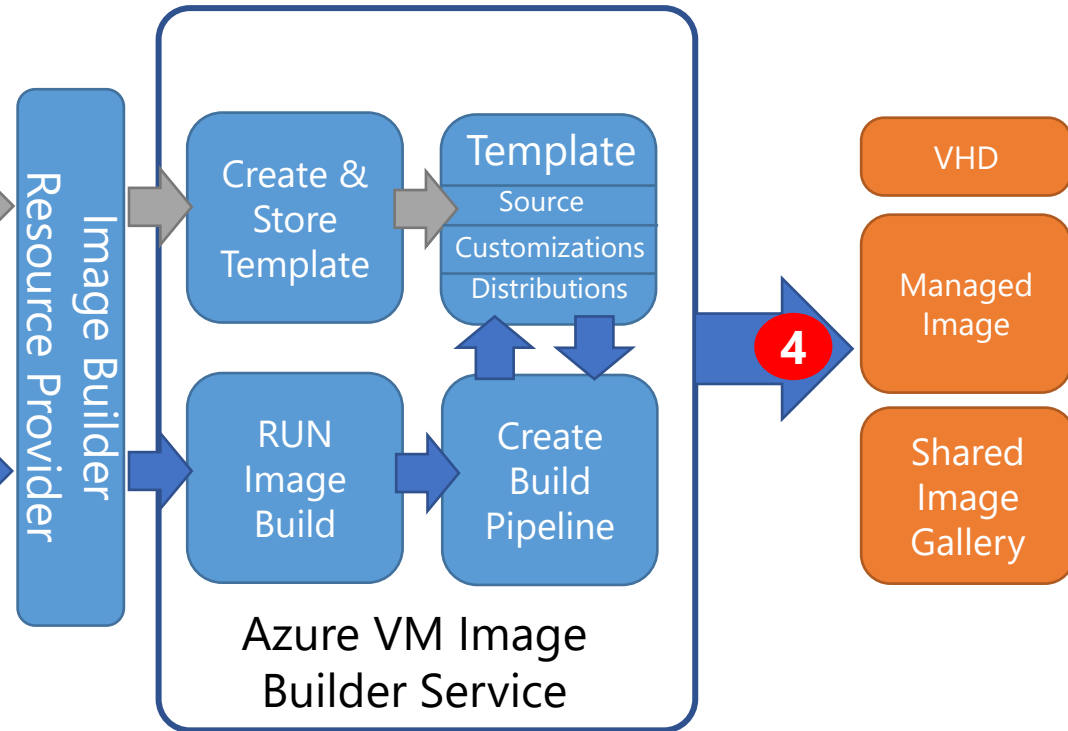
Azure Image Builder Steps

```
{
  "name": "[parameters('imageTemplateName')]",
  "type": "Microsoft.VirtualMachineImages/imageTemplates",
  "apiVersion": "[parameters('api-version')]",
  "location": "[parameters('svclocation')]",
  "identity": {
    "type": "SystemAssigned"
  },
  "properties": {
    "source": {
      "type": "PlatformImage",
      "publisher": "microsoftwindowsdesktop",
      "offer": "office-365",
      "sku": "20h1-evd-o365pp",
      "version": "latest"
    },
    "customize": [
      {
        "type": "PowerShell",
        "name": "settingUpMgmtAgtPath",
        "inline": [
          "Set-NetFirewallProfile -Profile 'Domain','Public','Private' -Enabled False"
        ]
      },
      {
        "type": "PowerShell",
        "name": "Install_Teams",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_Teams.ps1"
      },
      {
        "type": "PowerShell",
        "name": "Install_FSLogix",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_FSLogix.ps1"
      }
    ],
    "distribute": [
      {
        "type": "ManagedImage",
        "imageId": "/subscriptions/1ab54fac-2bbe-4282-9c5b-561b8df622ab/resourceGroups/myimagebuilder-rg/providers/MicrosoftVirtualMachineImages/images/[parameters('imageTemplateName')]",
        "location": "westeurope",
        "runOutputName": "winSvrSigR01",
        "artifactTags": {
          "source": "azVmImageBuilder",
          "baseosimg": "Windows1020H1"
        }
      }
    ]
  }
}
```

1 Create Image Template

2 Submit ImageTemplate

3 Run ImageTemplate Build



Azure Image Builder Steps

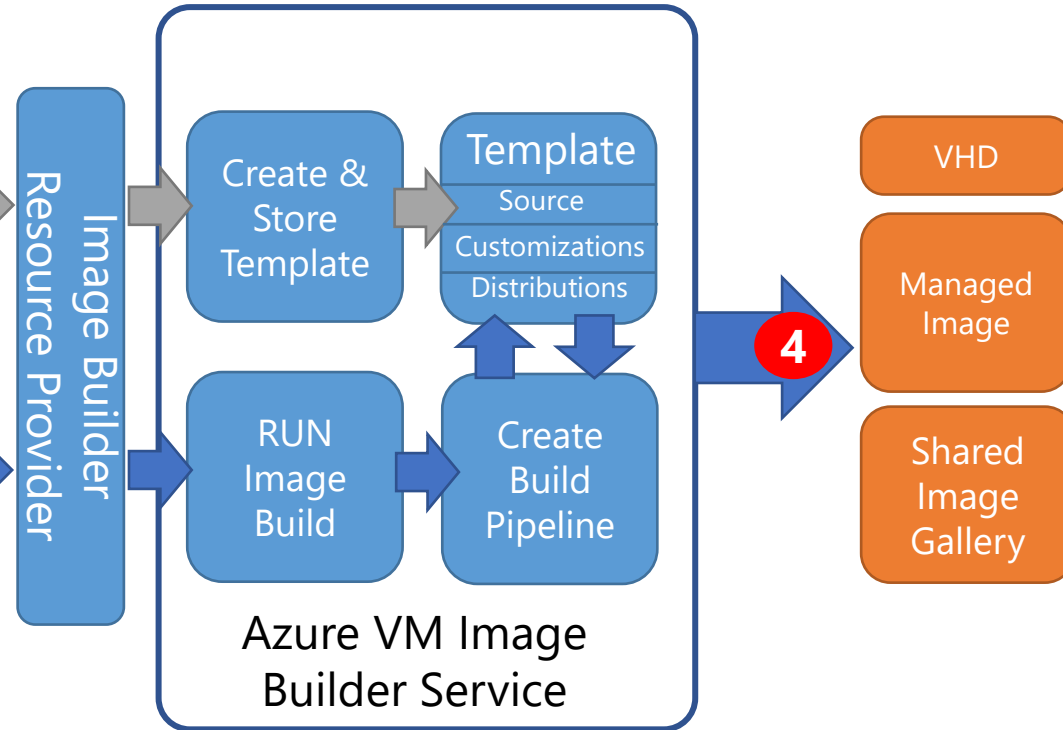
Image properties

```
{
  "name": "[parameters('imageTemplateName')]",
  "type": "Microsoft.VirtualMachineImages/imageTemplates",
  "apiVersion": "[parameters('api-version')]",
  "location": "[parameters('svclocation')]",
  "identity": {
    "type": "SystemAssigned"
  },
  "properties": {
    "source": {
      "type": "PlatformImage",
      "publisher": "microsoftwindowsdesktop",
      "offer": "office-365",
      "sku": "20h1-evd-o365pp",
      "version": "latest"
    },
    "customize": [
      {
        "type": "PowerShell",
        "name": "settingUpMgmtAgtPath",
        "inline": [
          "Set-NetFirewallProfile -Profile 'Domain','Public','Private' -Enabled False"
        ]
      },
      {
        "type": "PowerShell",
        "name": "Install_Teams",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_Teams.ps1"
      },
      {
        "type": "PowerShell",
        "name": "Install_FSLogix",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_FSLogix.ps1"
      }
    ],
    "distribute": [
      {
        "type": "ManagedImage",
        "imageId": "/subscriptions/1ab54fac-2bbe-4282-9c5b-561b8df622ab/resourceGroups/myimagebuilder-rg/providers/MicrosoftVirtualMachineImages/imageTemplates/[parameters('imageTemplateName')]",
        "location": "westeurope",
        "runOutputName": "winSvrSigR01",
        "artifactTags": {
          "source": "azVmImageBuilder",
          "baseosimg": "Windows1020H1"
        }
      }
    ]
  }
}
```

1 Create Image Template

2 Submit ImageTemplate

3 Run ImageTemplate Build



Azure Image Builder Steps

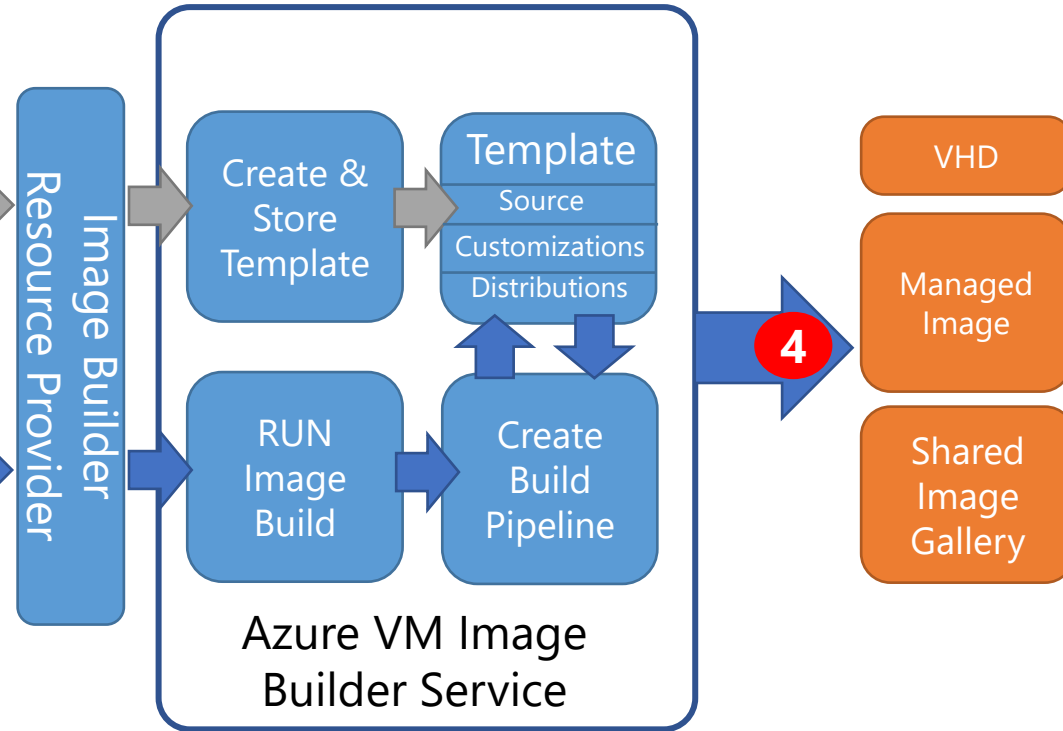
```
{
  "name": "[parameters('imageTemplateName')]",
  "type": "Microsoft.VirtualMachineImages/imageTemplates",
  "apiVersion": "[parameters('api-version')]",
  "location": "[parameters('svclocation')]",
  "identity": { ...
  },
  "properties": {
    "source": {
      "type": "PlatformImage",
      "publisher": "microsoftwindowsdesktop",
      "offer": "office-365",
      "sku": "20h1-evd-o365pp",
      "version": "latest"
    },
    "customizations": [
      {
        "type": "PowerShell",
        "name": "settingUpMgmtAgtPath",
        "inline": [
          "Set-NetFirewallProfile -Profile 'Domain','Public','Private' -Enabled False"
        ]
      },
      {
        "type": "PowerShell",
        "name": "Install_Teams",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_Teams.ps1"
      },
      {
        "type": "PowerShell",
        "name": "Install_FSLogix",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_FSLogix.ps1"
      }
    ],
    "distributions": [
      {
        "type": "ManagedImage",
        "imageId": "/subscriptions/1ab54fac-2bbe-4282-9c5b-561b8df622ab/resourceGroups/myimagebuilder-rg/providers/MicrosoftVirtualMachineImages/images/office365",
        "location": "westeurope",
        "runOutputName": "winSvrSigR01",
        "artifactTags": {
          "source": "azVmImageBuilder",
          "baseosimg": "Windows1020H1"
        }
      }
    ]
  }
}
```

Image Source properties

1 Create Image Template

2 Submit ImageTemplate

3 Run ImageTemplate Build



Azure Image Builder Steps

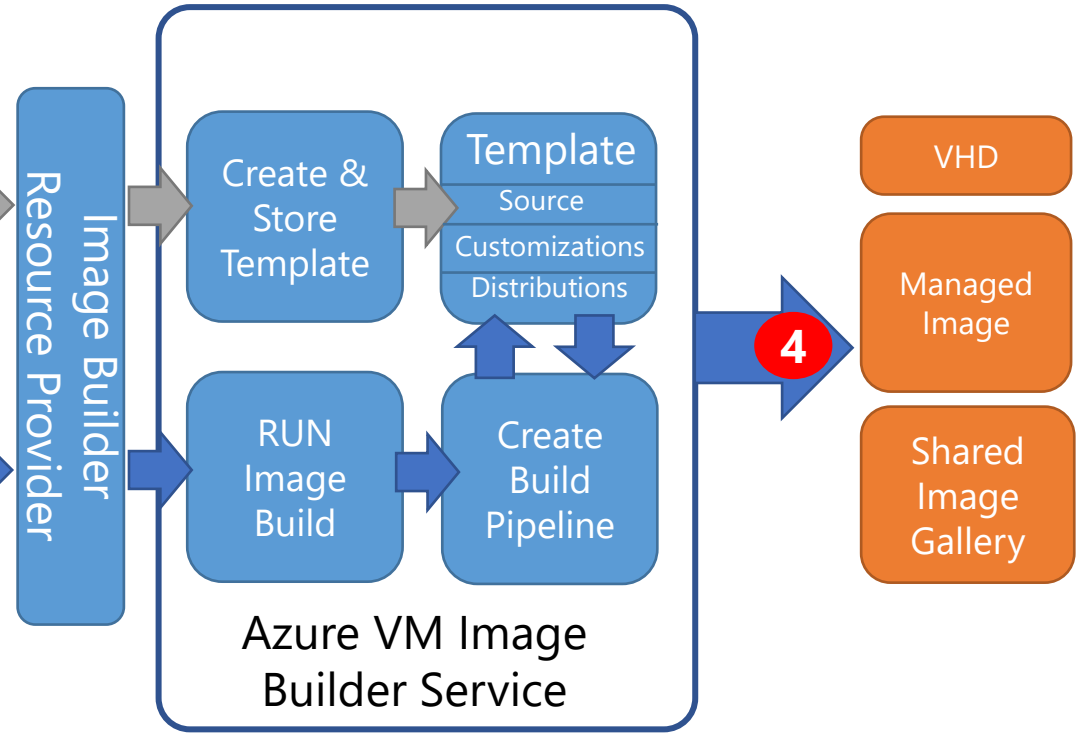
```
{
  "name": "[parameters('imageTemplateName')]",
  "type": "Microsoft.VirtualMachineImages/imageTemplates",
  "apiVersion": "[parameters('api-version')]",
  "location": "[parameters('svclocation')]",
  "identity": {
    "type": "SystemAssigned"
  },
  "properties": {
    "source": {
      "type": "PlatformImage",
      "publisher": "microsoftwindowsdesktop",
      "offer": "office-365",
      "sku": "20h1-evd-o365pp",
      "version": "latest"
    },
    "customize": [
      {
        "type": "PowerShell",
        "name": "settingUpMgmtAgtPath",
        "inline": [
          "Set-NetFirewallProfile -Profile 'Domain','Public','Private' -Enabled False"
        ]
      },
      {
        "type": "PowerShell",
        "name": "Install_Teams",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_Teams.ps1"
      },
      {
        "type": "PowerShell",
        "name": "Install_FSLogix",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_FSLogix.ps1"
      }
    ],
    "distribute": [
      {
        "type": "ManagedImage",
        "imageId": "/subscriptions/1ab54fac-2bbe-4282-9c5b-561b8df622ab/resourceGroups/myimagebuilder-rg/providers/MicrosoftVirtualMachineImages/imageTemplates/[parameters('imageTemplateName')]",
        "location": "westeurope",
        "runOutputName": "winSvrSigR01",
        "artifactTags": {
          "source": "azVmImageBuilder",
          "baseosimg": "Windows1020H1"
        }
      }
    ]
  }
}
```

1 Create Image Template

Image Customization properties

2 Submit ImageTemplate

3 Run ImageTemplate Build



Azure Image Builder Steps

```
{
  "name": "[parameters('imageTemplateName')]",
  "type": "Microsoft.VirtualMachineImages/imageTemplates",
  "apiVersion": "[parameters('api-version')]",
  "location": "[parameters('svclocation')]",
  "identity": {
    "type": "SystemAssigned"
  },
  "properties": {
    "source": {
      "type": "PlatformImage",
      "publisher": "microsoftwindowsdesktop",
      "offer": "office-365",
      "sku": "20h1-evd-o365pp",
      "version": "latest"
    },
    "customize": [
      {
        "type": "PowerShell",
        "name": "settingUpMgmtAgtPath",
        "inline": [
          "Set-NetFirewallProfile -Profile 'Domain','Public','Private' -Enabled False"
        ]
      },
      {
        "type": "PowerShell",
        "name": "Install_Teams",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_Teams.ps1"
      },
      {
        "type": "PowerShell",
        "name": "Install_FSLogix",
        "scriptUri": "https://raw.githubusercontent.com/michawets/AzureImageBuilderPOC/master/scripts/install_FSLogix.ps1"
      }
    ],
    "distribute": [
      {
        "type": "ManagedImage",
        "imageId": "/subscriptions/1ab54fac-2bbe-4282-9c5b-561b8df622ab/resourceGroups/myimagebuilder-rg/providers/Microsoft.ManagedImage/imageTemplates/office365",
        "location": "westeurope",
        "runOutputName": "winSvrSigR01",
        "artifactTags": {
          "source": "azVmImageBuilder",
          "baseosimg": "Windows1020H1"
        }
      }
    ]
  }
}
```

1 Create Image Template

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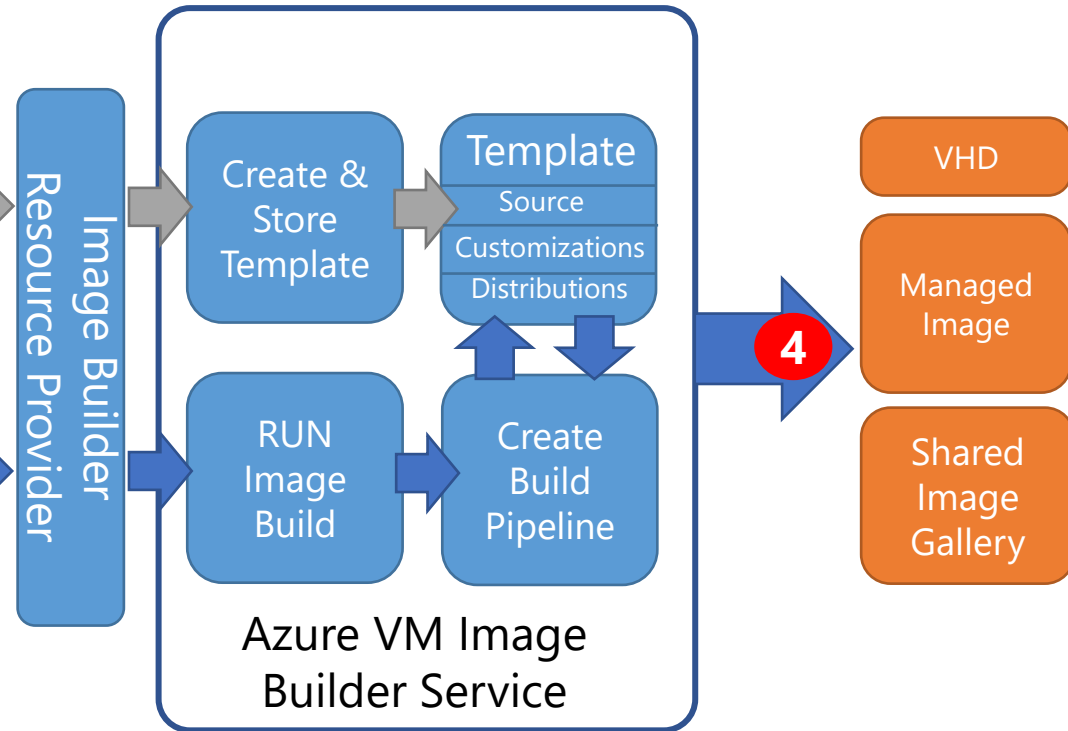
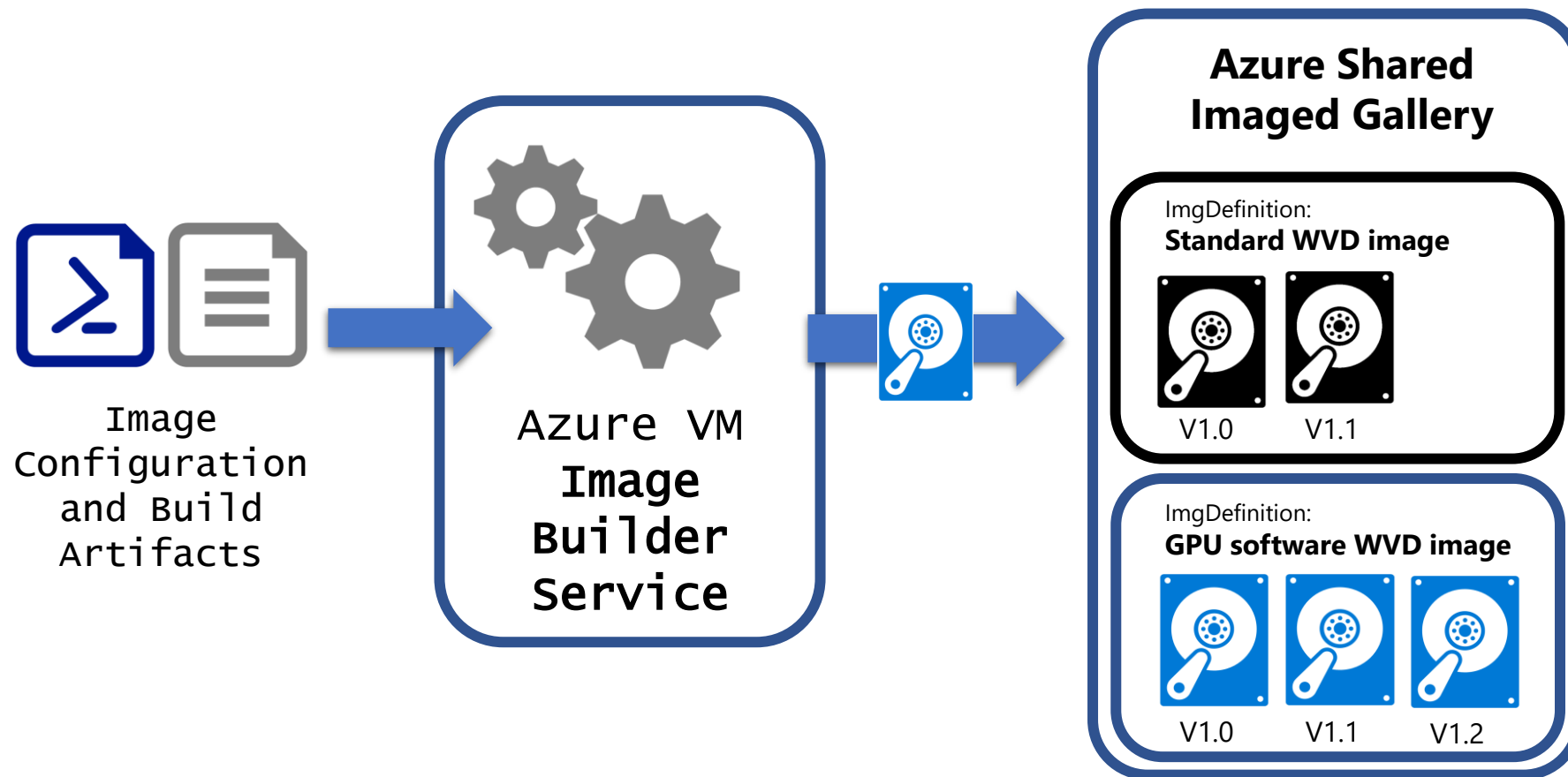
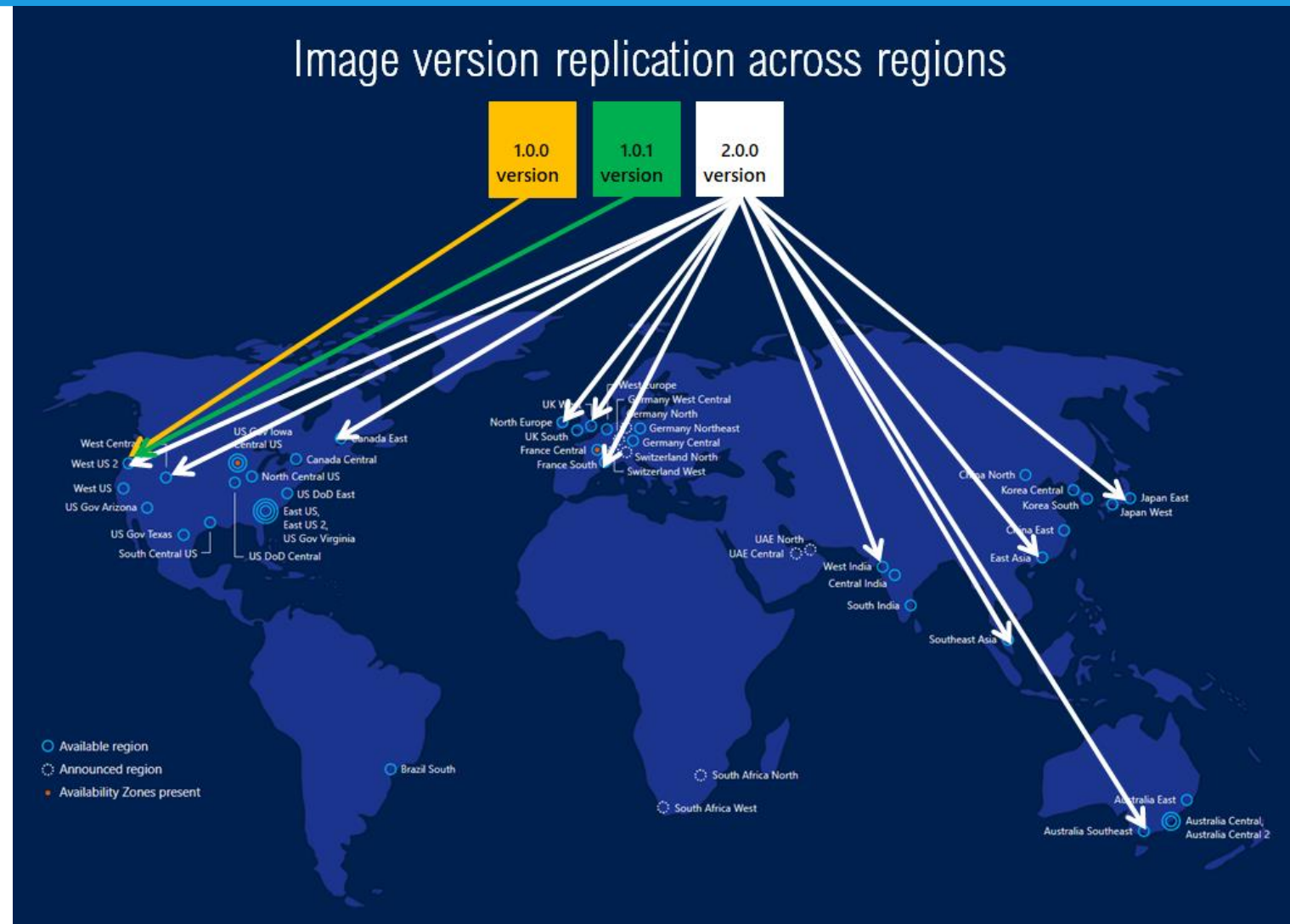


Image Distribution properties

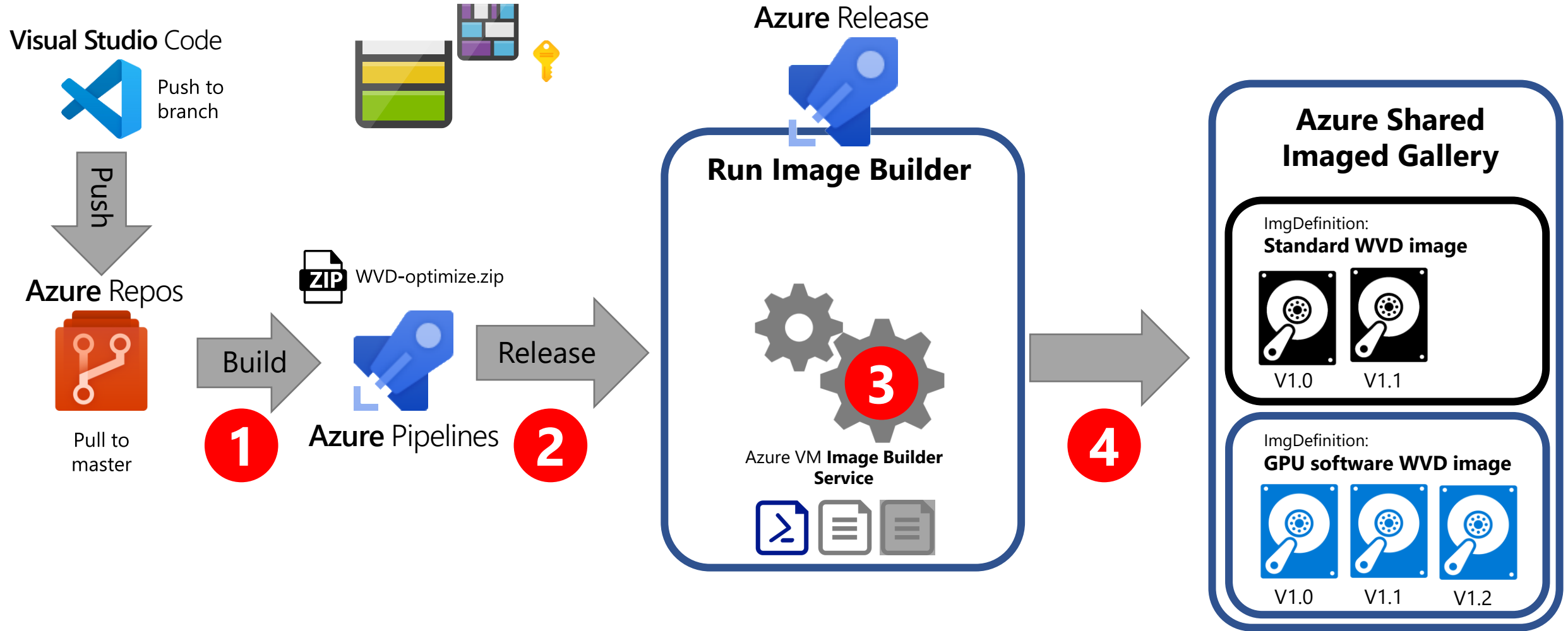
Azure Image Builder for WVD



Why Shared Image Gallery?



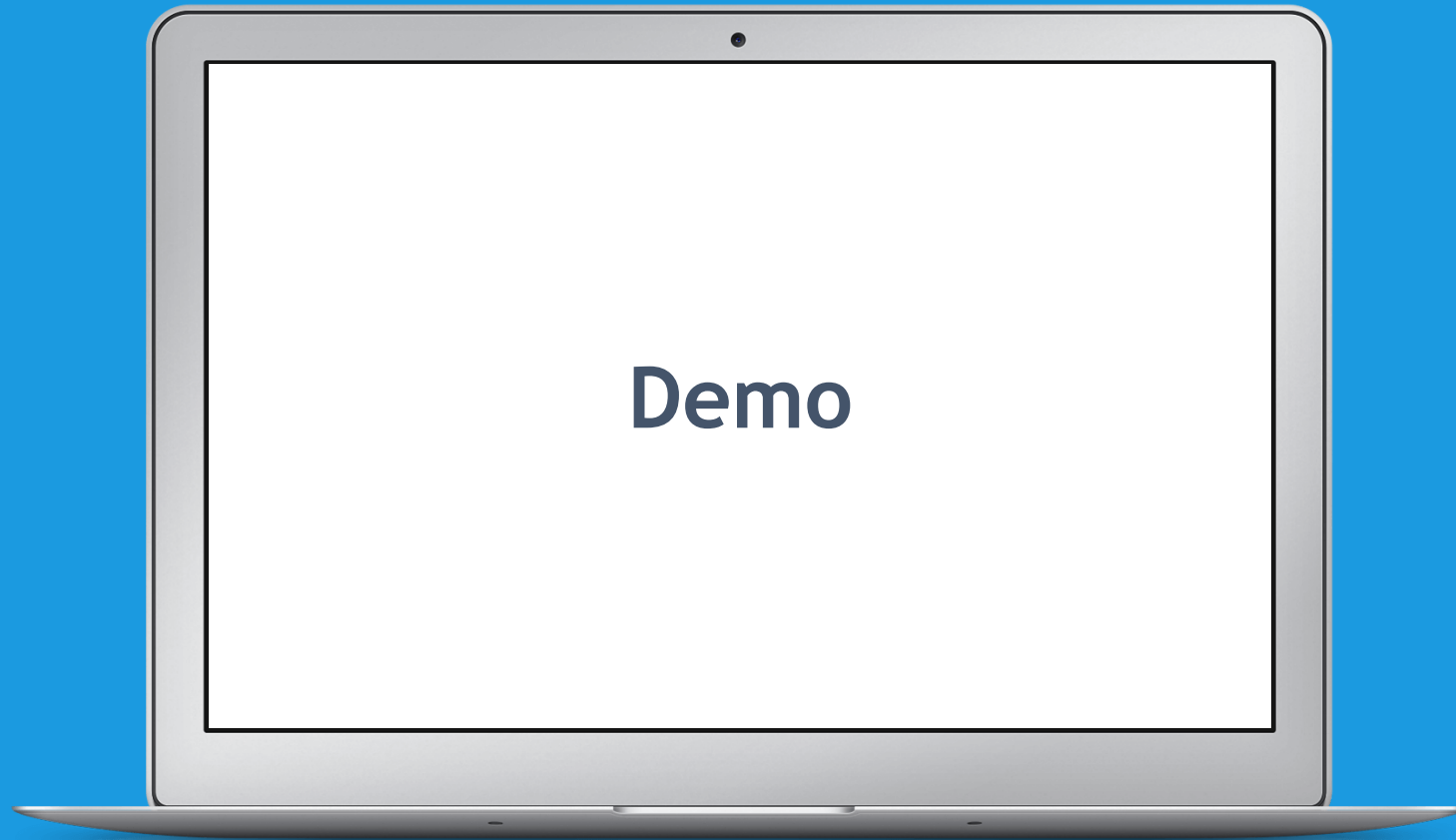
Azure Image Builder for WVD using Azure DevOps







Demo



Theory is when you know everything but nothing works.

Practice is when everything works but no one knows why.

In this demo, theory and practice are combined: nothing works and nobody knows why...

THANK YOU
Questions?

"How was the online class? What did you get from it?"

Me:

