Azure DevOps Self-Hosted Agent Setup Guide (Windows VM)

# 1. VM Prerequisites

- VM Size: Standard\_D4as\_v6 (4 vCPUs, 16 GB RAM)  
- OS: Windows Server 2019/2022 (recommended)  
- Disk: Minimum 30 GB (OS + Agent installation)  
- Networking: Allow outbound HTTPS (TCP 443) to dev.azure.com, \*.visualstudio.com  
- Ensure outbound access is not blocked by corporate firewall or proxy

# 2. Software Requirements

Mandatory:  
- .NET Framework 4.8  
- PowerShell 5.1+  
- Latest Windows Updates  
  
Optional (Based on Pipelines):  
- Visual Studio Build Tools  
- Node.js  
- Git for Windows  
- Python, Java JDK (if needed)

# 3. Azure DevOps Agent Installation Steps

1. Log in to the VM with Local Admin rights  
2. Create directory: mkdir C:\azagent  
3. Download agent from: https://learn.microsoft.com/en-us/azure/devops/pipelines/agents/v2-windows  
4. Extract zip file to C:\azagent  
5. Configure agent using .\config.cmd with Azure DevOps URL and PAT token  
6. Install as service: .\svc install && .\svc start

# 4. Service Account Recommendation

Run as Network Service or dedicated domain account with read/write permissions

# 5. Verify Agent in Azure DevOps

Check under Project Settings → Agent Pools → [Pool Name], status should be Online

# 6. Official Microsoft Documentation

- Windows Agent Install Guide: https://learn.microsoft.com/en-us/azure/devops/pipelines/agents/windows-agent  
- Networking Requirements: https://learn.microsoft.com/en-us/azure/devops/organizations/security/allow-list-ip-url

# 7. Network and Firewall Requirements

Core Azure DevOps Connectivity (Outbound):

|  |  |  |  |
| --- | --- | --- | --- |
| Purpose | Domain / Service | Protocol | Port |
| Azure DevOps Services | dev.azure.com | HTTPS | 443 |
| Visual Studio | \*.visualstudio.com | HTTPS | 443 |
| Package Feeds | pkgs.dev.azure.com | HTTPS | 443 |
| Agent Downloads | vstsagentpackage.azureedge.net | HTTPS | 443 |

Additional Services for Builds:

|  |  |  |  |
| --- | --- | --- | --- |
| Service | Domain | Protocol | Port |
| NuGet | nuget.org, www.nuget.org | HTTPS | 443 |
| NPM | registry.npmjs.org | HTTPS | 443 |
| GitHub | github.com, api.github.com | HTTPS | 443 |
| Docker Hub | registry-1.docker.io | HTTPS | 443 |
| PowerShell Gallery | www.powershellgallery.com | HTTPS | 443 |

Deployment Target Ports:

|  |  |  |
| --- | --- | --- |
| Scenario | Port | Protocol |
| Windows WinRM Deploy | 5985 | HTTP |
| Windows WinRM Deploy | 5986 | HTTPS |
| Linux SSH Deploy | 22 | SSH |

Database Ports (if required):

|  |  |
| --- | --- |
| Database | Port |
| SQL Server (default) | 1433 |
| MySQL | 3306 |
| PostgreSQL | 5432 |

Note:  
- Agent always initiates connection outbound to Azure DevOps over HTTPS (443)  
- No inbound ports required for Azure DevOps to communicate