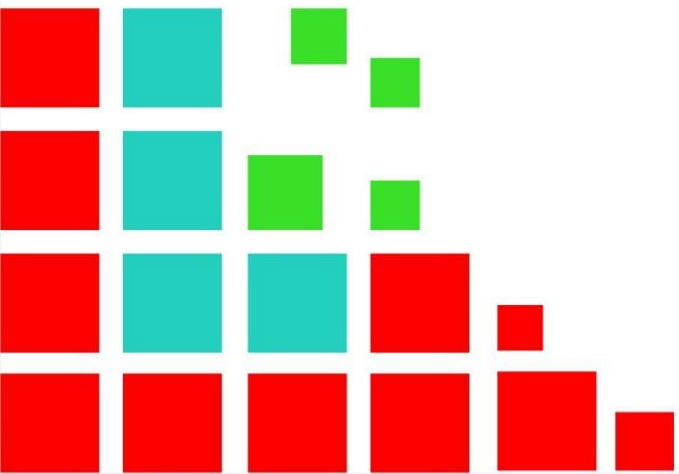
Windows Server
Reference Deployment
Visual Studio Code SSH Server

Version 0.1

By Stephen Preston



Synopsis

This is a beta document and will be update with my findings as the deployment is utilized.

This document will guide you through the initial configuration of a Visual Studio Code SSH server for remote code editing. This will provide you with the foundation. It is recommended that you consider your security and source control requirements as you build up from here.

Microsoft has made strides in embracing Linux tool sets. One of those strides has been the inclusion of an SSH Client and server component. This new built-in component of windows is what we will use to deploy our remote VS Code server.

This solution allows use to have a single server to install dependences we can also have different environments. As an example, we could have a Linux server for running code against and windows server. Users would simply have to change the VS code server they are connected to.

Section 1 Reference Links and Requirements

This document will use information provided from Microsoft located at the following Links.

https://code.visualstudio.com/docs/remote/ssh

This will be a windows deployment of the solution. As such, the requirements lean towards utilizing Hyper-V and windows server 2019 virtual machine, but this can be done on a multitude of operating systems. The goal is to cover containers on windows and Azure in the future.

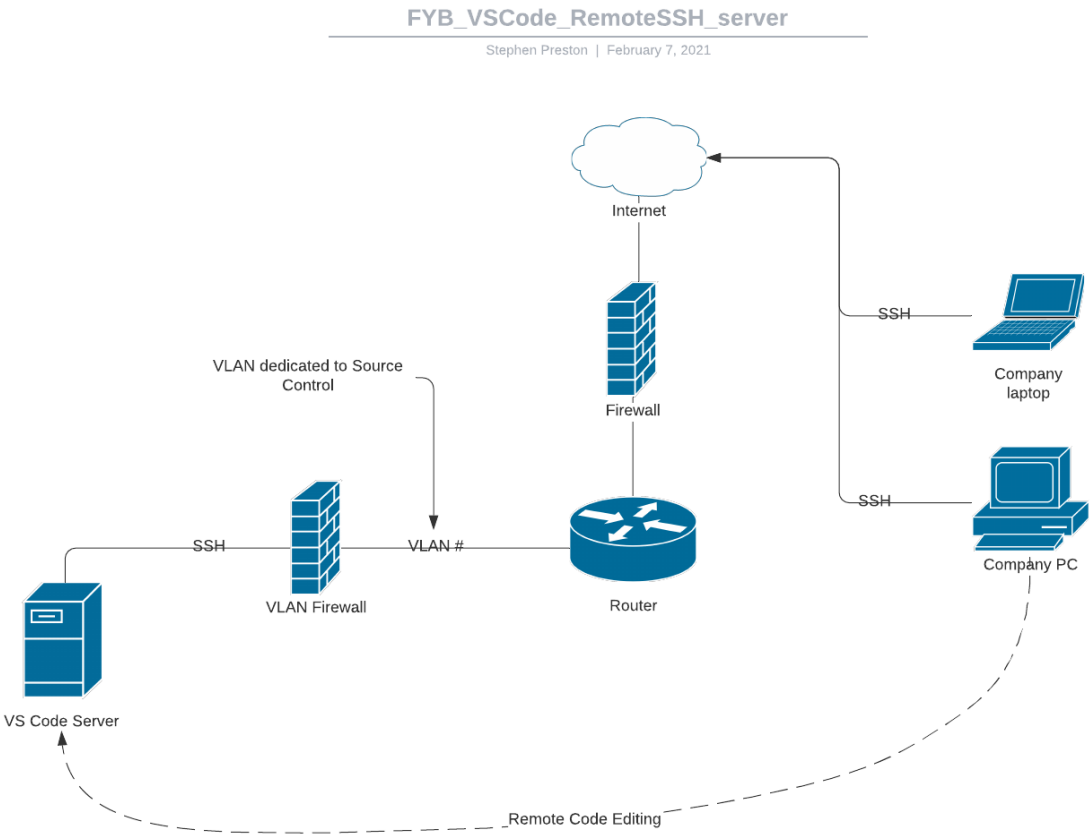
Requirements for this guide

- VM requirements
  - OS: Windows server 2019
  - RAM: 16 GB
  - DISK: Boot: 120 GB Code-storage: 500GB
  - VCPU: 8
- Network Recommendations
  - I suggest having a dedicated VLAN for source control where you can apply firewall rules.
  - This guide does not cover two factor auth for SSH but it appears that this is supported.
- Software
  - Operating System: Windows Server 2019 core/Desktop
  - Visual Studio Code System Installer https://code.visualstudio.com/#alt-downloads

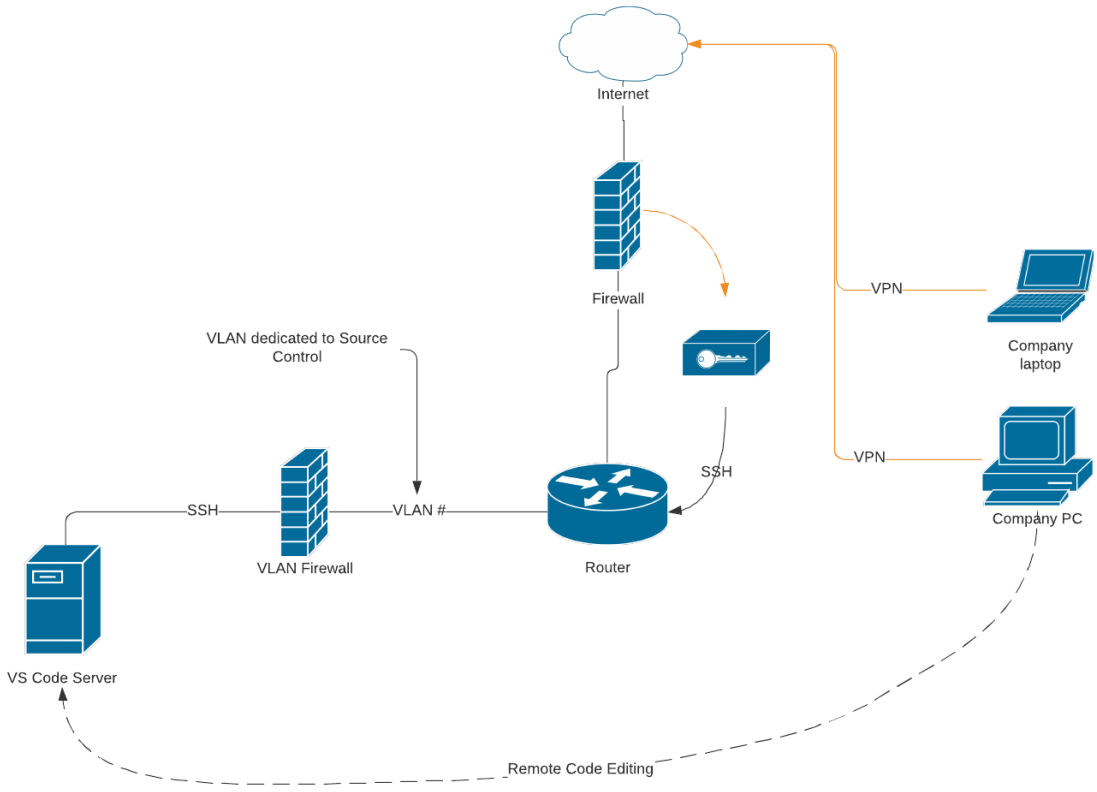
Sample designs

These rough designs to give you an Idea of how this might be deployed.

Direct SSH Method



VPN into local network then SSH to the remote Visual Studio code Server



Installation

This guide assumes that you have installed windows server 2019 and have configured it appropriately. This will be a PowerShell section. Most of these commands can be found via the link at the beginning of this document.

Step-1: Server-side setup

Let's get the SSH server installed. Microsoft added the SSH client by default with Windows Server 2019, however, the server is not and that is what we will be installing. We will be using the password method for SSH which is not the ideal method but will give the foundation.

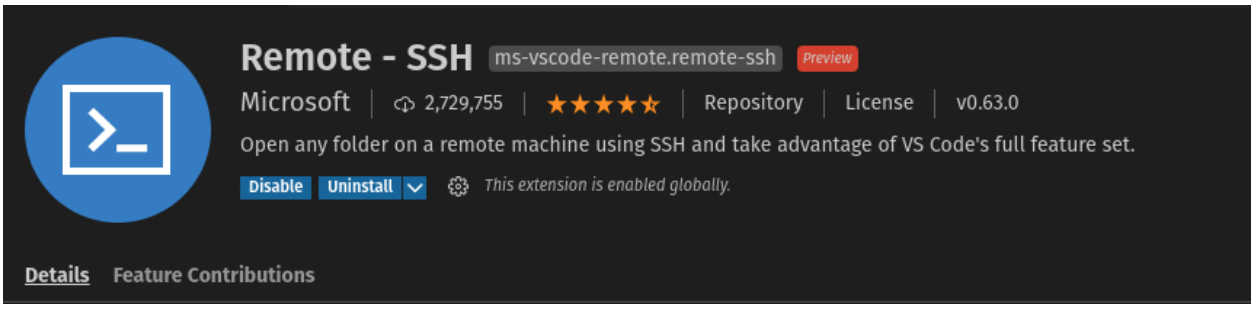
This will install the SSH server unless it is already installed.

```
Get-WindowsCapability -online | Where-Object { $_.name -like 'openssh*' -and $_.state -notlike "installed"} | Add-WindowsCapability -online
```

Next you will want to install the system installer of Visual Studio Code on the server.

Step-2: Client-side setup

You will need to install the remote-ssh extension



Step-3 Connect to remote server

Most of these blow steps are decently documented by Microsoft but will be adding a few more screens shots to make it easier.

1. Press F1
2. Enter this command and press enter [>remote-ssh:connect to host.]
3. Now enter [ssh username@ip or FQDN] if the server is connected to Active Directory you will enter the command as follows [ssh username@domain@ip or FQDN]

Visual studio code should automatically detect the type OS server, if not you will be asked to select platform. You should now be connected to your remote VS code server.

Microsoft Trouble Shooting tips:
https://code.visualstudio.com/docs/remote/troubleshooting#_troubleshooting-hanging-or-failing-connections

End of Document