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Assignment 7
DevOps and Secure Software Development

1. Vagrant vs. Docker

Vagrant and Docker are two software platforms that among other things aim to create isolated and reproducible development environments but use different methods to achieve this goal. Both are open source, which makes them accessible to more users and create safe isolated testing environments that aid in eliminating the age-old issue: “It works on my machine”. Vagrant boxes are similar to docker containers in that they enable portability of environments which can be versioned and distributed. Vagrant on one hand uses providers such as Oracle VirtualBox or VMware to run full virtual machines that replicate an entire operating system. Docker on the other hand uses docker containers which share the host’s operating system kernel instead of running a separate OS for each instance. From what I’ve learned in the class, it seems like Docker is usually the most convenient option for fast prototyping and deployment. Docker uses less resources than Vagrant and is easier to replicate amongst different machines since it is not dependent on a hypervisor to create its environment. Another advantage of docker is it’s fast startup time, docker containers can start in a matter of seconds compared to Vagrant boxes which take minutes to while the VM is being setup. While Vagrant is ideal for replicating a specific server setup and likely ideal for large enterprise operations, Docker to me feels more practical and efficient for most use cases and that is why I’d generally choose it over Vagrant.