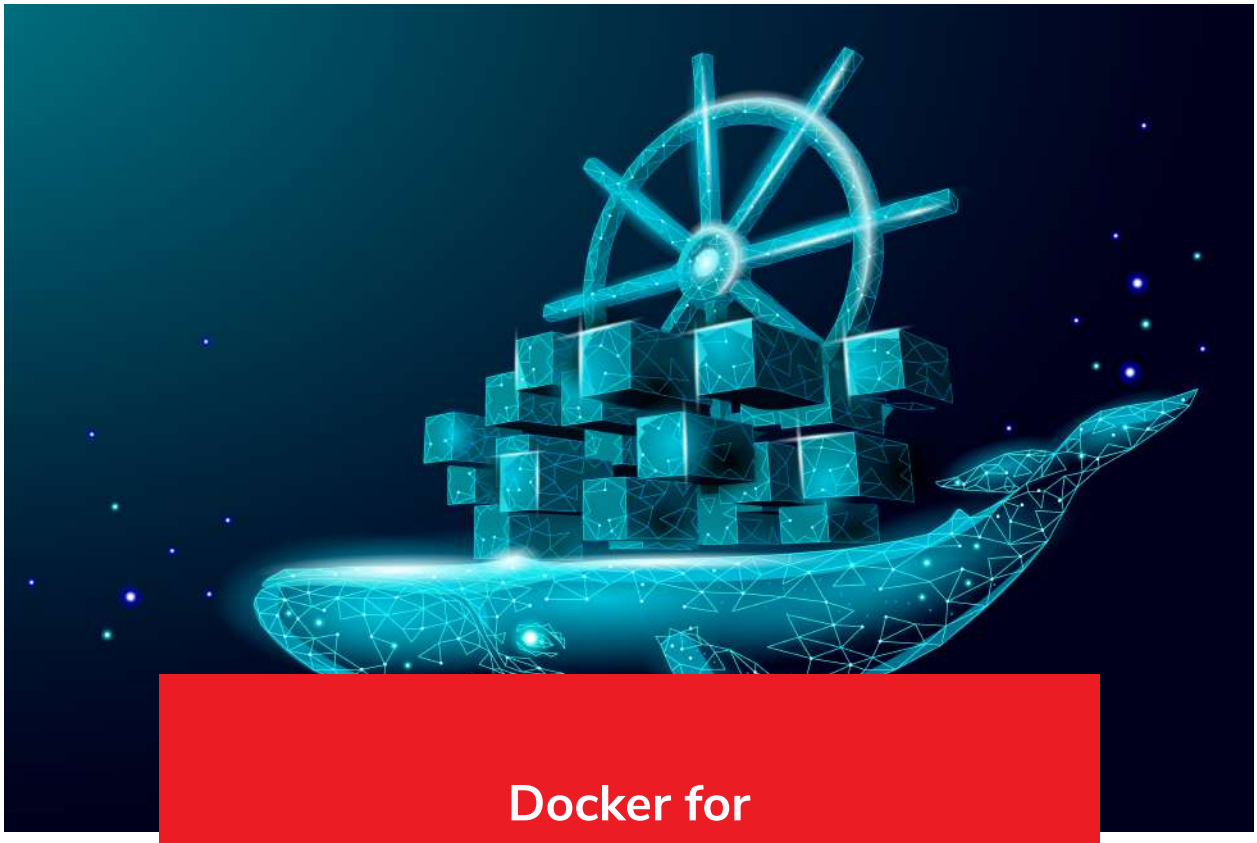
NSP
Powering Trusted & Connected World

Productivity Improvement

Using Docker for Greater Productivity with CI/CD



Docker for Productivity Improvement

Introduction of the project

Our products and services range from Mobile Apps, Web portals, and Embedded systems, to UI/UX design spanning a wide array of languages and technologies such as .Net. Core C# React, ASP .Net, HTML, Bootstrap Webservice, Java Script and J query, Python, Embedded C, C++, VC++, Android, Swift. The development of these solutions and applications required a huge software and hardware infrastructure to support development across the organization.

Containers and virtual machines were the two most popular approaches to setting up software infrastructure for any organization to facilitate development. However, with the exponential rise in workload size, VMS became expensive as they consume considerable CPU and memory resources. Containerization has gained momentum as it simplifies the development and delivery of distributed, agile, cloud-native, applications.

NSP has been a pioneer in employing Docker for containerization in all its developmental activities.

Challenges

- The development activities required a huge number of services, application servers, language environments, versions, etc, on each machine.
- The development environment such as OS, system libraries, and the language runtime, varied across the organization.
- Inconsistency in server development environment and the production environment caused applications to behave differently.
- Packaging and shipping the application was cumbersome.

Solution

Docker is one of the most used container platforms that enable developers to build, deploy, run, and update, applications seamlessly. Docker technology is focused on enhancing efficiency through continuous development and integration.

To leverage the advantages of containerization Docker platform was deployed to run all our applications and solutions in containers.
Docker containerization allowed flexibility and scalability to build our application on microservices-based architecture which comprised of small processes that communicate with each other via APIs. It enabled the creation of environments that are isolated from other apps thereby reducing resource requirements. Docker images were versioned consistently, which enabled easy rollback whenever a problem was encountered in the current iteration of the container image for CI/CD pipeline. Segmentation capability of Docker containerization was effectively utilized to clean up, and repair an application without disrupting the entire app.

Benefits

- Made apps more controllable and granular
- Enabled consistent, portable, and scalable deployment.
- Enhanced productivity and faster-debugging
- Cost-effectiveness with decreased deployment time and easy sharing of processes with new apps
- Enabled faster deployment due to building code with repeatable infrastructure and configuration
- Smaller easily versionable images could be deployed across multiple servers
- Enhanced maintenance and mobility
- Supported standardization and Productivity parity environment

Stories

Containerization has become more acceptable at NSP as an efficient way of boosting productivity for cloud development, and DevOps in general. It drives our agile way of deployment and enables getting features and updates to customers or clients faster Beyond that, it is also more controllable and makes customization of our solutions hassle-free and fast.

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