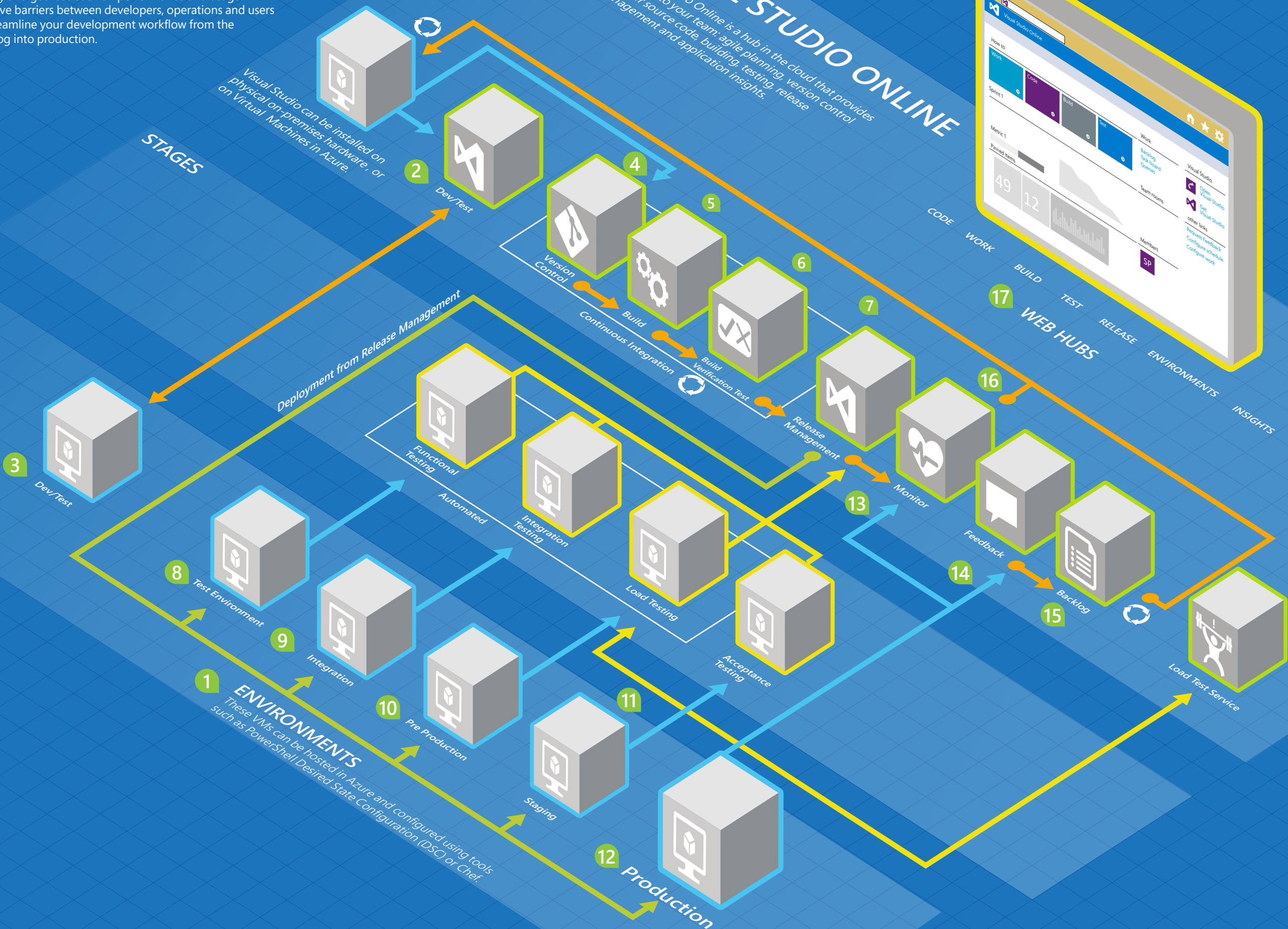# DevOps

Deliver value to your customers faster; improve software quality and get feedback on performance and usage. Remove barriers between developers, operations and users to streamline your development workflow from the backlog into production.

VISUAL STUDIO ONLINE

Visual Studio Online is a hub in the cloud that provides services to your team: agile planning, version control of your source code, building, testing, release management and application insights.

STAGES

Visual Studio can be installed on physical on-premises hardware , or on Virtual Machines in Azure.

Dev/Test

2 Dev/Test

4 Version Control

Build

Continuous Integration

5

Build Verification Test

6

7 Release Management

16

Monitor

13

14

Feedback

15 Backlog

Deployment from Release Management

3 Dev/Test

8 Test Environment

Functional Testing

Automated

Integration Testing

Load Testing

9 Integration

10 Pre Production

Acceptance Testing

11

Staging

1 **ENVIRONMENTS**
These VMs can be hosted in Azure and configured using tools such as PowerShell Desired State Configuration (DSC) or Chef

12 Production

Load Test Service

CODE · WORK · BUILD · TEST · RELEASE · ENVIRONMENTS · INSIGHTS

17 **WEB HUBS**

Microsoft

1. VSO environments hosted in Azure. VMs are provisioned as needed for each environment. They are configured using DSC (PowerShell Desired State Configuration), PowerShell or Chef.

2. Your developers set up dev machines using Microsoft Azure and also any test machines that they need.

3. Set up VMs using PowerShell Desired State Configuration (DSC) to easily create the environments needed for coding and testing.

4. Host your code in the cloud to access it anytime and from anywhere. Pick a centralized version control system using Team Foundation Version Control, or use Git repos for a distributed workflow.

5. Build your code using the hosted build controller provided by VSO.

6. Run build verification tests as part of your process to check the quality of your code before you do more testing.

7. If the tests pass, use that build to deploy your app to environments for each stage in your release process. Manage the steps in the process with approvals for each step.

8. First deploy to a test environment for automated functional testing.

9. Deploy to an environment for integrated testing with other services that your app needs.

10. Test that your app performs under load by using cloud-based load testing provided by VSO.

11. Use Release Management to assign approvers that must sign off before any release can be deployed to production.

12. When ready, deploy your code into production.

13. Use Application Insights to monitor your live application for performance and availability issues as well as usage.

14. The usage feedback and direct customer feedback are both added to the product backlog to be included in the agile planning process.

15. Use the product backlog to determine what are the highest priority items for your users that your team should be working on. As the work is done, the continuous integration process checks the quality of the code.

16. If an issue occurs during production, developers can use IntelliTrace logs to debug the problem.

17. The VSO hub makes it easy to find out everything about the status of a project in one place.

= start/end of cycle