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IT 农工会 - 随便聊



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快速构建容器化的ASP.NET Core 应用程序

基于容器的应用开发、持续集成与持续交付





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简介



奖励类别:
Developer Technologies

首次获奖年份:
2012

MVP奖励次数:
7



陈晴阳 (daxnet)

- 系统分析员 (2006)
- 微软最有价值专家 (MVP, 2012-)
- 专注于Visual Studio/.NET与DDD技术
- 关注前沿开发技术
- 爱生活, 爱分享
- <http://sunnycoding.cn>



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议题



- ASP.NET Core容器化
 - 应用配置与环境变量
 - 端口侦听
 - ASP.NET Core容器版本
- 持续集成与持续交付
 - 基本概念
 - 基于容器的CI/CD流程
- 案例演示
 - 案例介绍
 - VSTS的CI/CD支持
 - 基于AKS的部署与运行

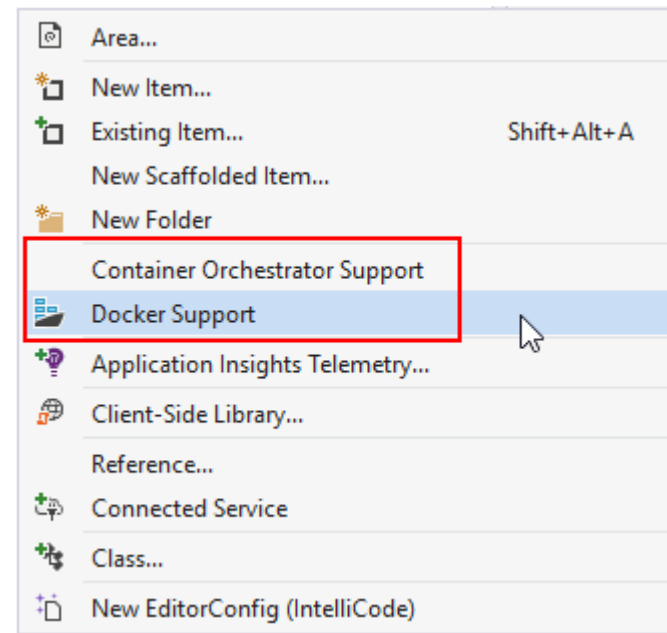
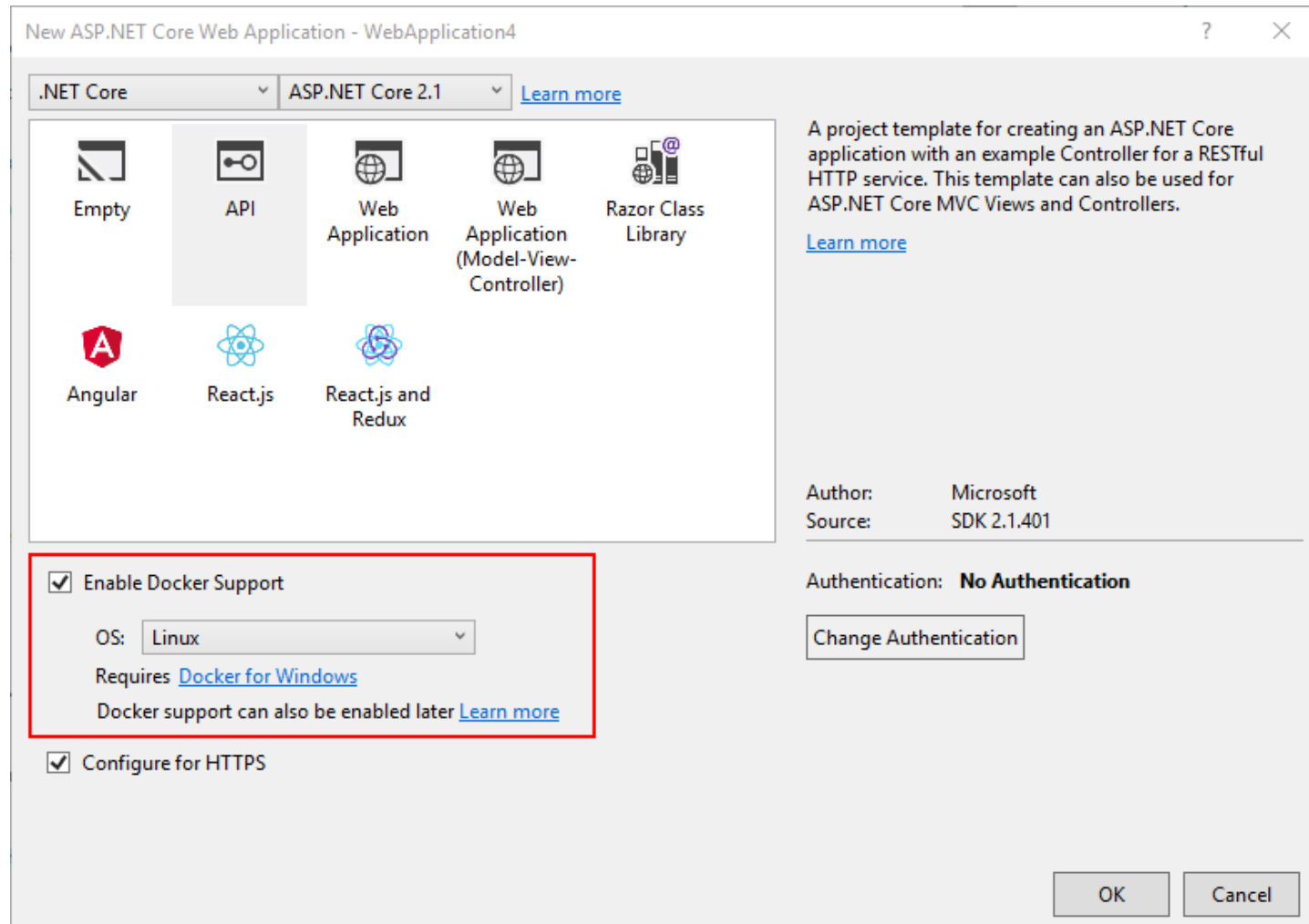


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ASP.NET Core 应用程序容器化



Visual Studio 2017 对容器的支持



ASP.NET Core应用程序的配置



命令行参数

环境变量

appSettings.json

<http://sunnycoding.cn/2018/08/25/aspnetcore-configuration/>



环境变量的设置

appsettings.json

```
"mongo": {  
  "server": {  
    "host": "localhost",  
    "port": 27017  
  },  
  "database": "tasklist"  
}
```

Startup.cs

```
var mongoDatabase =  
    Configuration["mongo:server:database"];  
if (string.IsNullOrEmpty(mongoDatabase))  
{  
    mongoDatabase = "tasklist";  
}
```

docker-compose.yml

```
environment:  
  - ASPNETCORE_ENVIRONMENT=Production  
  - ASPNETCORE_URLS=http://*:9020  
  - mongo__server__host=tasklist-db  
  - mongo__server__port=27017  
  - mongo_database=tasklist  
container_name: tasklist-service
```



端口侦听：代码方式



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1 reference | 0 exceptions

```
public static IWebHostBuilder CreateWebHostBuilder(string[] args) =>
    WebHost.CreateDefaultBuilder(args)
        .UseUrls("http://*:8087")
        .UseStartup<Startup>();
```

```
WebApplication3
info: Microsoft.AspNetCore.DataProtection.KeyManagement.XmlKeyManager[0]
      User profile is available. Using 'C:\Users\daxne\AppData\Local\ASP.NET\DataProtection
Windows DPAPI to encrypt keys at rest.
Hosting environment: Development
Content root path: C:\Users\daxne\source\repos\WebApplication3\WebApplication3
Now listening on: http://[::]:8087
Application started. Press Ctrl+C to shut down.
```



端口侦听：命令行参数

```
C:\Users\daxne\source\repos\WebApplication3\WebApplication3\bin\Debug\net6.0
λ dotnet WebApplication3.dll --server.urls="http://*:8089"
Hosting environment: Production
Content root path: C:\Users\daxne\source\repos\WebApplication3\
oreapp2.1
Now listening on: http://[::]:8089
Application started. Press Ctrl+C to shut down.
```



端口侦听：环境变量

```
C:\Users\daxne\source\repos\WebApplication3\WebAppli
λ set ASPNETCORE_URLS=http://*:8092

C:\Users\daxne\source\repos\WebApplication3\WebAppli
λ dotnet WebApplication3.dll
Hosting environment: Production
Content root path: C:\Users\daxne\source\repos\WebAp
reapp2.1
Now listening on: http://[::]:8092
Application started. Press Ctrl+C to shut down.
```



ASP.NET Core容器版本



- .NET Core 2.0以前, 使用microsoft/aspnetcore
- 从.NET Core 2.1开始, 使用microsoft/dotnet
 - 2.1-sdk: 包含.NET Core 2.1 SDK
 - 2.1-aspnetcore-runtime: 仅包含ASP.NET Core 2.1运行时
 - 2.1-runtime: 仅包含.NET Core 2.1运行时

Full Description

Latest Version of Common Tags

The following tags are the latest stable versions of the most commonly used images. The complete set of tags is listed further down.

- 2.1-sdk
- 2.1-aspnetcore-runtime
- 2.1-runtime





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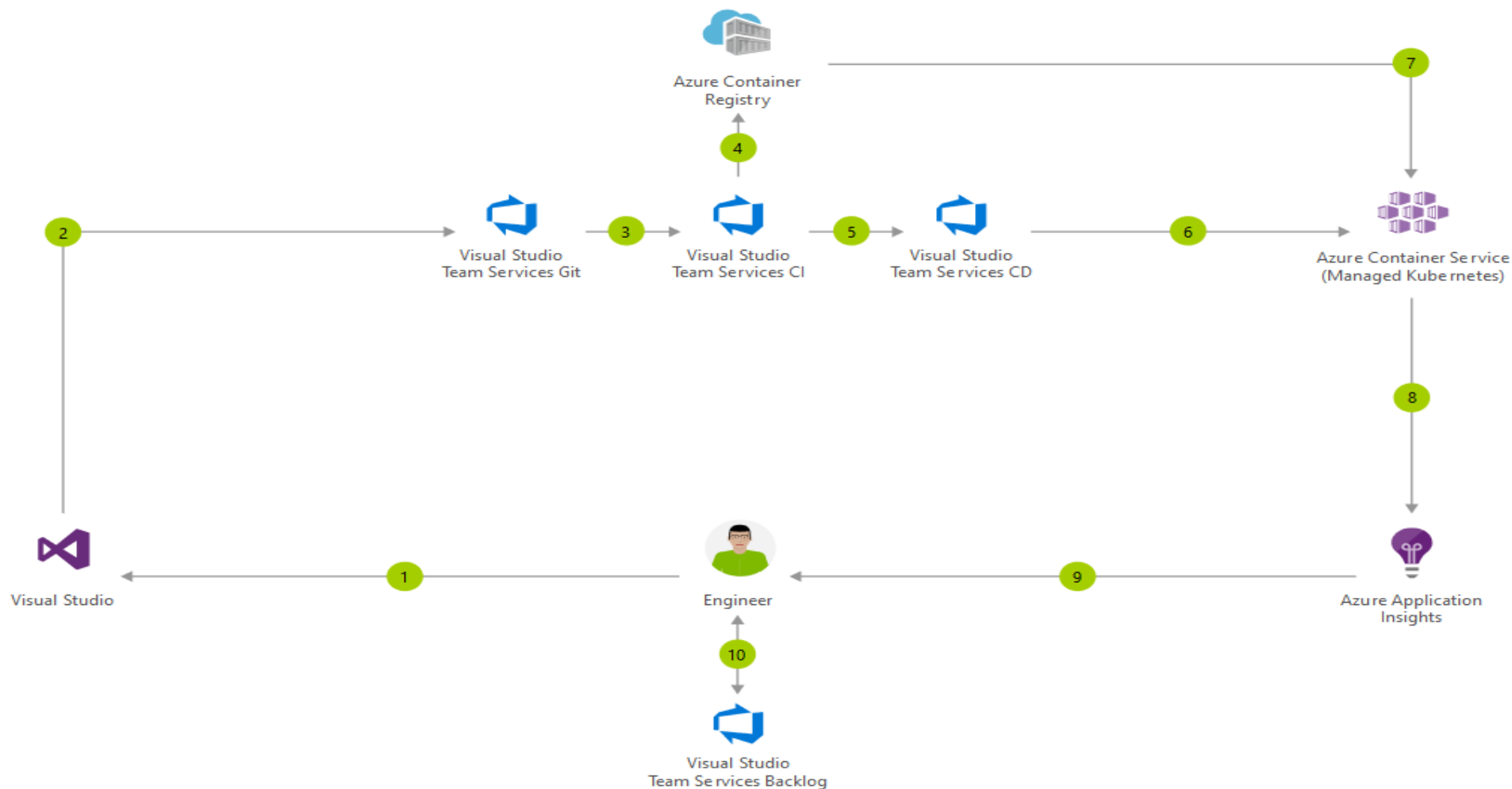
持续集成与持续交付



| 概念 | 任务 | 结果 |
|----------------|--|--|
| 持续集成 | <ul style="list-style-type: none">• 频繁的代码签入• 即时编译并获得编译结果• 自动完成单元测试• 强调测试自动化 | <ul style="list-style-type: none">• 减少代码冲突• 尽早发现代码问题• 确保任何时刻有新代码签入，都不会对应用程序造成破坏 |
| 持续交付 (持续部署) | <ul style="list-style-type: none">• 应用程序部署自动化• 自动完成集成测试或系统测试• 制定部署策略与流程 | <ul style="list-style-type: none">• 团队更关注于软件功能的开发• 简化应用程序部署过程• 软件发布风险小，问题易于修复• 更为频繁的软件发布• 高效获得用户反馈 |



基于容器的CI/CD流程



VSTS -> Azure DevOps




| VSTS feature name | Azure DevOps service name | Description |
|----------------------|---------------------------|--|
| Build & release | Azure Pipelines | CI/CD that works with any language, platform, and cloud. |
| Code | Azure Repos | Unlimited cloud-hosted private Git and TFVC repos for your project. |
| Work | Azure Boards | Work tracking with Kanban boards, backlogs, team dashboards, and custom reporting. |
| Test | Azure Test Plans | All-in-one planned and exploratory testing solution. |
| Packages (extension) | Azure Artifacts | Maven, npm, and NuGet package feeds from public and private sources. |




VSTS -> Azure DevOps



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 Visual Studio Team Services

 BUILD #52 SUCCEEDED


tasklist-CI

Ran for 5 minutes

View results

 Microsoft

Azure DevOps

 BUILD #55 SUCCEEDED

tasklist-CI

Ran for 6 minutes

View results



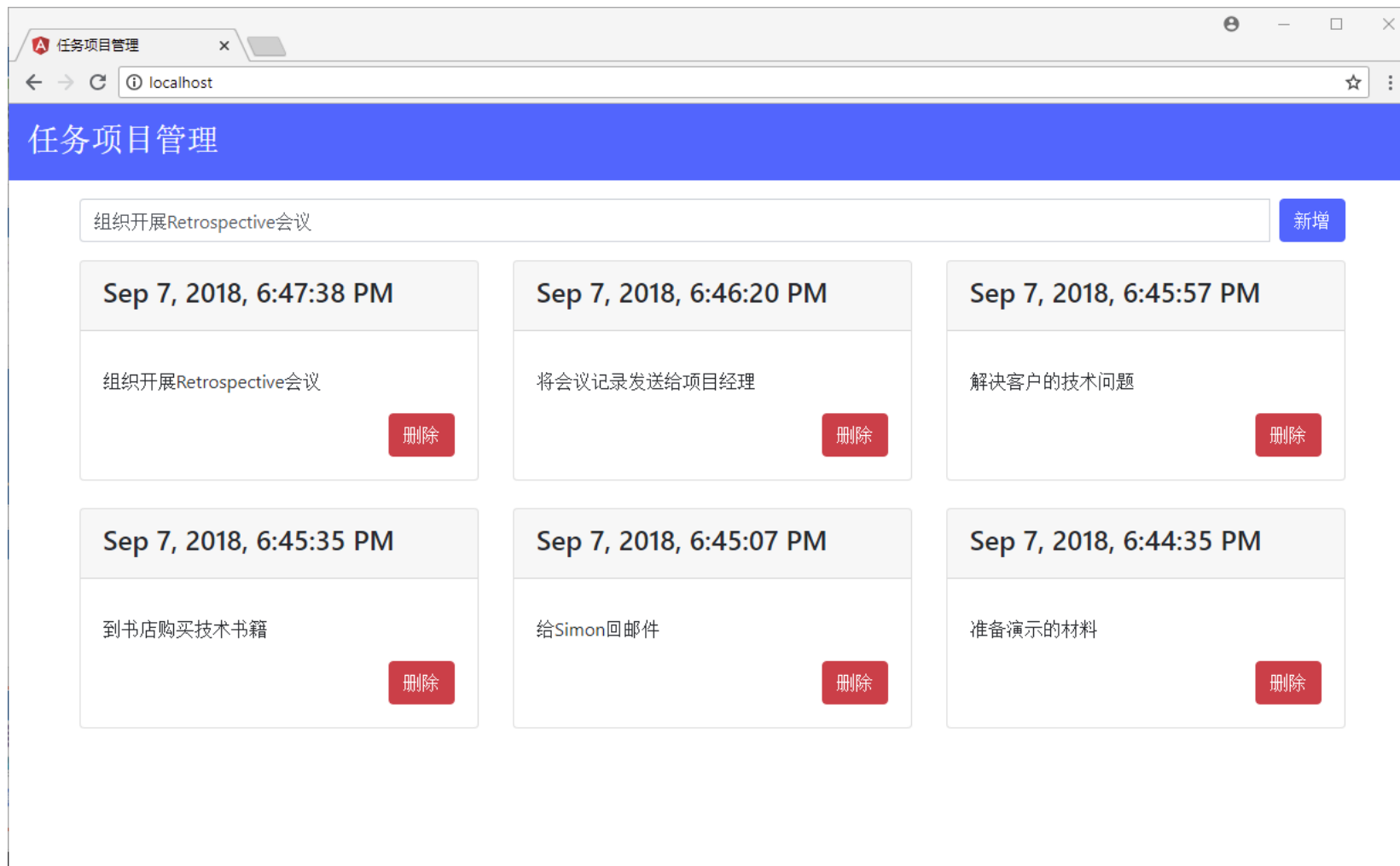


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案例演示



案例介绍



案例介绍

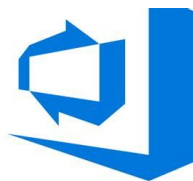
前端技术:



服务端技术:



持续集成与部署:



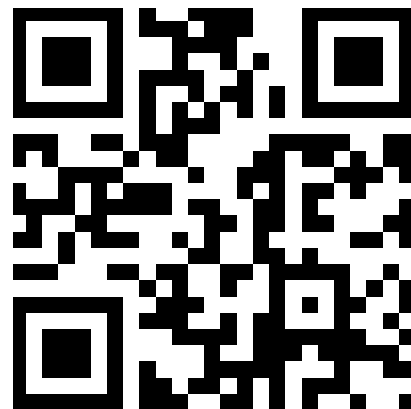


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在线资源



个人博客:



tasklist源代码:





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vă mulțumesc

Salamat sa iyo

Grazie

Спасибо

Teşekkür ederiz

Jamädi

Gracias

Merci

Aitäh Dziękuje Maururu ia oe

Danke

Obrigado **dioloh**

Terima kasih *Cảm ơn bạn* **תודה** **አዳደሩ**

Vinaka vakalevu

Thank you

谢谢

Tak

Благодаря *köszönöm*

Ευχαριστούμε *Hvala tí*

ขอบคุณ **謝謝** *Děkuju*

Dankie *Gràcies*

köszönöm

감사합니다

hvala **Dank u**

धन्यवाद

شكرا

ありがとう

Дякую