

Final Project

Homework App

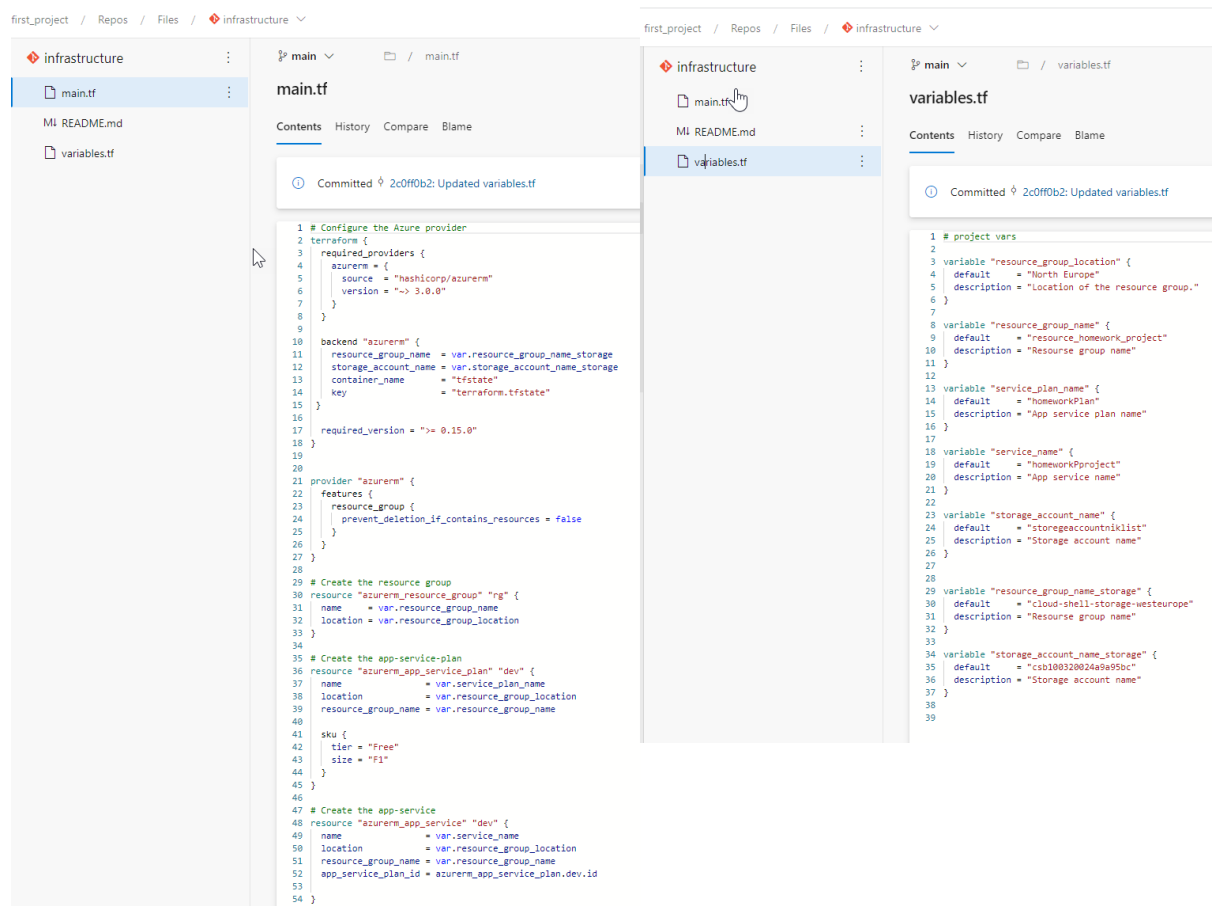
This application was written with angular framework. It's similar to Google class app but no saw the world. I decided to deploy it in Azure cloud for my practice to work with cloud technology.

Tools: Github / Terraform / Azure

1. Create infrastructure

Azure DevOps → first_project → Repos → Infrastructure

Create file **main.tf** for deploying artifact and file **variables.tf** with vars



2. Create pipeline for future infrastructure artifact

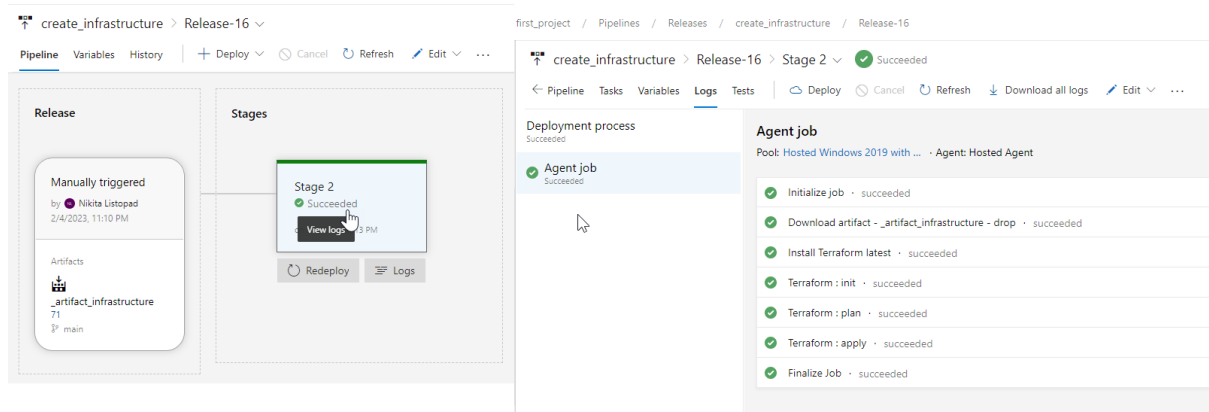
Pipelines → Pipelines

The screenshot displays the Azure DevOps Pipelines interface for a pipeline named 'artifact_infrastructure'. The left pane shows the pipeline structure with tasks: 'Get sources', 'Agent job 1' (containing 'Copy Files to: \$(Build.ArtifactStagingDirectory)' and 'Publish Artifact: drop'), and 'Publish build artifacts'. The right pane shows the configuration for the 'Copy Files' task, including 'Task version' (2.*), 'Display name', 'Source Folder', 'Contents', 'Target Folder', and 'Advanced' options. Below the main configuration, a 'Jobs in run #71' section shows the execution status of the pipeline, including 'Agent job 1' and its sub-tasks. A detailed view of 'Agent job 1' shows the job's execution details, including the pool, image, agent, start time, duration, and job preparation parameters.

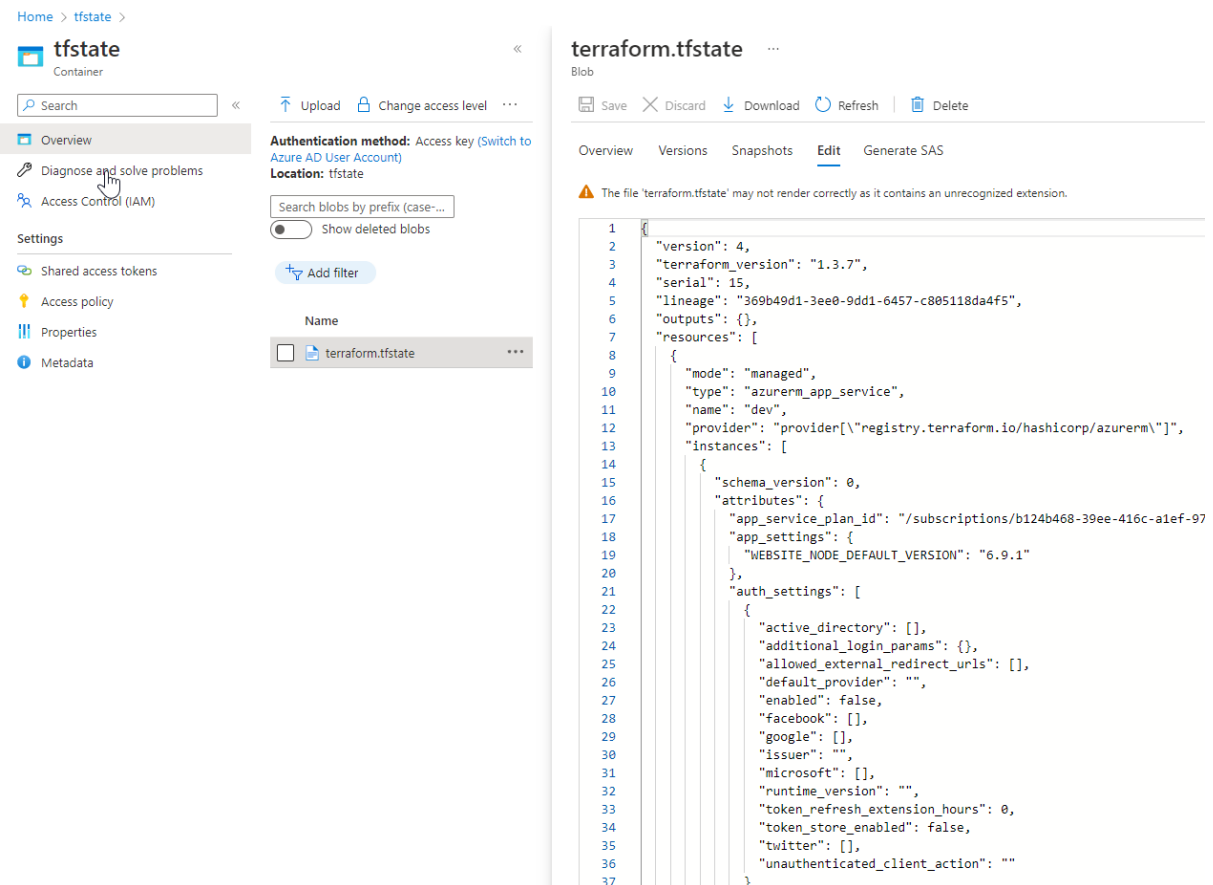
3. Create pipeline for deploying infrastructure

Pipelines → Release

The screenshot displays the Azure DevOps Pipelines interface for a pipeline named 'create_infrastructure'. The left pane shows the pipeline structure with tasks: 'Stage 2' (containing 'Agent job' with sub-tasks 'Install Terraform latest', 'Terraform : init', 'Terraform : plan', and 'Terraform : apply'). The right pane shows the configuration for the 'Terraform : init' task, including 'Task version' (3.*), 'Display name', 'Provider', 'Command', 'Configuration directory', 'Additional command arguments', 'AzureRM backend configuration', 'Azure subscription', 'Resource group', 'Storage account', 'Container', 'Key', 'Control Options', and 'Output Variables'.



4. Terraform state file I created in default resource group and storage account cloud-shell-storage-westurope → csb100320024a9a95bc → containers → tfstate → **terraform.tfstate**



Result:

- created resource group: **resource_homework_project**
- created web app: **homeworkProject**
- created and wrote tfstate file: **terraform.tfstate**

5. Create artifact for Web App: Homework

Pipeline → New pipeline

The screenshot displays the Azure DevOps interface for a pipeline named 'homeworkArtifact'. The left pane shows the pipeline configuration with tasks: 'Get sources', 'Agent job 1' (containing 'npm install', 'npm build', and 'Publish Artifact: drop'), and 'Publish build artifacts'. The right pane shows the 'Publish build artifacts' configuration with 'Task version' set to '1.*', 'Display name' as 'Publish Artifact: drop', 'Path to publish' as '\$(System.DefaultWorkingDirectory)/dist', 'Artifact name' as 'drop', and 'Artifact publish location' as 'Azure Pipelines'. The bottom right pane shows the 'Jobs in run #74' for 'homeworkArtifact', listing tasks like 'Initialize job', 'Checkout Mykyta-lystopad/home...', 'npm install', 'npm build', 'Publish Artifact: drop', 'Post-job: Checkout Mykyta-Lyst...', and 'Finalize Job'. A detailed view of 'Agent job 1' is shown on the far right, indicating it was successful and produced 1 artifact.

6. Deploy web app - Homework

Pipeline → Releases

6.1 Add homeworkArtifact

The screenshot shows the Azure DevOps interface for a release named 'HomeworkApp'. The left pane shows the release configuration with 'Artifacts' and 'Stages'. The 'Artifacts' section shows the 'homeworkArtifact' artifact added, with a 'Schedule not set' warning. The 'Stages' section shows 'Stage 1' with '1 job, 1 task'. The right pane shows the 'Artifact' configuration for 'Build - _homeworkArtifact', with 'Project' set to 'first_project', 'Source (build pipeline)' set to 'homeworkArtifact', 'Default version' set to 'Latest', and 'Source alias' set to '_homeworkArtifact'. A note at the bottom states: 'The artifacts published by each version will be available for deployment in build of homeworkArtifact published the following artifacts: drop.'

6.2 Add task for deploy Homework Application

All pipelines > HomeworkApp

Pipeline Tasks Variables Retention Options History

Stage 1
Deployment process

Agent job
Run on agent

FTP Upload: Homework Web App
FTP upload

FTP upload ⓘ

Task version 2.*

Display name *
FTP Upload: Homework Web App

Authentication Method * ⓘ
Enter credentials

Server URL *
ftp://waws-prod-db3-213.ftp.azurewebsites.windows.net/site/wwwroot

Username *
homeworkProject\homeworkPproject

Password *
rGfR2y8o2Pan4cn93 qvRdtoCEwd3T7u6TzaWe

Root folder * ⓘ
\$(System.DefaultWorkingDirectory)/_homeworkArtifact/drop/homework-app-master2

File patterns * ⓘ
**

Remote directory * ⓘ
/site/wwwroot

Advanced ^

☐ Enable UTF8 support ⓘ

☐ Delete remote directory ⓘ

☒ Clear remote directory contents ⓘ

☒ Preserve file paths ⓘ

☒ Trust server certificate ⓘ

FTP Commands ⓘ

7. Check CI/CD

Did some changes in github → artifact starts to update

VS Code editor showing the homework-app project structure and the sign-in.component.ts file. The terminal output shows the git commit and push commands being executed.

```
git commit -m "Add"
git push git@github.com:Mykyta-Lystopad/homework.git main --force
```

The terminal output shows the git commit and push commands being executed. A red arrow points to the "Add" commit message in the terminal output.

GitHub Actions workflow showing the homeworkArtifact pipeline. The pipeline has three runs: #85 • Add, #74 • Init, and #73 • Init. The #85 • Add run is the latest and is marked as successful.

homeworkArtifact

Runs Branches Analytics

Description

- #85 • Add
Individual CI for main 20f5e276
- #74 • Init
Manually triggered for main 4a2a6a5e
- #73 • Init
Manually triggered for main 4a2a6a5e

HomeworkApp > Release 21 ▾

Pipeline Variables History | + Deploy ▾ ⌛ Cancel ↻ Refresh ✎ Edit ▾

Release

Continuous deployment

for Nikita Listopad
2/7/2023, 7:45 PM

Artifacts

_homeworkArtifact

86

main

Stages

Stage 1

In progress

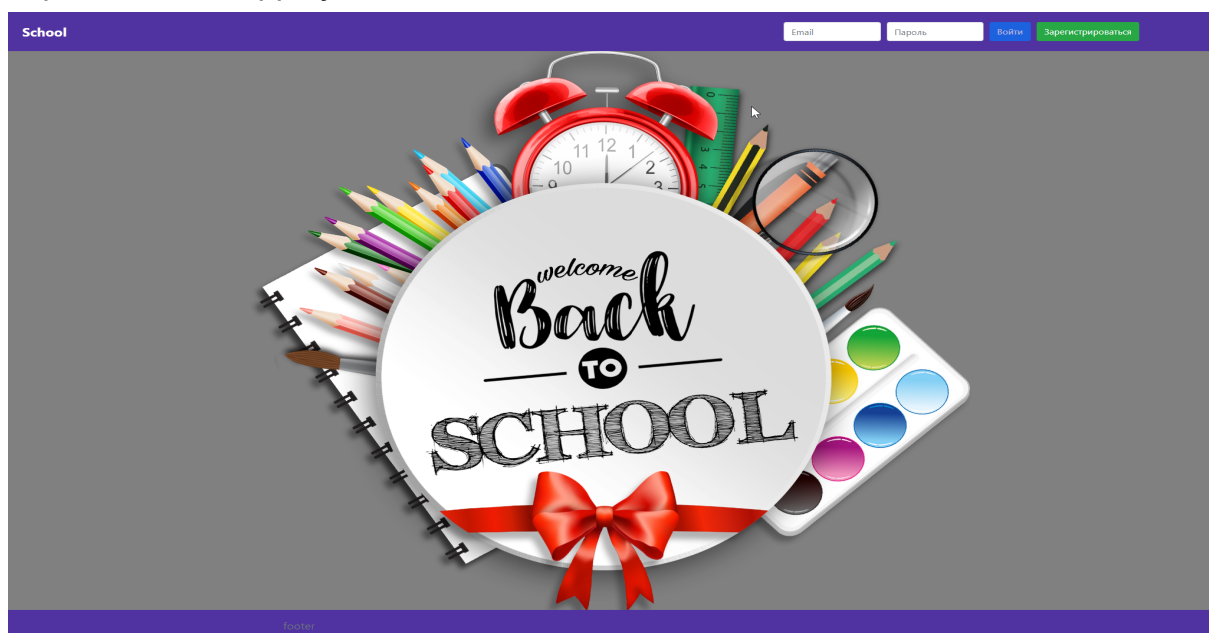
1/1 tasks

Initialize job

00:12

Result:

<https://homeworkpproject.azurewebsites.net>



8. Deploy backend app - "Homework Backend" for Homework application

8.1 Create resource group - laravel_backend

8.2 Create Web App - laravelHomework

8.3 Connect Github repo and create deploy yaml file

Microsoft Azure

Home > Microsoft.Web-WebApp-Portal-bb559b9b-9e34 | Overview > laravelHomework

laravelHomework | Deployment Center ☆ ...

Web App

Search

Save Discard Browse Manage publish profile Sync Leave Feedback

Settings * Logs FTPS credentials

You're now in the production slot, which is not recommended for setting up CI/CD. [Learn more](#)

Deploy and build code from your preferred source and build provider. [Learn more](#)

Source * GitHub

Building with GitHub Actions. [Change provider.](#)

GitHub

App Service will place a GitHub Actions workflow in your chosen repository to build and deploy your app whenever there is a commit on the chosen branch. If you can't find an organization or repository, you may need to enable additional permissions on GitHub. You must have write access to your chosen GitHub repository to deploy with GitHub Actions. [Learn more](#)

Signed in as Mykyta-Lystopad [Change Account](#)

Organization * Mykyta-Lystopad

Repository * homework-backend

Branch * main

Build

Runtime stack PHP

Version PHP 8.0

Workflow Configuration

File with the workflow configuration defined by the settings above.

Preview file

Workflow Configuration

The path: `github.com:Mykyta-Lystopad:homework-backend`

A workflow for the PHP web app. This workflow builds and deploys your app to Azure Web App. It uses GitHub Actions to build and deploy the app to your web app.

```
name: Build and Deploy PHP app to Azure Web App

on:
  push:
    branches:
      - main

jobs:
  build-and-deploy:
    runs-on: ubuntu-latest
    steps:
      - name: Checkout repository
        uses: actions/checkout@v2

      - name: Setup PHP
        uses: shivammathur/setup-php@1.10.2
        with:
          php-version: 8.0

      - name: Install dependencies
        run: composer install --prefer-dist --no-progress --no-suggests

      - name: Build the application
        run: php artisan build

      - name: Deploy to Azure Web App
        uses: azure/webapps-deploy@2.2.0
        with:
          app-path: build
          slot: production
```

8.4 Using Github Actions

First of all I have to delete all writes in composer.lock file because it was the cause of errors

Mykyta-Lystopad / homework-backend Public

<> Code Issues Pull requests **Actions** Projects Wiki Security Insights Settings

Actions [New workflow](#)

All workflows
Showing runs from all workflows

19 workflow runs

Workflow	Status	Event	Branch	Actor	Time
Update cors.php	In progress	Push	main	Mykyta-Lystopad	11 minutes ago
Add or update the Azure App Service build and deployment workflow config	Success	Push	main	Mykyta-Lystopad	5 hours ago
Update cors.php	Success	Push	main	Mykyta-Lystopad	5 hours ago
Update .htaccess	Success	Push	main	Mykyta-Lystopad	9 hours ago
Update README.md	Success	Push	main	Mykyta-Lystopad	9 hours ago
Update README.md	Success	Push	main	Mykyta-Lystopad	yesterday
Update .htaccess	Success	Push	main	Mykyta-Lystopad	yesterday
Update .env.example	Success	Push	main	Mykyta-Lystopad	yesterday
Update composer.lock	Success	Push	main	Mykyta-Lystopad	yesterday
Add or update the Azure App Service build and deployment workflow config	Success	Push	main	Mykyta-Lystopad	yesterday

Mykyta-Lystopad / homework-backend Public

<> Code Issues Pull requests **Actions** Projects Wiki Security Insights Settings

Build and deploy PHP app to Azure Web App - laravelHomework

Update composer.lock #9

Summary

Jobs

Run details

Usage

Workflow file

build
Started 1m 27s ago

- Set up job
- Run actions/checkout@v2
- Setup PHP
- Check if composer.json exists
- Run composer install if composer.json exists**

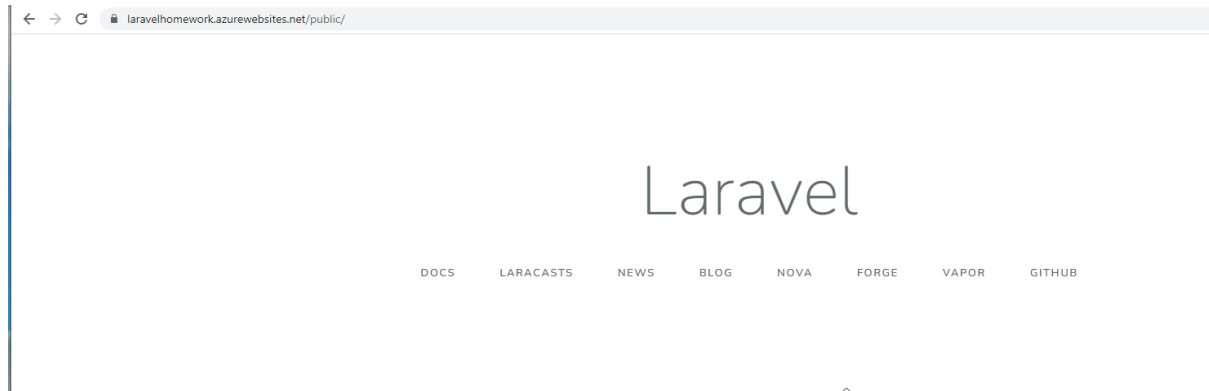
```
383 > illuminate/Foundation/ComposerScripts:postAutoloadDump
384 > @php artisan package:discover --ansi
385 Discovered Package: harryjones/laravel-ide-helper
386 Discovered Package: crazywhon/hotwire-validation
387 Discovered Package: facade/ignition
388 Discovered Package: fideloper/proxy
389 Discovered Package: fruitcake/laravel-cors
390 Discovered Package: intervention/image
391 Discovered Package: laravel/fortify
392 Discovered Package: laravel/sanctum
393 Discovered Package: nesbot/carbon
394 Discovered Package: nummaduro/collision
395 Discovered Package: simplesoftwareio/simple-grcode
396 Package manifest generated successfully.
397 # Packages you are using are looking for funding.
398 Use the "composer fund" command to find out more!
```

- Upload artifact for deployment job**

```
1 > Run actions/upload-artifact@v2
10
10 With the provided path, there will be 8295 files uploaded
11 Starting artifact upload
12 For more detailed logs during the artifact upload process, enable step-debugging: https://docs.github.com/actions/monitoring-and-troubleshooting-workflows/enabling-debug-logging#enabling-step-debug-logging
13 Artifact name is valid!
14 Container for artifact "php-app" successfully created. Starting upload of file(s)
15 Total file count: 8295 ----- Processed file #186 (2.2K)
16 Total file count: 8295 ----- Processed file #186 (4.8K)
17 Total file count: 8295 ----- Processed file #572 (6.8K)
18 Total file count: 8295 ----- Processed file #771 (9.2K)
19 Total file count: 8295 ----- Processed file #974 (11.7K)
20 Total file count: 8295 ----- Processed file #1172 (14.1K)
```

- Post Run actions/checkout@v2

Result:



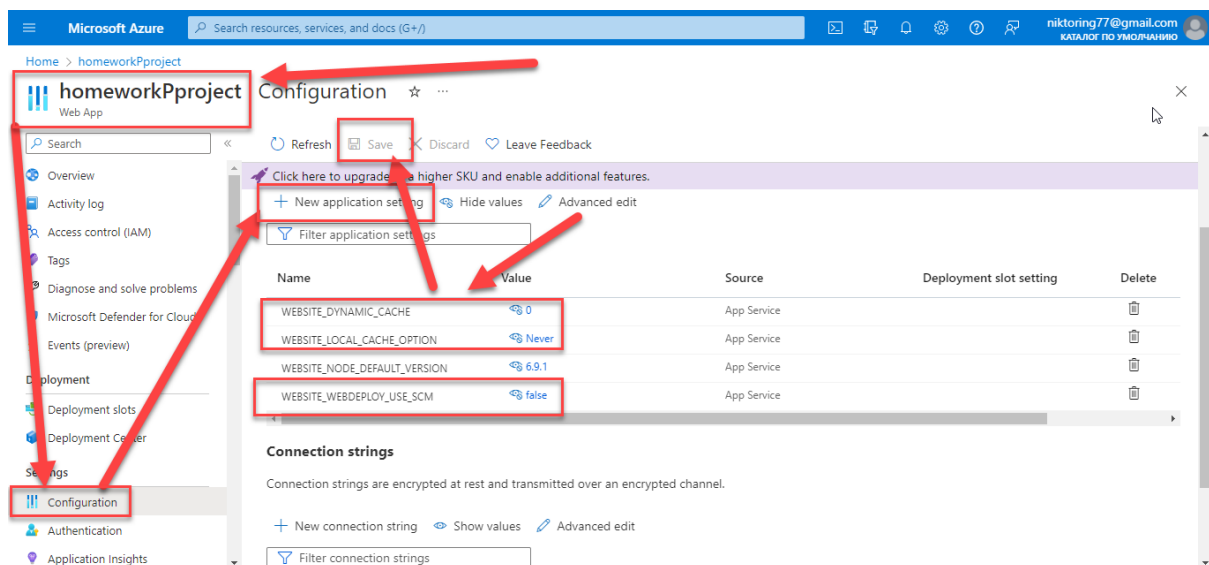
Notes:

Rebuild application succeeds but does not update!

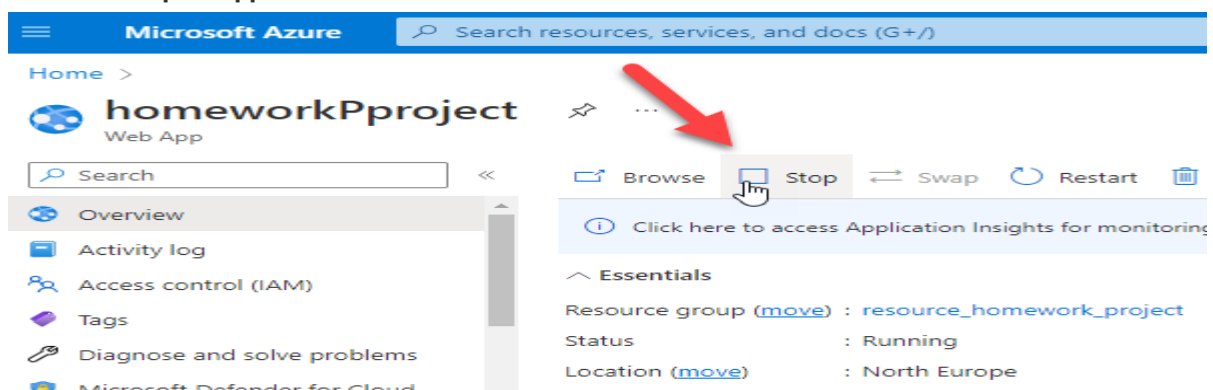
WEBSITE_DYNAMIC_CACHE = 0

WEBSITE_LOCAL_CACHE_OPTION = Never

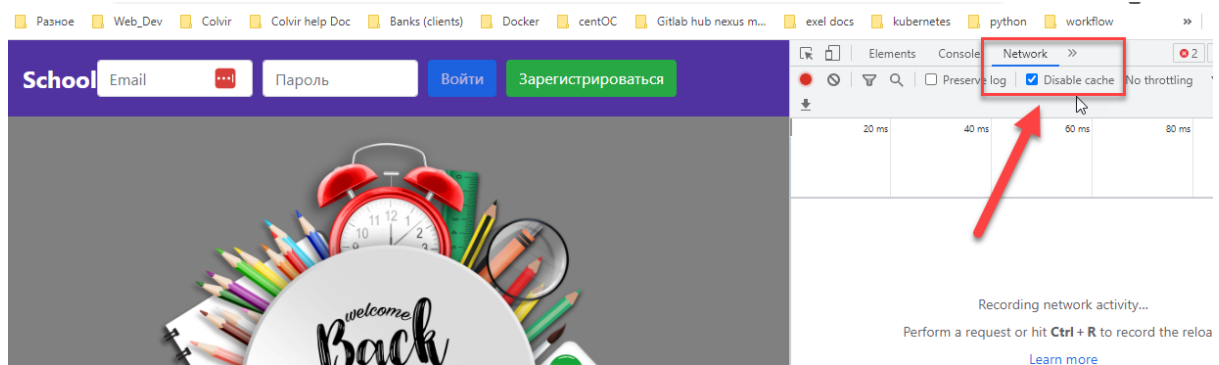
WEBSITE_WEBDEPLOY_USE_SCM = false



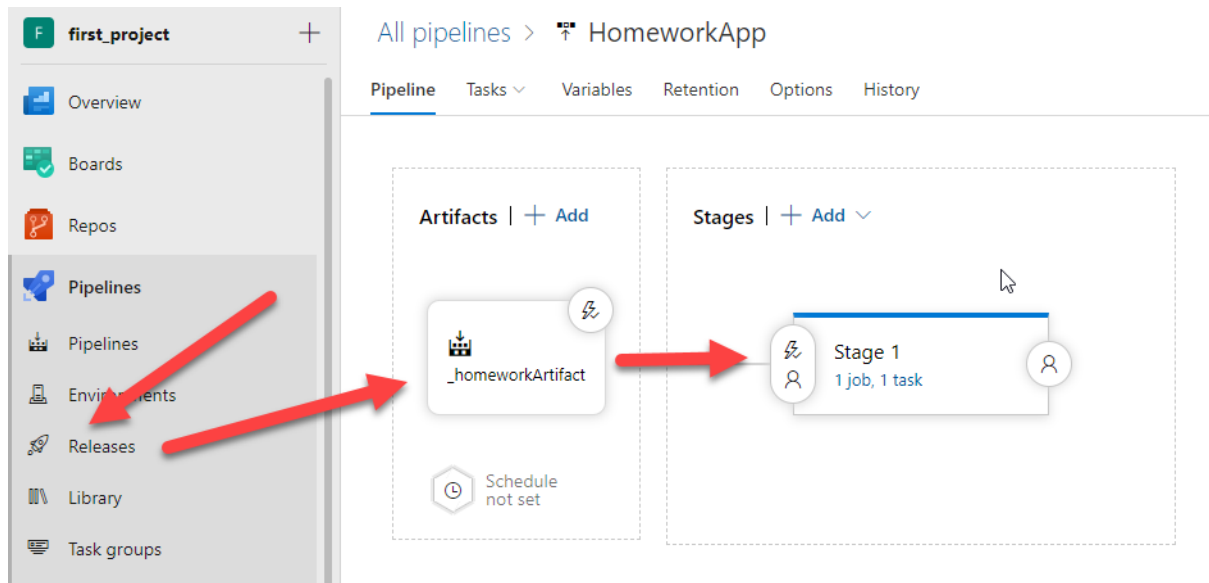
After that stop an app



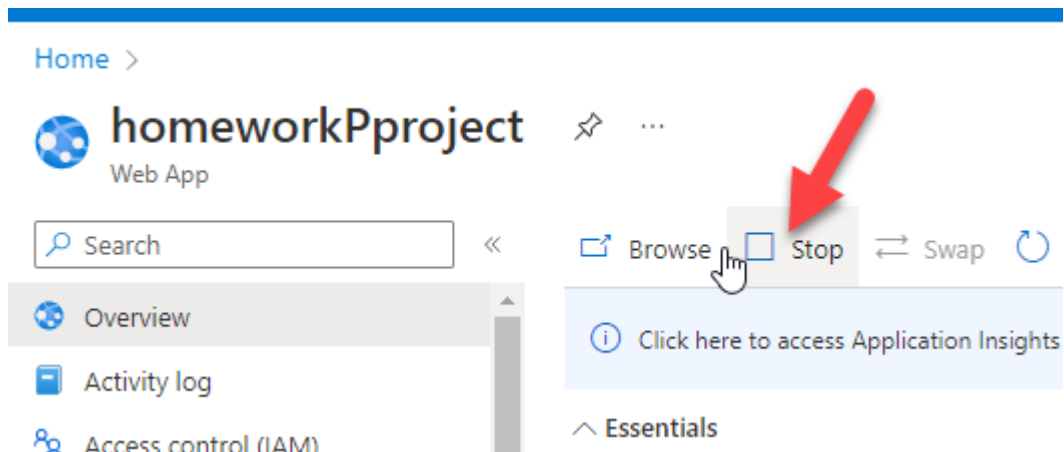
Disable cache in browser and remove cookies files



Get commit to github or other way to rebuild your app



Than start your app



Check your link or another way!

