Automatisierte UI Tests für Dynamics 365

Autor: Angel A. Rodríguez

# Problemdarstellung

Es ist uns Oft passiert das nach einer neuen Entwicklung eine Bereits getestet Funktionalität unfähig geworden ist. Wir haben zu wenige Resources und so large Prozess um das gesamte System nach jeder Entwicklungsphase Manuell Regression Tests durch zu führen.

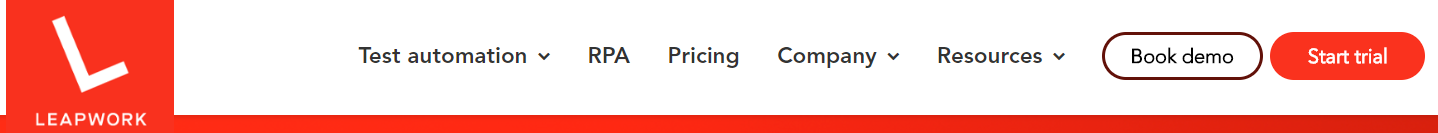
# Lösungsansetze

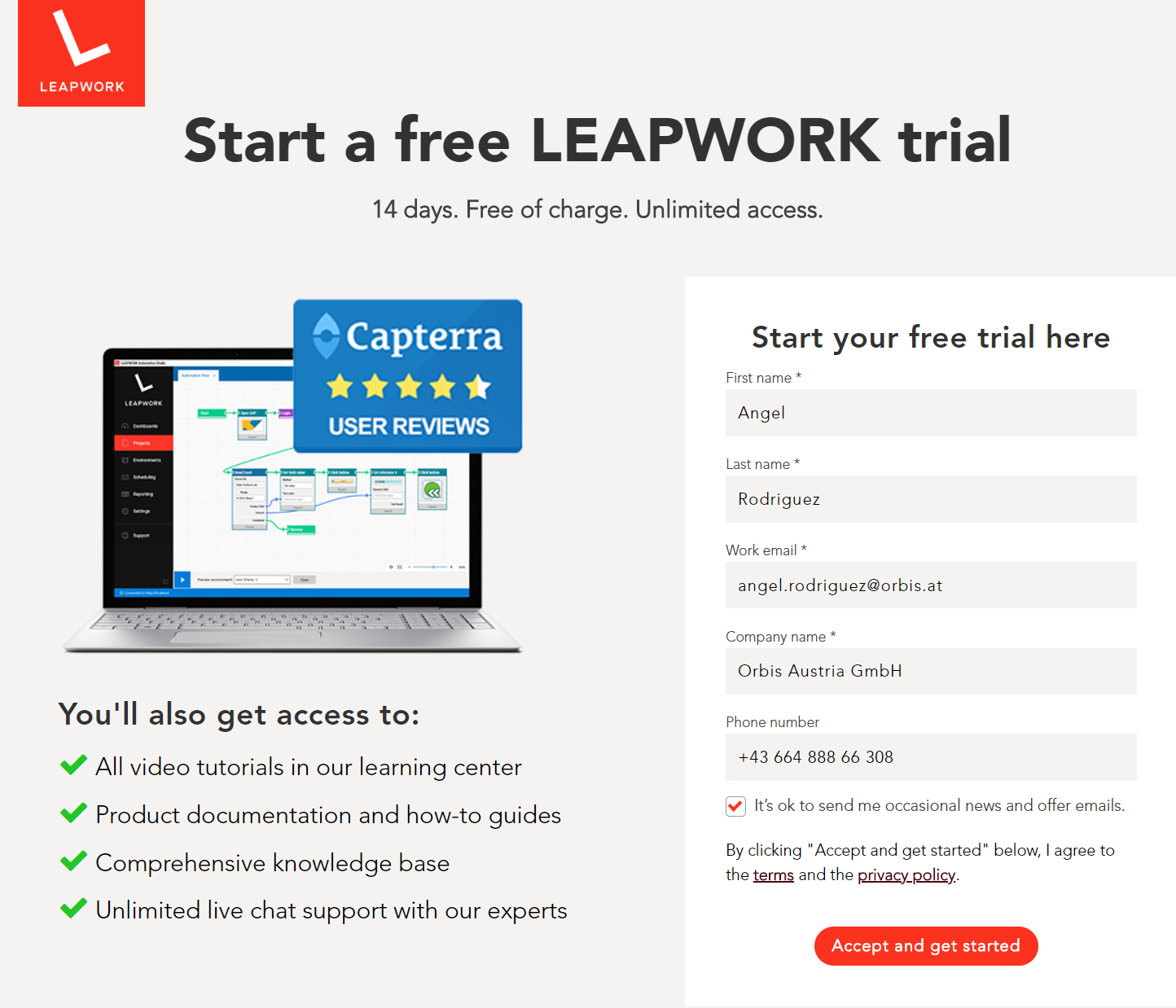
Diese sind verschiedene Möglichkeiten, die können problemlos zusammen arbeiten.

* Coded UI Tests
  + [Microsoft](https://github.com/Microsoft)/**[EasyRepro](https://github.com/Microsoft/EasyRepro)**
* Automatisierte UI Tests via RPA Tools.
  + [ClickLearn](https://www.clicklearn.dk/dynamics/crm/)
  + [LEAPWORK](https://www.leapwork.com/discover/dynamics-crm-automated-testing) (Setup bereit in Download)
* Custom Implementation auf Basis der Dynamics Client API.
  + [Jasmine](https://jasmine.github.io/),
  + [SimonJS](http://crmmemories.blogspot.com/2018/05/unit-test-web-api-calls-with-xrm-mock.html)

[LEAPWORK](https://www.leapwork.com/discover/dynamics-crm-automated-testing)

1. Request a Trial (<https://www.leapwork.com/>)

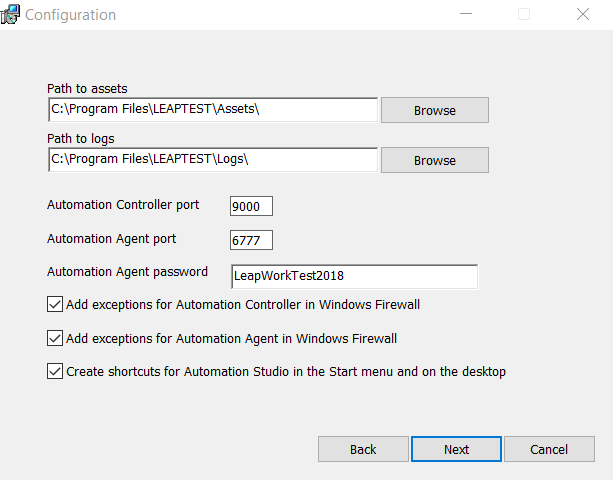




1. Download & Install

LEAPWORK\_Release\_x64\_2.5.951.msi

Agent Password: LeapWorkTest2018



1. Start the application:

Username: [angel.rodriguez@orbis.at](mailto:angel.rodriguez@orbis.at)

Password: leaptest.com

# EasyRepro

Posibilities

* Navigation
  + Area
  + View
  + Entity
    - New (after wait some time)
* Set Values
  + Nicht zuverlässig
  + Nicht einfach
  + Für „Hidden Fields“ nicht geeignet.
* Get Values
  + Für „Hidden Fields“ nicht geeignet.
* Click Commands
* Take ScreenShot
* Assertions, Checks
  + Check Value - OK
  + Save Result - ??
  + Fields Visibility - ??
  + Fields Requirement Level - ??
  + Notifications, Validation Errors - ??

## Limitations

In unterschiedliche UI, Crm Versionen, DOM, verhalten sich die Commands anders.

z.B.: Für LookUps SetValue: string \_enter(string value) => value + "\n"

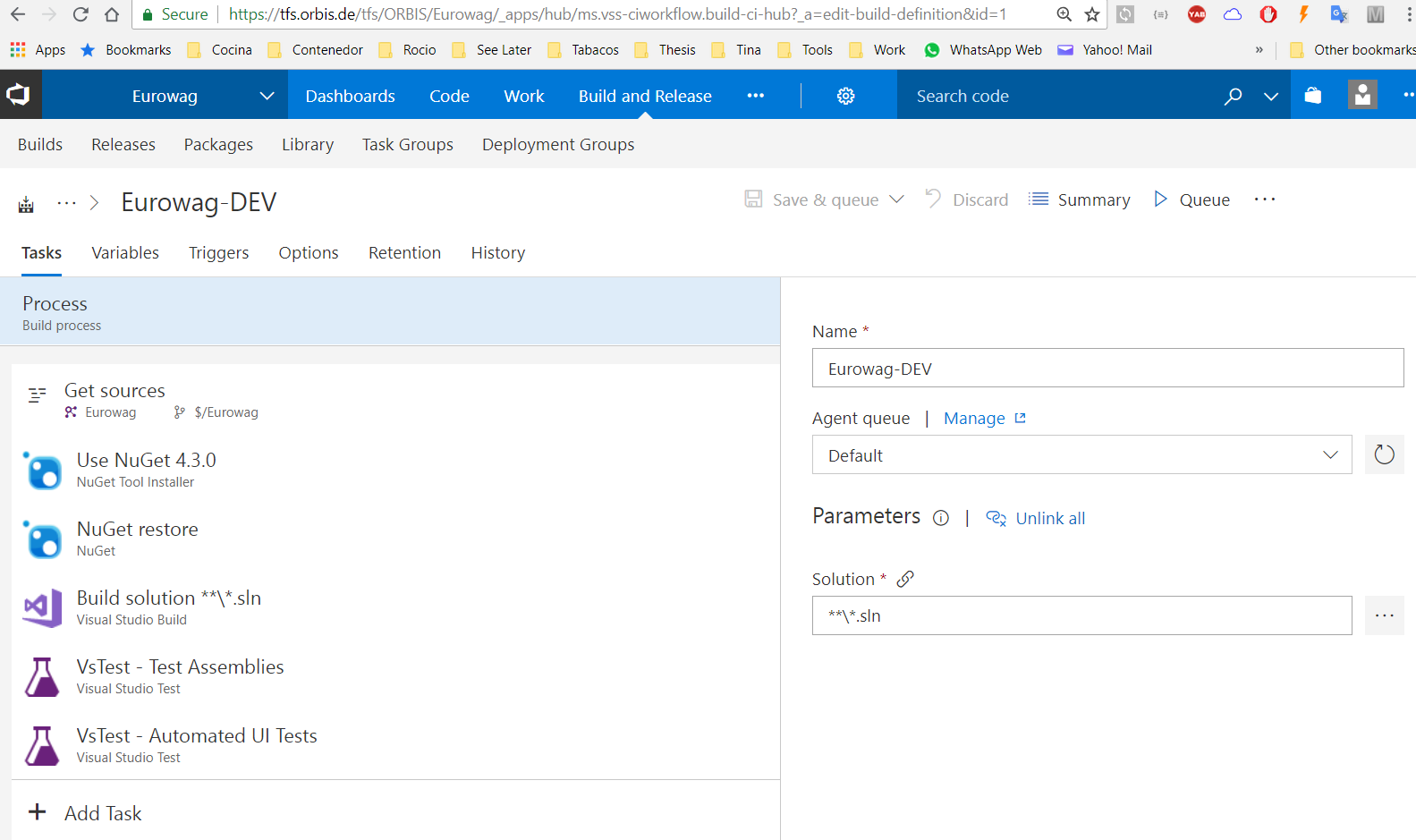
JS Injektion (ohne extra Tests Fields in Form)

* Deprecated „Xrm.Page.“

## Continuos Integration – Continuos Deployment

1. Create Build

<https://tfs.orbis.de/tfs/ORBIS/Eurowag/_apps/hub/ms.vss-ciworkflow.build-ci-hub?_a=edit-build-definition&id=1>



1. Add Agent
   1. Prepare permissions

<https://docs.microsoft.com/en-us/vsts/pipelines/agents/prepare-permissions?view=vsts>

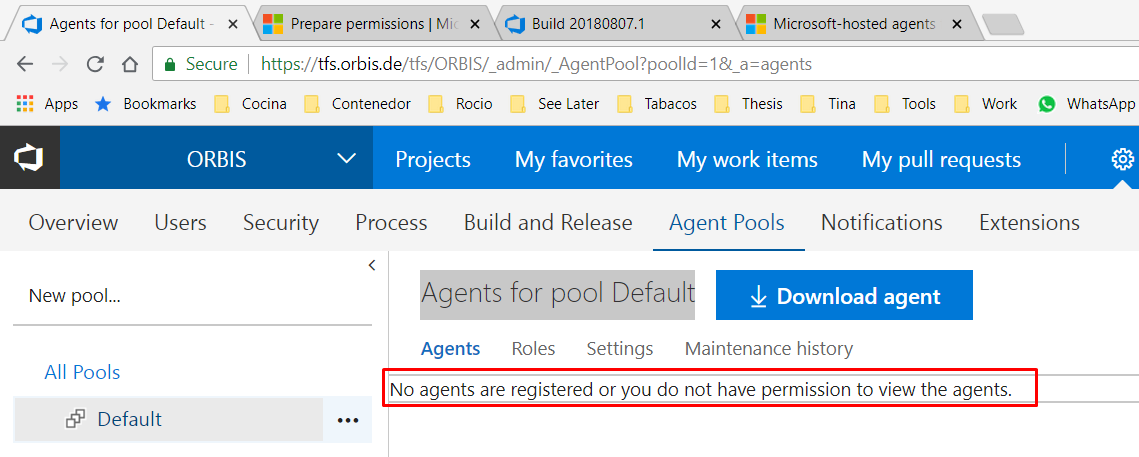
[Access Token for Build Agent](https://tfs.orbis.de/tfs/ORBIS/_details/security/tokens/Edit?authorizationId=be4fab3c-8508-4365-9458-b18582d00d0d)

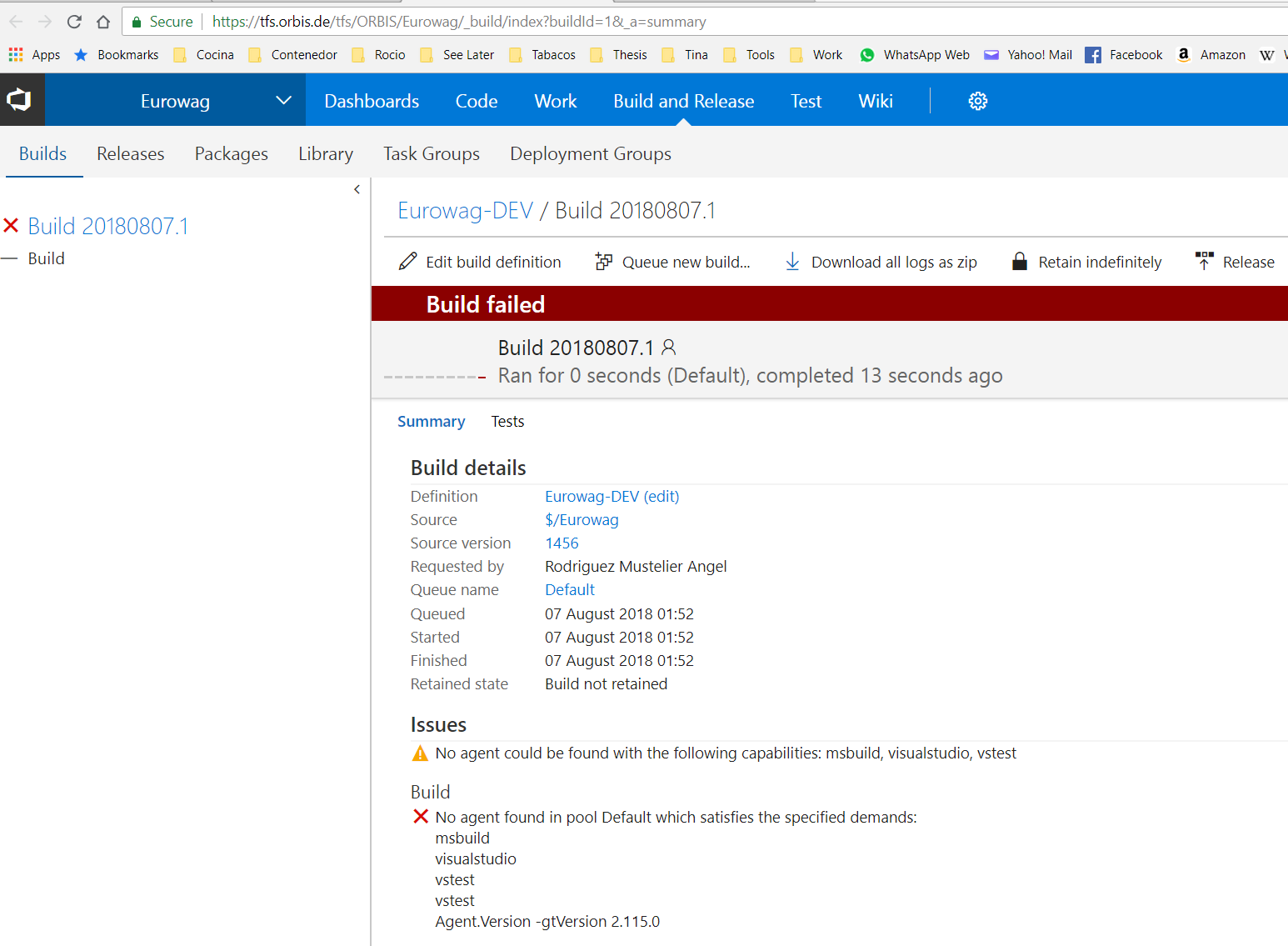
https://tfs.orbis.de/tfs/ORBIS/\_details/security/tokens/Edit?authorizationId=be4fab3c-8508-4365-9458-b18582d00d0d

5x3j7hbkbkknfnfjigqqhwb6bc2zbp27qd7ysmpueuscnqih5opq

* 1. Agents for pool Default

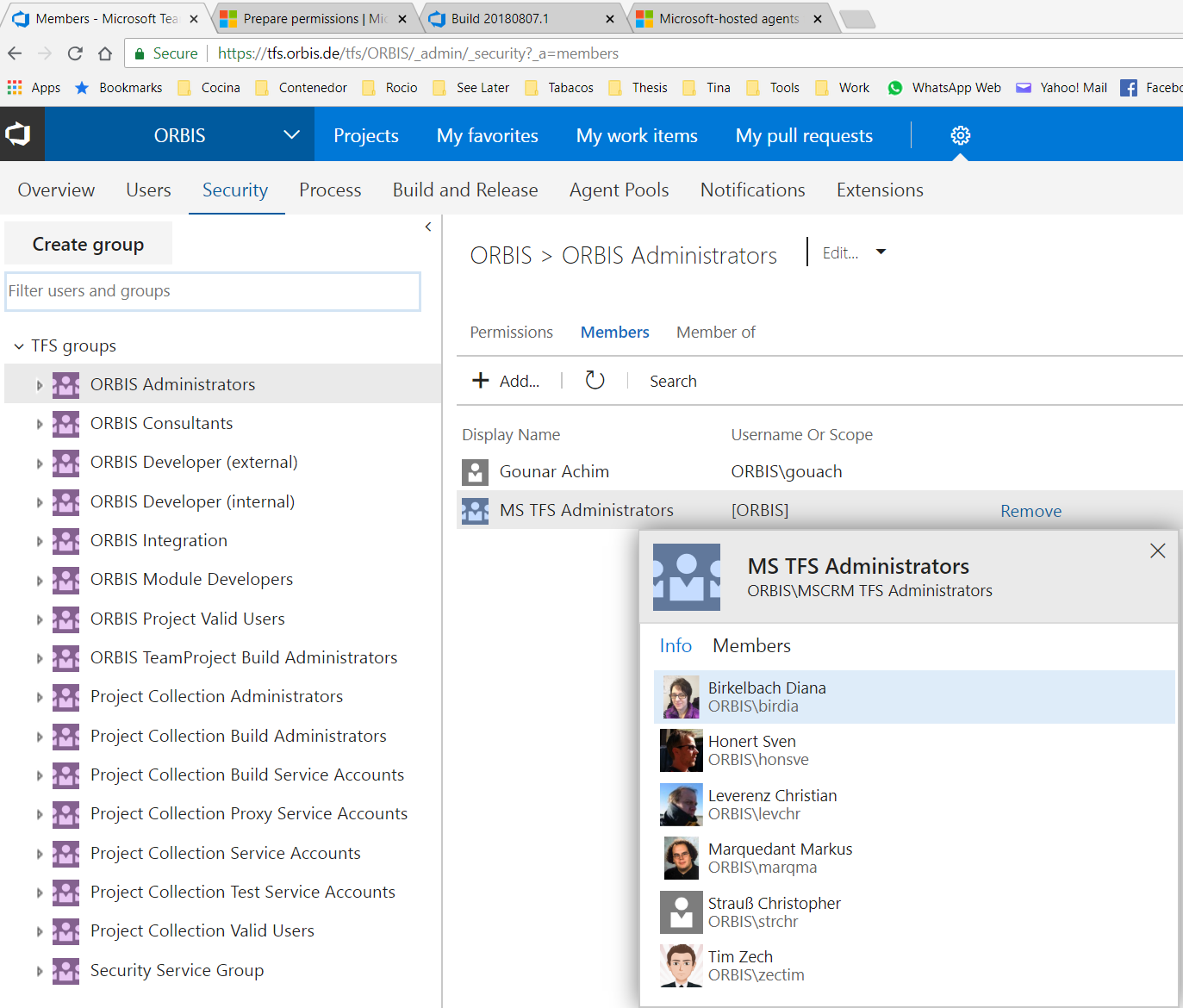
<https://tfs.orbis.de/tfs/ORBIS/_admin/_AgentPool?poolId=1&_a=agents>



No Agents - Build Fail

Require Contact to the TFS Administrators

<https://tfs.orbis.de/tfs/ORBIS/_admin/_security?_a=members>



Schumacher Stefan <[Stefan.Schumacher@orbis.de](mailto:Stefan.Schumacher@orbis.de)>

Name: Orbcli03.orbis.de

IP: 172.20.252.165

Zugriff mit RDP

Lokale AdminBerechtigung für Deinen orbis Domänenaccount.

### Access denied. Rodriguez Mustelier Angel needs Manage permissions for pool Default to perform the action. For more information, contact the Team Foundation Server administrator.

### Failed to add the agent.

### **Confirm the user has permission**

Make sure the user account that you're going to use has permission to register the agent.

1. Open a browser and navigate to the Agent pools tab for your VSTS organization or TFS server:

<https://tfs.orbis.de/tfs/ORBIS/_admin/_AgentPool>

1. Click the pool on the left side of the page and then click **Roles**.
2. If the user account you're going to use is not shown, then get an administrator to add it. The administrator can be an agent pool administrator, a [VSTS organization owner](https://docs.microsoft.com/en-us/vsts/organizations/accounts/faq-add-delete-users?view=vsts#find-owner), or a [TFS server administrator](https://docs.microsoft.com/en-us/tfs/server/admin/add-administrator-tfs). If it's a [deployment group](https://docs.microsoft.com/en-us/vsts/pipelines/release/deployment-groups/index?view=vsts) agent, the administrator can be an deployment group administrator, a [VSTS organization owner](https://docs.microsoft.com/en-us/vsts/organizations/accounts/faq-add-delete-users?view=vsts#find-owner), or a [TFS server administrator](https://docs.microsoft.com/en-us/tfs/server/admin/add-administrator-tfs). You can add a user to the deployment group administrator role in the **Security** tab on the **Deployment Groups** page of the **Build & Release** hub.

**Q:** I'm concerned about security. How is this account used? **A:** [Agent communication](https://docs.microsoft.com/en-us/vsts/pipelines/agents/agents?view=vsts#communication).