

# Developing and Deploying AI/ML Applications on Red Hat OpenShift AI with Exam

Kód kurzu: AI268

Developing and Deploying AI/ML Applications on Red Hat OpenShift AI (AI267) provides students with the fundamental knowledge about using Red Hat OpenShift for developing and deploying AI/ML applications. This course helps students build core skills for using Red Hat OpenShift AI to train, develop and deploy machine learning models through hands-on experience. This course is based on Red Hat OpenShift® 4.14, and Red Hat OpenShift AI 2.8. The Red Hat Certified Specialist in OpenShift AI Exam (EX267) is included in the offering.

## Pro koho je kurz určen

- Data scientists and AI practitioners who want to use Red Hat OpenShift AI to build and train ML models
- Developers who want to build and integrate AI/ML enabled applications
- MLOps engineers responsible for installing, configuring, deploying, and monitoring AI/ML applications on Red Hat OpenShift AI

## Co Vás naučíme

As a result of attending this course, you will understand the foundations of the Red Hat OpenShift AI architecture. You will be able to install Red Hat OpenShift AI, manage resource allocations, update components and manage users and their permissions. You will also be able to train, deploy and serve models, including how to use Red Hat OpenShift AI to apply best practices in machine learning and data science. Finally you will be able to create, run, manage and troubleshoot data science pipelines.

- Introduction to Red Hat OpenShift AI
- Data Science Projects
- Jupyter Notebooks
- Installing Red Hat OpenShift AI
- Managing Users and Resources
- Custom Notebook Images
- Introduction to Machine Learning
- Training Models
- Enhancing Model Training with RHOAI
- Introduction to Model Serving
- Model Serving in Red Hat OpenShift AI
- Introduction to Workflow Automation
- Elyra Pipelines
- Kubeflow Pipelines

## Požadované vstupní znalosti

- Experience with Git is required
- Experience in Python development is required, or completion of the Python Programming with Red Hat (AD141) course
- Experience in Red Hat OpenShift is required, or completion of the Red Hat OpenShift Developer II: Building and Deploying Cloud-native Applications (DO288) course
- Basic experience in the AI, data science, and machine learning fields is recommended

## Osnova kurzu

### Introduction to Red Hat OpenShift AI

Identify the main features of Red Hat OpenShift AI, and describe the architecture and components of Red Hat AI

### Data Science Projects

#### GOPAS Praha

Kodaňská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

#### GOPAS Brno

Nové sady 996/25  
602 00 Brno  
Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

#### GOPAS Bratislava

Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)



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# Developing and Deploying AI/ML Applications on Red Hat OpenShift AI with Exam

Organize code and configuration by using data science projects, workbenches, and data connections

## Jupyter Notebooks

Use Jupyter notebooks to execute and test code interactively

## Installing Red Hat OpenShift AI

Installing Red Hat OpenShift AI by using the web console and the CLI, and managing Red Hat OpenShift AI components

## Managing Users and Resources

Managing Red Hat OpenShift AI users, and resource allocation for Workbenches

## Custom Notebook Images

Creating custom notebook images, and importing a custom notebook through the Red Hat OpenShift AI dashboard

## Introduction to Machine Learning

Describe basic machine learning concepts, different types of machine learning, and machine learning workflows

## Training Models

Train models by using default and custom workbenches

## Enhancing Model Training with RHOAI

Use RHOAI to apply best practices in machine learning and data science

## Introduction to Model Serving

Describe the concepts and components required to export, share and serve trained machine learning models

## Model Serving in Red Hat OpenShift AI

Serve trained machine learning models with OpenShift AI

## Introduction to Data Science Pipelines

Create, run, manage, and troubleshoot data science pipelines

## Elyra Pipelines

Create data science pipelines with Elyra

## Kubeflow Pipelines

Create data science pipelines with Kubeflow Pipelines

**GOPAS Praha**  
Kodaňská 1441/46  
101 00 Praha 10  
Tel.: +420 234 064 900-3  
[info@gopas.cz](mailto:info@gopas.cz)

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Tel.: +420 542 422 111  
[info@gopas.cz](mailto:info@gopas.cz)

**GOPAS Bratislava**  
Dr. Vladimíra Clementisa 10  
Bratislava, 821 02  
Tel.: +421 248 282 701-2  
[info@gopas.sk](mailto:info@gopas.sk)

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