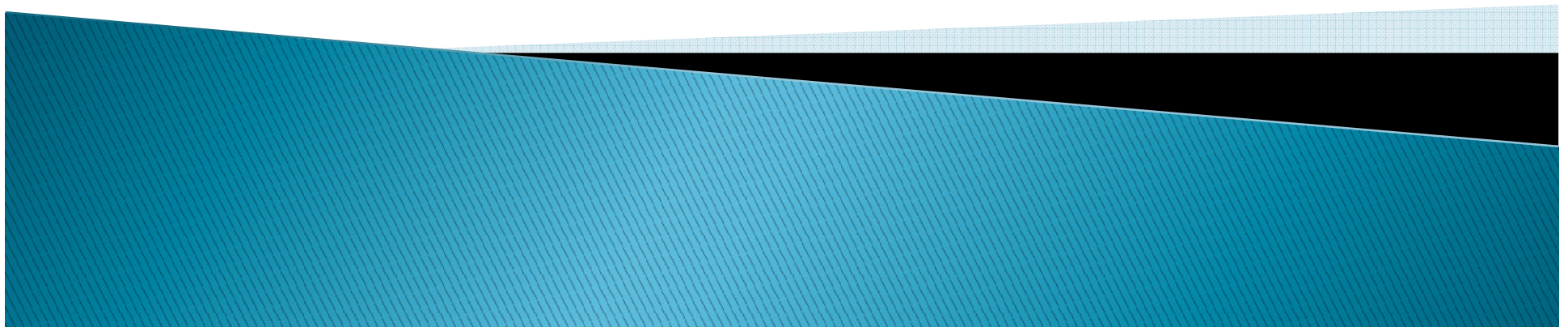


# Amazon Relational Database Service



# Ablauf

- ▶ Was ist Amazon RDS?
- ▶ Datenbank Typen
- ▶ DB Instanzen
- ▶ Features
- ▶ Kosten
- ▶ Live Demo
- ▶ Fazit

# Was ist Amazon RDS?

- ▶ Web-Service von Amazon
- ▶ Erlaubt mieten von Datenbanken
- ▶ Einrichtung, Betrieb und Skalierung übernimmt Anbieter

# Datenbank Typen

- ▶ MySQL
- ▶ Oracle
- ▶ SQL Server

# DB Instanzen

Designation	Description
db.t1.micro	Micro DB Instance: 613 MB memory, up to 1 ECU, 64-bit platform, Low I/O Capacity. <b>SQL Server only.</b>
db.m1.small	Small DB Instance: 1.7 GB memory, 1 ECU (1 virtual core with 1 ECU), 64-bit platform, Moderate I/O Capacity
db.m1.large	Large DB Instance: 7.5 GB memory, 4 ECUs (2 virtual cores with 2 ECUs each), 64-bit platform, High I/O Capacity
db.m1.xlarge	Extra Large DB Instance: 15 GB of memory, 8 ECUs (4 virtual cores with 2 ECUs each), 64-bit platform, High I/O Capacity. <b>MySQL only.</b>
db.m2.xlarge	High-Memory Extra Large Instance: 17.1 GB memory, 6.5 ECU (2 virtual cores with 3.25 ECUs each), 64-bit platform, High I/O Capacity
db.m2.2xlarge	High-Memory Double Extra Large DB Instance: 34 GB of memory, 13 ECUs (4 virtual cores with 3.25 ECUs each), 64-bit platform, High I/O Capacity
db.m2.4xlarge	High-Memory Quadruple Extra Large DB Instance: 68 GB of memory, 26 ECUs (8 virtual cores with 3.25 ECUs each), 64-bit platform, High I/O Capacity

# Features

## Automatisches Software-Patching

- ▶ Automatische Installation neuer Patches
- ▶ Alternativ kann Versionsmanagement für DB-Engines verwendet werden

# Features

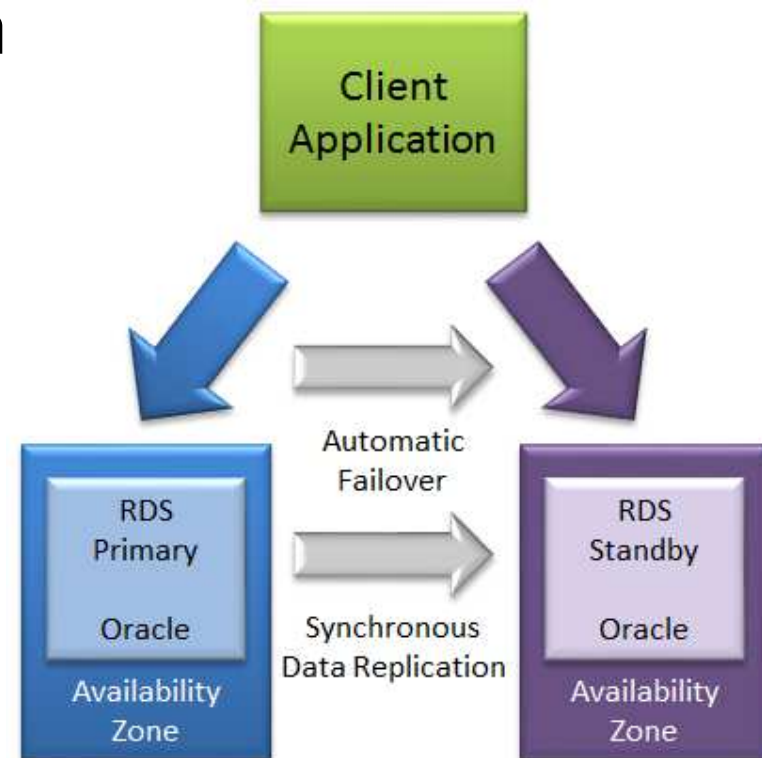
## Backup und Restoration

- ▶ Automatische Backups in vorgegebenen Zeitintervallen
- ▶ Aufbewahrung bis zu 35 Tage
- ▶ Wiederherstellbar ab 5 min durch Speichern der Transaktionslogs

# Features

## Replizierung – Multi-AZ

- ▶ Erstellt 2. Datenbank in anderer AZ
- ▶ Umlenkung bei Ausfall
- ▶ Verdoppelung der Kosten





# Features

## Replizierung – Read Replica

- ▶ Nur MySQL
- ▶ Nutzt integrierte Replikations-Technologie
- ▶ Datenbank-Kopie mit asynchronem Schreiben
- ▶ Kombinierbar mit Multi-AZ

# Features

## Amazon Virtual Private Cloud

- ▶ Ermöglicht virtuelles Netzwerk innerhalb der Amazon Cloud
- ▶ Erlaubt virtuelle Netzwerktopologien mit anderen Amazon Diensten

# Features

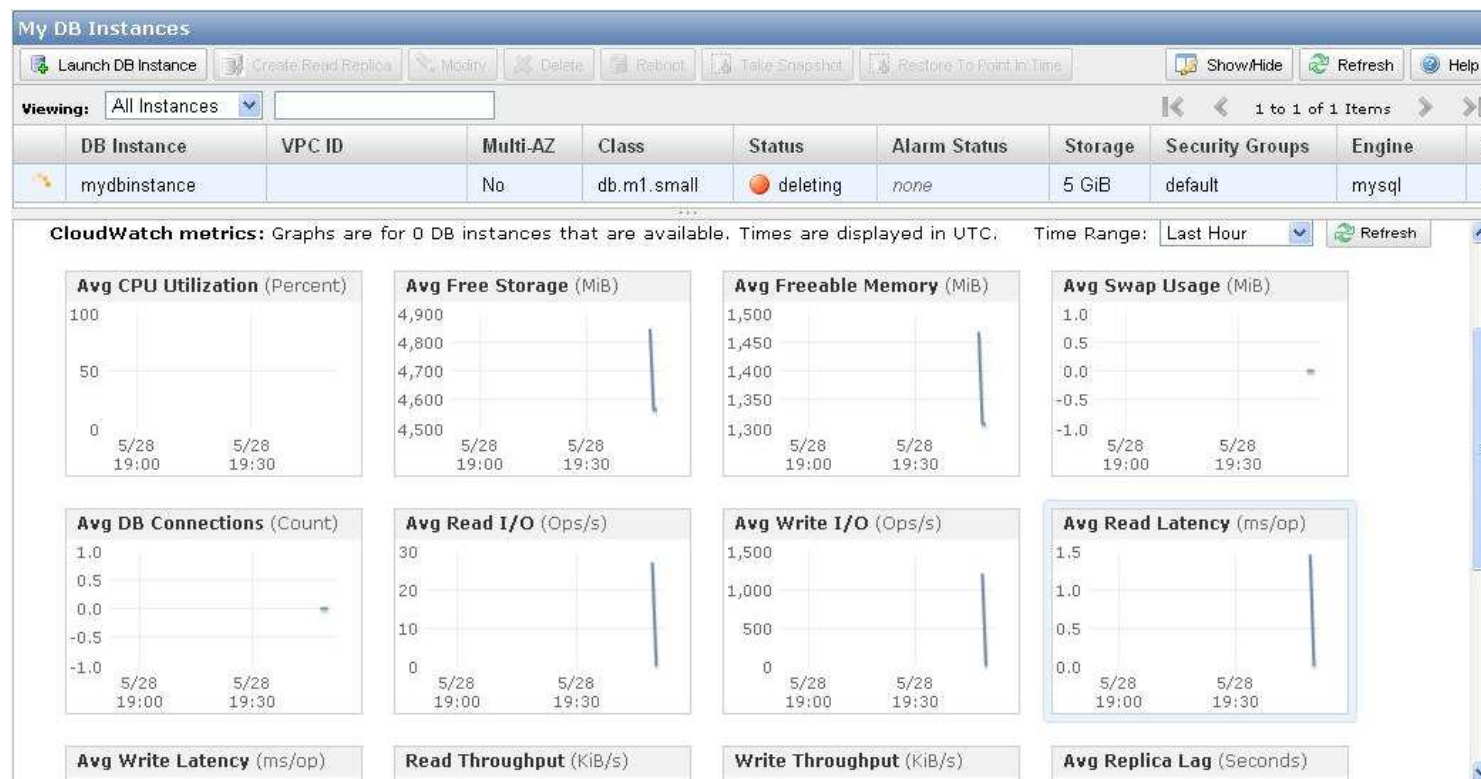
## Amazon RDS API

- ▶ API zur Steuerung des Dienstes
- ▶ Für:
  - Web-Services
  - HTTP-Query-based Requests
  - PHP
  - Java
  - Ruby
  - Python
  - .NET

# Features

## DB Instance Monitoring

- ▶ Web-Anwendung für Verwaltung und Monitoring



# Kosten

- ▶ Abhängig von Availability Zone, DB Type und DB Instanz
- ▶ Schwankungen bei MySQL Small DB Instance zwischen 0,105\$/h in Virginia zu 0,15\$/h in Irland
- ▶ Wahl zwischen On Demand und Reserved Instance

# Kosten

## MySQL – Irland – On Demand

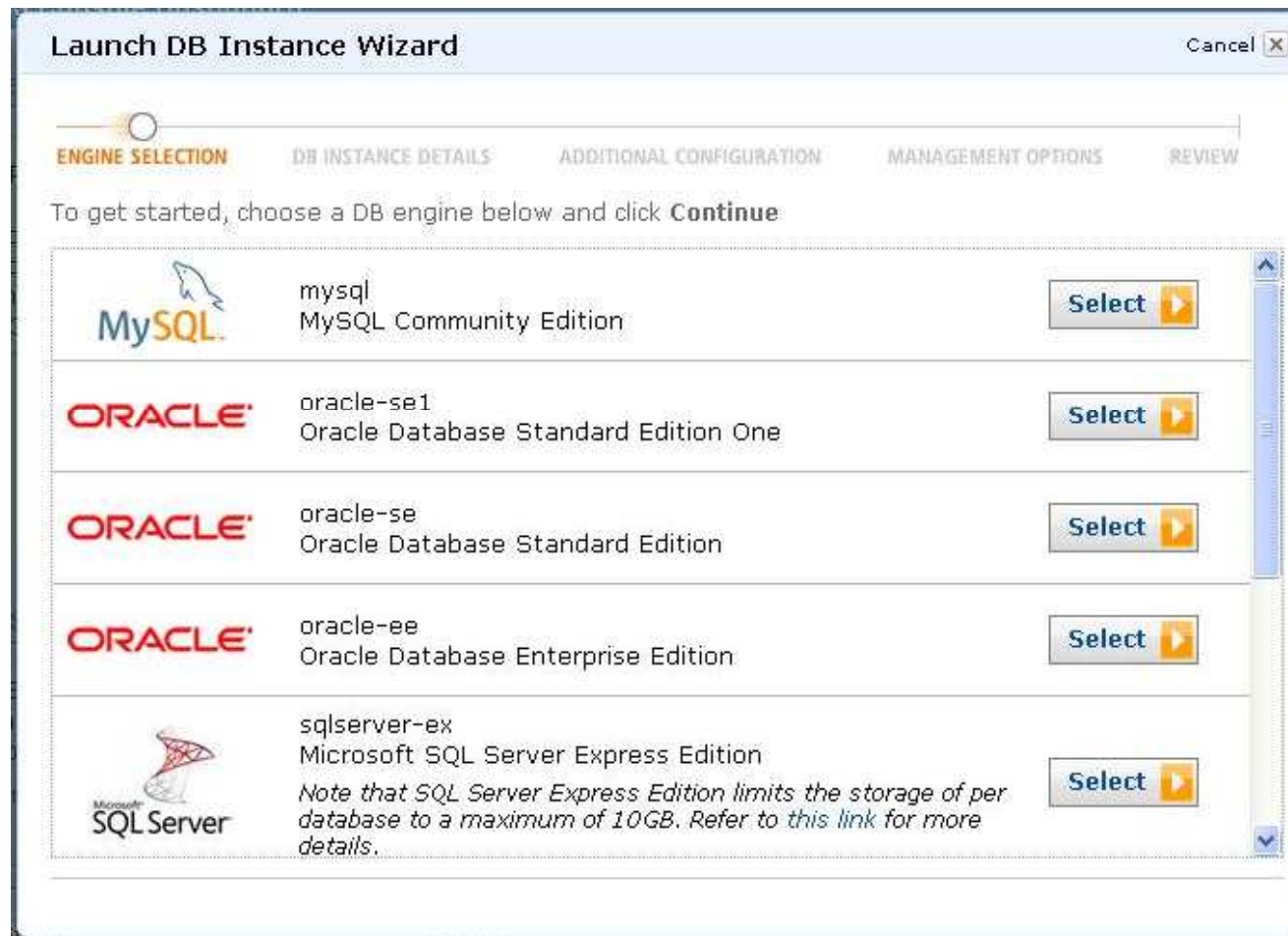
DB Instance-Klasse (On-Demand)	Preis pro Stunde
Small DB Instance	\$0,115
Large DB Instance	\$0,455
Extra Large DB Instance	\$0,920
<b>High-Memory DB Instance-Klasse</b>	
Extra Large DB Instance	\$0,655
Double Extra Large DB Instance	\$1,315
Quadruple Extra Large DB Instance	\$2,630

# Kosten

## MySQL – Irland – Reserved Instance

	Laufzeit 1 Jahr		Laufzeit 3 Jahre	
	Vorabzahlung	Stundensatz	Vorabzahlung	Stundensatz
Small (Standard)	\$69	\$0,066 pro Stunde	\$106	\$0,052 pro Stunde
Large	\$276	\$0,264 pro Stunde	\$425	\$0,208 pro Stunde
Extra Large	\$552	\$0,530 pro Stunde	\$850	\$0,415 pro Stunde
Extra Large (High Memory)	\$353	\$0,386 pro Stunde	\$548	\$0,305 pro Stunde
Double Extra Large (High Memory)	\$706	\$0,773 pro Stunde	\$1.096	\$0,611 pro Stunde
Quadruple Extra Large (High Memory)	\$1.412	\$1,546 pro Stunde	\$2.192	\$1,221 pro Stunde

# Aufsetzen einer DB





# Aufsetzen einer DB

The screenshot shows the 'Launch DB Instance Wizard' window with the 'DB INSTANCE DETAILS' step selected. The wizard is titled 'Launch DB Instance Wizard' and has a 'Cancel' button in the top right corner. The progress bar shows five steps: 'ENGINE SELECTION', 'DB INSTANCE DETAILS', 'ADDITIONAL CONFIGURATION', 'MANAGEMENT OPTIONS', and 'REVIEW'. The current step is 'DB INSTANCE DETAILS'. Below the progress bar, there is a text prompt: 'To get started, choose a DB Instance engine and class below'. The configuration options are as follows:

- Engine:** mysql
- License Model:** General Public License (dropdown)
- DB Engine Version:** 5.5.8 (dropdown)
- DB Instance Class:** db.m1.small (dropdown)
- Multi-AZ Deployment:** No (dropdown)
- Auto Minor Version Upgrade:** Yes (selected radio button), No (radio button)

Below these options, there is a section titled 'Provide the details for your RDS Database Instance.' with the following fields:

- Allocated Storage:\*** 5 GB (Minimum: 5 GB, Maximum 1024 GB). Higher allocated storage may improve IOPS performance.
- DB Instance Identifier:\*** mydbinstance (e.g. mydbinstance)
- Master User Name:\*** masteruser (e.g. awsuser)
- Master User Password:\*** ..... (e.g. mypassword)

At the bottom of the wizard, there are two buttons: '< Back' and 'Continue >'.

# Aufsetzen einer DB

**Launch DB Instance Wizard** Cancel X

ENGINE SELECTION DB INSTANCE DETAILS **ADDITIONAL CONFIGURATION** MANAGEMENT OPTIONS REVIEW

Provide the optional additional configuration details below.

**Database Name:**  (e.g. mydb)

Note: if no database name is specified then no initial mysql database will be created on the DB Instance.

**Database Port:**

**Choose a VPC:**  Only VPCs with a DB Subnet Group(s) are allowed

**Availability Zone:**

If you have custom DB Parameter Groups or DB Security Groups you would like to associate with this DB Instance, select them below, otherwise proceed with default settings.

**DB Parameter Group:** default.mysql5.5

**DB Security Groups:** default

[Back](#)

# Aufsetzen einer DB

**Launch DB Instance Wizard** Cancel X

ENGINE SELECTION DB INSTANCE DETAILS ADDITIONAL CONFIGURATION **MANAGEMENT OPTIONS** REVIEW

The number of days for which automated backups are retained. Setting this parameter to a positive number enables backups. Setting this parameter to 0 disables automated backups. Please note that automated backups are currently **supported for InnoDB storage engine only**. If you are using MyISAM, refer to details here.

**Backup Retention Period:** 1 days

The daily time range during which automated backups are created if automated backups are enabled

**Backup Window:**  No Preference  Select Window

Start Time: 00 : 00 UTC

Duration: 0.5 hours

The weekly time range (in UTC) during which system maintenance can occur:

**Maintenance Window:**  No Preference  Select Window

< Back Continue ▶

# Aufsetzen einer DB

**Launch DB Instance Wizard** Cancel X

ENGINE SELECTION DB INSTANCE DETAILS ADDITIONAL CONFIGURATION MANAGEMENT OPTIONS **REVIEW**

Please review the information below, then click **Launch**

**Engine:** mysql  
**Engine Version:** 5.5.8  
**License Model:** general-public-license  
**Auto Minor Ver. Upgrade:** Yes  
**DB Instance Class:** db.m1.small  
**Multi-AZ Deployment:** No  
**Allocated Storage:** 5  
**DB Instance Identifier:** mydbinstance  
**Master User Name:** masteruser  
**Master User Password:** \*\*\*\*\*

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**Database Name:** testdb  
**Database Port:** 3306  
**Availability Zone:** us-east-1a  
**DB Parameter Group:** default.mysql5.5  
**DB Security Group(s):** default

---

**Backup Retention Period:** 1  
**Backup Window:** 00:00-00:30  
**Maintenance Window:** No Preference

< Back Launch DB Instance

# Fazit

- ▶ Gute Verwaltung
- ▶ Für Privatanwender zu teuer
- ▶ Möglicherweise für Mittelstand rentabel

# Quellen

- ▶ <http://aws.amazon.com/de/rds/>  
Amazon Relational Database Service (Amazon RDS)
- ▶ <http://docs.amazonwebservices.com/AmazonRDS/latest/UserGuide/Welcome.html>  
Amazon Relational Database Service User Guide
- ▶ <http://aws.amazon.com/de/rds/faqs/>  
Amazon RDS – FAQ
- ▶ [http://aws.amazon.com/articles/3586?\\_encoding=UTF8&jiveRedirect=1](http://aws.amazon.com/articles/3586?_encoding=UTF8&jiveRedirect=1)  
Getting Started with the AWS SDK for Java
- ▶ <http://docs.amazonwebservices.com/AWSJavaSDK/latest/javadoc/index.html>  
AWS SDK for Java API Reference – 1.3.10
- ▶ <http://docs.amazonwebservices.com/AmazonRDS/latest/GettingStartedGuide/SignUp.html>  
Amazon Relational Database Service Getting Started Guide



**Danke für Ihre  
Aufmerksamkeit**

