Tutorial: Create a VPC for use with a DB instance (IPv4 only)

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Amazon RDS API Reference (https://docs.aws.amazon.com/Am

AWS CLI commands for Amazon RDS (https://docs.aws.amazo

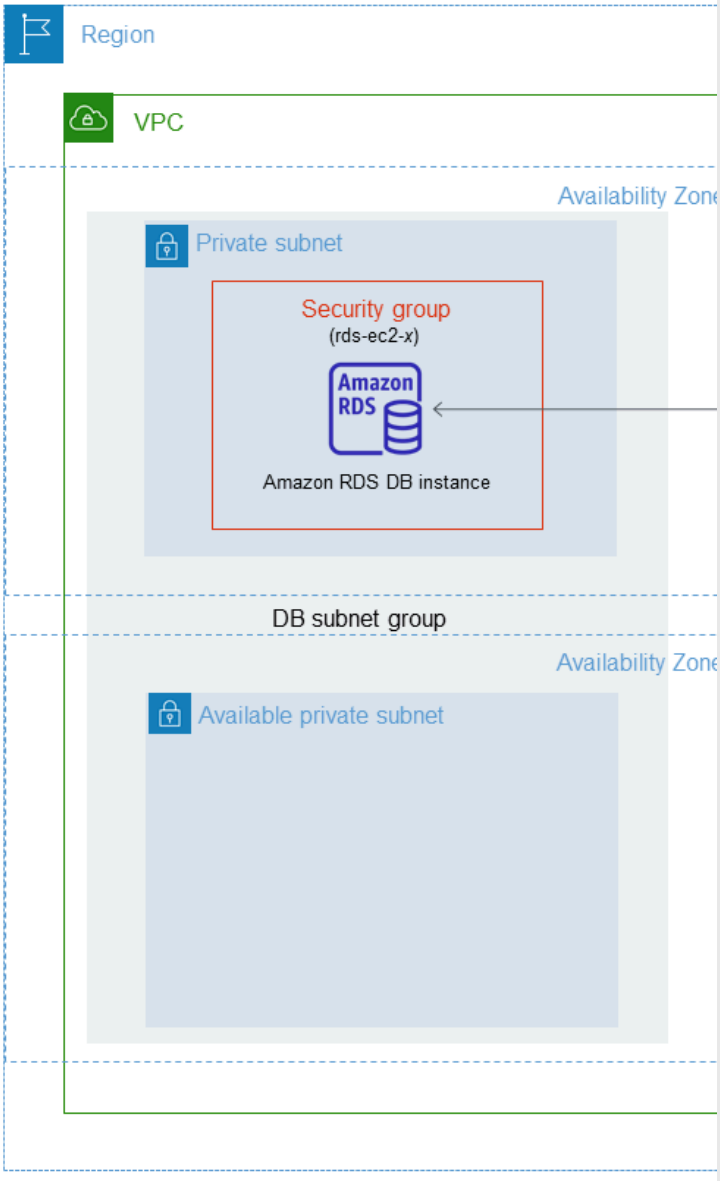
groups (Overview.RDSSecurityGroups.html)

Master user account privileges (UsingWithRDS.MasterAccounts.htm

SDKs & Tools (https://aws.amazon.com/tools/)

mmon scenario includes a DB instance in a virtu
VPC shares data with a web server that is runnir
for this scenario.

The following diagram shows this scenario. For infor
accessing a DB instance in a VPC (./USER_VPC.Scenaric



Your DB instance needs to be available only to your
create a VPC with both public and private subnets. T
can reach the public internet. The DB instance is hos
the DB instance because it is hosted within the same
internet, providing greater security.

This tutorial configures an additional public and priv
aren't used by the tutorial. An RDS DB subnet group
additional subnet makes it easier to switch to a Mult

This tutorial describes configuring a VPC for Amazor
create a web server for this VPC scenario, see Tutoria
(./TUT_WebAppWithRDS.html) . For more information a
Guide (https://docs.aws.amazon.com/AmazonVPC/latest/
(https://docs.aws.amazon.com/vpc/latest/userguide/) .

> **Tip**
>
> You can set up network connectivity between
> automatically when you create the DB instanc
> described in this tutorial. For more informatic
> an EC2 instance (./USER_CreateDBInstance.html#

Create a VPC with private and p

Use the following procedure to create a VPC with bo

To create a VPC and subnets

1. Open the Amazon VPC console at https://consol
(https://console.aws.amazon.com/vpc/) .
2. In the top-right corner of the AWS Management
example uses the US West (Oregon) Region.
3. In the upper-left corner, choose **VPC dashboard**
4. For **Resources to create** under **VPC settings**, cho
5. For the **VPC settings**, set these values:
   - **Name tag auto-generation** – `tutorial`
   - **IPv4 CIDR block** – `10.0.0.0/16`

- **IPv6 CIDR block – No IPv6 CIDR block**
- **Tenancy – Default**
- **Number of Availability Zones (AZs) – 2**
- **Customize AZs** – Keep the default values.
- **Number of public subnet – 2**
- **Number of private subnets – 2**
- **Customize subnets CIDR blocks** – Keep the
- **NAT gateways ($) – None**
- **VPC endpoints – None**
- **DNS options** – Keep the default values.

> **Note**
>
> Amazon RDS requires at least two subnet
> AZ DB instance deployments. This tutoria
> requirement makes it easier to convert to

6. Choose **Create VPC**.

Create a VPC security group fo

Next, you create a security group for public access. T
inbound rules to your VPC security group. These allo

To create a VPC security group

1. Open the Amazon VPC console at https://consol
(https://console.aws.amazon.com/vpc/) .
2. Choose **VPC Dashboard**, choose **Security Group**
3. On the **Create security group** page, set these va
   - **Security group name:** `tutorial-securit`
   - **Description:** `Tutorial Security Group`
   - **VPC:** Choose the VPC that you created earlie
4. Add inbound rules to the security group.
   a. Determine the IP address to use to connect
   determine your public IP address, in a differ

https://checkip.amazonaws.com (https://c
`203.0.113.25/32`.

In many cases, you might connect through a
firewall without a static IP address. If so, fin

> **Warning**
>
> If you use `0.0.0.0/0` for SSH acces
> your public instances using SSH. This
> environment, but it's unsafe for produ
> specific IP address or range of addres

b. In the **Inbound rules** section, choose **Add ru**
c. Set the following values for your new inbou
instance. If you do this, you can connect to y
other utilities. You also connect to your EC2
   - **Type:** SSH
   - **Source:** The IP address or range from St
d. Choose **Add rule**.
e. Set the following values for your new inbou
   - **Type:** HTTP
   - **Source:** `0.0.0.0/0`

5. Choose **Create security group** to create the secu
   Note the security group ID because you need it l

Create a VPC security group for

To keep your DB instance private, create a second se
instancesin your VPC, you add inbound rules to your
server only.

To create a VPC security group

1. Open the Amazon VPC console at https://consol
(https://console.aws.amazon.com/vpc/) .
2. Choose **VPC Dashboard**, choose **Security Group**
3. On the **Create security group** page, set these va

- **Security group name:** `tutorial-db-secu`
- **Description:** `Tutorial DB Instance Se`
- **VPC:** Choose the VPC that you created earlie

4. Add inbound rules to the security group.
   a. In the **Inbound rules** section, choose **Add ru**
   b. Set the following values for your new inbou Amazon EC2 instance. If you do this, you car doing so, you can store and retrieve data fro
      - **Type:** `MySQL/Aurora`
      - **Source:** The identifier of the **tutorial-se** in this tutorial, for example: **sg-9edd5cf**
5. Choose **Create security group** to create the secu

Create a DB subnet group

A *DB subnet group* is a collection of subnets that you instances. A DB subnet group makes it possible for y instances.

To create a DB subnet group

1. Identify the private subnets for your database ir
   a. Open the Amazon VPC console at https://co (https://console.aws.amazon.com/vpc/) .
   b. Choose **VPC Dashboard**, and then choose **S**
   c. Note the subnet IDs of the subnets named **t subnet-private2-us-west-2b**.
      You need the subnet IDs when you create yo
2. Open the Amazon RDS console at https://conso (https://console.aws.amazon.com/rds/) .
   Make sure that you connect to the Amazon RDS
3. In the navigation pane, choose **Subnet groups**.
4. Choose **Create DB subnet group**.
5. On the **Create DB subnet group** page, set these
   - **Name:** `tutorial-db-subnet-group`

- **Description:** `Tutorial DB Subnet Grou`
- **VPC: tutorial-vpc (vpc-** *`identifier`***)**

6. In the **Add subnets** section, choose the **Availabi**

   For this tutorial, choose **us-west-2a** and **us-west** private subnets you identified in the previous st

7. Choose **Create**.

   Your new DB subnet group appears in the DB su DB subnet group to see details in the details par of the subnets associated with the group.

> **Note**
>
> If you created this VPC to complete Tutorial: ((./TUT_WebAppWithRDS.html) , create the DB in Amazon RDS DB instance (./CHAP_Tutorials.Wel

Deleting the VPC

After you create the VPC and other resources for this needed.

> **Note**
>
> If you added resources in the VPC that you cre before you can delete the VPC. For example, t or Amazon RDS DB instances. For more inform (https://docs.aws.amazon.com/vpc/latest/usergui *VPC User Guide*.

To delete a VPC and related resources

1. Delete the DB subnet group.
   a. Open the Amazon RDS console at https://cc (https://console.aws.amazon.com/rds/) .
   b. In the navigation pane, choose **Subnet grou**
   c. Select the DB subnet group you want to del
   d. Choose **Delete**, and then choose **Delete** in t

2. Note the VPC ID.
    a. Open the Amazon VPC console at https://cc (https://console.aws.amazon.com/vpc/) .
    b. Choose **VPC Dashboard**, and then choose **V**
    c. In the list, identify the VPC that you created
    d. Note the **VPC ID** of the VPC that you create
3. Delete the security groups.
    a. Open the Amazon VPC console at https://cc (https://console.aws.amazon.com/vpc/) .
    b. Choose **VPC Dashboard**, and then choose **S**
    c. Select the security group for the Amazon RD
    d. For **Actions**, choose **Delete security groups**,
    e. On the **Security Groups** page, select the sec **tutorial-securitygroup**.
    f. For **Actions**, choose **Delete security groups**,
4. Delete the VPC.
    a. Open the Amazon VPC console at https://cc (https://console.aws.amazon.com/vpc/) .
    b. Choose **VPC Dashboard**, and then choose **V**
    c. Select the VPC you want to delete, such as **t**
    d. For **Actions**, choose **Delete VPC**.

       The confirmation page shows other resource deleted, including the subnets associated wi
    e. On the confirmation page, enter `delete`, a

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Create VPC private public subnets, security groups for public web server, private DB cluster; create DB subnet group.

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AmazonRDS › UserGuide

Regions, Availability Zones, and Local Zones (https://docs.aws.amazon.com/AmazonRDS/latest…

Amazon RDS enables placing resources like DB instances in multiple locations including Regions, Availability Zones, and Local Zones for low-latency access.

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