To create a **NAT Gateway in a public subnet** and allow **instances in a private subnet to access the internet**, follow these steps in AWS:

**Step-by-Step Guide**

**1. Create a VPC**

* Go to **VPC Dashboard** → **Your VPCs** → **Create VPC**
* Choose **VPC only** or **VPC with subnets** (if you want AWS to create subnets for you)
* Provide:
  + Name: MyVPC
  + IPv4 CIDR block: 10.0.0.0/16
  + Leave IPv6 as default (optional)
  + Tenancy: Default

**2. Create Subnets**

* **Public Subnet** (e.g., 10.0.1.0/24)
  + Enable **Auto-assign public IPv4 address**
* **Private Subnet** (e.g., 10.0.2.0/24)

**3. Create and Attach an Internet Gateway**

* Go to **Internet Gateways** → **Create Internet Gateway**
* Name it (e.g., MyIGW)
* Attach it to your VPC

**4. Create Route Tables**

* **Public Route Table**:
  + Associate it with the **public subnet**
  + Add a route:
  + Destination: 0.0.0.0/0
  + Target: **Internet Gateway**
* **Private Route Table**:
  + Associate it with the **private subnet**
  + Leave it without a default route for now

**5. Create a NAT Gateway**

* Go to **NAT Gateways** → **Create NAT Gateway**
* Choose:
  + Subnet: **Public Subnet**
  + Elastic IP: Allocate a new one or use an existing one
* Click **Create NAT Gateway**

**6. Update Private Route Table**

* Go to **Route Tables** → Select the **Private Route Table**
* Add a route:
  + Destination: 0.0.0.0/0
  + Target: **NAT Gateway**

**7. Launch EC2 Instances**

* **Public Instance**:
  + Launch in **Public Subnet**
  + Assign a public IP
  + Use for SSH access or testing
* **Private Instance**:
  + Launch in **Private Subnet**
  + No public IP
  + Use the public instance as a **bastion host** or connect via **Session Manager**

**8. Test Internet Access**

* SSH into the **public instance**
* From there, SSH into the **private instance**
* Try ping google.com or yum update to verify internet access via the NAT Gateway

Would you like a **diagram** of this architecture or a **Terraform/CloudFormation template** to automate the setup?