To create a new EC2 instance with specific properties and connect to it using Instance Connect and SSH, follow these steps:

**Step 1: Sign in to AWS Management Console**

* Go to the [AWS Management Console](https://aws.amazon.com/console/) and log in with your credentials.

**Step 2: Access the EC2 Dashboard**

* Use the search bar at the top to find "EC2" and click on it to open the EC2 Dashboard.

**Step 3: Launch a New Instance**

* In the EC2 Dashboard, find the "Instances" section on the left sidebar and click on "Instances".
* Click the “Launch instances” button.

**Step 4: Choose an Amazon Machine Image (AMI)**

* Select "Amazon Linux" as the operating system image for your instance.

**Step 5: Choose an Instance Type**

* For this exercise, you can select a type that fits your needs. If not specified, "t2.micro" is a good default choice, especially if you are eligible for the AWS Free Tier. Click “Next: Configure Instance Details”.

**Step 6: Configure Instance Details**

* **Number of instances:** 1
* **Network:** Select "vpc-ec2-public" from the dropdown.
* **Subnet:** Choose "ec2-public-subnet".
* **Auto-assign Public IP:** Set to "Enable" to ensure your instance is accessible from the internet.
* Proceed by clicking “Next: Add Storage”.

**Step 7: Add Storage**

* Set the size to 8 GiB as required for your root volume. Click “Next: Add Tags”.

**Step 8: Add Tags**

* Click "Add Tag" and enter "Name" in the Key field and "studentname-ec2" in the Value field. This will name your instance "studentname-ec2". Click “Next: Configure Security Group”.

**Step 9: Configure Security Group**

* You may select an existing security group that allows SSH access or create a new one. To create a new one, ensure the rule allows SSH (port 22) access from your IP address or from anywhere (0.0.0.0/0), although the latter is less secure.

**Step 10: Review and Launch**

* Review your instance settings. Click “Launch” when you're ready.
* When prompted, select the "MLOps" key pair from the dropdown. If it doesn't exist, go back and create or import a key pair named "MLOps". Acknowledge that you have access to the selected private key file and click “Launch Instances”.

**Connecting to Your EC2 Instance**

**Using Instance Connect (Browser-based SSH Connection)**

* Go to the EC2 Dashboard and find your newly created instance in the "Instances" section.
* Select your instance and click “Connect”.
* Choose "EC2 Instance Connect" method and click “Connect”.

**Using SSH**

* Open a terminal on your local machine.
* Ensure you have the private key (MLOps.pem) for the "MLOps" key pair. Change the file permissions to be read-only by you, by running **chmod 400 MLOps.pem**.
* Use the SSH command to connect to your instance. You'll find the public DNS or IP of your instance in the EC2 Dashboard. The command will look something like this:

ssh -i /path/to/MLOps.pem ec2-user@<Your-Instance-Public-DNS>

* Replace **/path/to/MLOps.pem** with the actual file path of your "MLOps" private key and **<Your-Instance-Public-DNS>** with your instance's public DNS or IP address.

Congratulations! You've successfully created an EC2 instance with specific properties and connected to it using either Instance Connect or SSH.