**How to BYOIP**

From IPv4.GLOBAL

After you buy your /24, here’s how you get started using it. AWS has a somewhat complicated but free way to Bring Your Own IP ([BYOIP](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.aws.amazon.com%2FAWSEC2%2Flatest%2FUserGuide%2Fec2-byoip.html&data=05%7C01%7CPTobey%40hilcoglobal.com%7C8eb2e53bffa74801990208db9205e1cd%7Cff73069906cc473891ab5061e4890dca%7C0%7C0%7C638264326195475309%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Z0UCwSneLEBhwt3FoT2AD4hYP9427yz4WmJzUKPpL4c%3D&reserved=0)):

1. Create a ROA. In [ARIN](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.arin.net%2Fresources%2Fmanage%2Frpki%2F&data=05%7C01%7CPTobey%40hilcoglobal.com%7C8eb2e53bffa74801990208db9205e1cd%7Cff73069906cc473891ab5061e4890dca%7C0%7C0%7C638264326195475309%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=t98NeHtCqxzURu5dINl2iUri%2FmrVHcqQK6YLvOsvdu0%3D&reserved=0), the easiest way is to log into [ARIN Online](https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.arin.net%2Fresources%2Fguide%2Faccount%2F&data=05%7C01%7CPTobey%40hilcoglobal.com%7C8eb2e53bffa74801990208db9205e1cd%7Cff73069906cc473891ab5061e4890dca%7C0%7C0%7C638264326195475309%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=gs%2FQ306lUzC3kGUN3lrZYjuK31ZnRgSjvXW2kjBh5%2Fk%3D&reserved=0) > Routing Security > RPKI, then next to your OrgID choose Sign up for RPKI, Sign up for Hosted, Hosted Certificate, agree to RPKI Terms, Submit. Then Manage ROAs > Create ROA, and enter the ASN for AWS (16509 and 14618, you need both), your Prefix (IP address block), and Max Length (24, usually). Then Next > Submit.
2. Create a key pair for AWS authentication, if you don’t already have one. You will need a unix-like command like console for this (such as a free EC2 instance on AWS):
	1. $ openssl genpkey -aes256 -algorithm RSA -pkeyopt rsa\_keygen\_bits:2048 -out private-key.pem
	2. Choose a password
	3. $ openssl rsa -in private-key.pem -pubout > public-key.pem
	4. $ openssl req -new -x509 -key private-key.pem -days 365 | tr -d "\n" > certificate.pem
3. Add that public certificate to the open text section of Whois. For ARIN, go back to ARIN Online > IP Addresses > Manage Networks, find your block, Actions > Modify
	1. From the unix console, cat certificate.pem
	2. Copy everything including -----BEGIN CERTIFICATE----- and -----END CERTIFICATE-----
	3. Paste that into the Public Comments section, Save.
4. Using the AWS Command Line Interface (AWS CLI) – there’s no other way, so install aws-cli if you need to – provision the block:
	1. Find your AWS account number; from console.aws.amazon.com, click the name at the top right, and record the numbers after “My Account”
	2. Create an environmental variable calls text\_message to store your auth message, using your account number and block: text\_message="1|aws|*123456789012*|*192.0.2.0/24*|*20241201*|SHA256|RSAPSS"
	3. Similarly, create an environmental variable to hold the private key: signed\_message=$( echo -n $text\_message | openssl dgst -sha256 -sigopt rsa\_padding\_mode:pss -sigopt rsa\_pss\_saltlen:-1 -sign private-key.pem -keyform PEM | openssl base64 | tr -- '+=/' '-\_~' | tr -d "\n")
	4. Provision the block:  aws ec2 provision-byoip-cidr --cidr *192.0.2.0/24*--cidr-authorization-context Message="$text\_message",Signature="$signed\_message" --region us-east-1
5. Wait for AWS to complete the provisioning. It could take up to a week, but might take as little as a few hours. Run aws ec2 describe-byoip-cidrs --max-results 5 --region us-east-1 to look for the block.
6. Tell AWS to advertise the addressed so the rest of the Internet can reach them: aws ec2 advertise-byoip-cidr --cidr *192.0.2.0/24*--region us-east-1

The whole process, except waiting for AWS to provision, should take less than 20 minutes. Text in courier fontabove should be pasted exactly, after replacing text in red with your specific values.