10 Career-Accelerating Pulumi Project Ideas (AWS + Azure)

These 10 Pulumi project ideas will help you accelerate your career by building real-world, impressive, and in-demand infrastructure setups using Pulumi.

5 AWS Projects Using Pulumi

1. Serverless Web App with API Gateway + Lambda + DynamoDB

- Build an API using API Gateway and Lambda.

- Store data in DynamoDB.

- (Optional) Host frontend in S3 + CloudFront.

- Skills: IAM, serverless, NoSQL.

2. Highly Available EC2 Web Server with Auto Scaling & ALB

- Deploy EC2 instances in an Auto Scaling Group behind an ALB.

- Serve app using userdata script.

- Skills: VPC, ASG, ALB, EC2.

3. Multi-tier Architecture with RDS + ECS + ALB

- Frontend container on ECS Fargate.

- Backend API container on ECS Fargate.

- RDS PostgreSQL as backend.

- Skills: Containers, databases, networking.

4. Data Pipeline with S3 -> Lambda -> Athena -> QuickSight

- Ingest data into S3.

- Process via Lambda.

- Query with Athena.

- Visualize in QuickSight.

- Skills: Data engineering, analytics.

5. Static Website with S3 + CloudFront + Route53 + ACM

- Host website in S3.

- Use CloudFront for CDN.

- SSL with ACM.

- DNS with Route53.

- Skills: CDN, SSL, DNS.

5 Azure Projects Using Pulumi

1. App Service + Azure SQL + Managed Identity

- Deploy App Service + Azure SQL.

- Secure access using Managed Identity.

- Skills: PaaS, identity, secure auth.

2. AKS Cluster with Ingress + HPA

- Deploy AKS cluster.

- Add NGINX ingress controller.

- Configure Horizontal Pod Autoscaler.

- Skills: Kubernetes, autoscaling, ingress.

3. Serverless Workflow with Logic Apps + Functions + Blob Storage

- Blob triggers Azure Function.

- Function starts Logic App workflow.

- Workflow sends alerts.

- Skills: Event-driven, serverless, integration.

4. Static Web App + Cosmos DB + API Management

- Azure Static Web Apps frontend.

- Cosmos DB backend.

- API Management as gateway.

- Skills: JAMstack, API gateway, NoSQL.

5. Data Lake Gen2 + Synapse + Data Factory Pipeline

- Data Lake Gen2 for storage.

- Data Factory pipeline moves data.

- Synapse SQL Pool + external tables.

- Skills: Data engineering, ETL.

Pro tips:

- Add diagrams and READMEs to each project repo.

- Use Pulumi config and secrets.

- Automate deployments with CI/CD.

These projects showcase modern cloud skills and will stand out in portfolios and interviews.