

Day 1 - Smart Cloud Platforms Lab Guide

Perfect Training Center - Hands-On Exercises

Show Image

Lab Overview

- **Duration:** 30-45 minutes
- **Difficulty:** Beginner friendly
- **Requirements:** Internet connection, email address
- **Cost:** FREE (using free tiers)

Lab Objectives

By completing these labs, you will:

1. Create a cloud account
2. Launch a live website
3. Explore cloud dashboard
4. Understand cloud costs
5. Practice cloud management

Lab Exercises

Lab 1: Cloud Platform Account Setup (5-10 minutes)

Option A: Google Cloud Platform (Recommended for beginners)

1. **Navigate to:** <https://cloud.google.com/free>
2. **Click:** "Start free" button
3. **Sign in:** Use Gmail account

4. Fill form:

- Country: Egypt
- Account type: Individual
- Name & Address
- Phone verification

5. Payment info:

- Credit/Debit card required
- NO charges during free trial
- \$300 credit for 90 days

6. Success! You'll see GCP Console

 **Screenshot Point:** Take screenshot of GCP dashboard

Option B: Amazon Web Services (AWS)

1. **Navigate to:** <https://aws.amazon.com/free>

2. **Click:** "Create Free Account"

3. Account info:

- Email (use personal, not work)
- Password (save it!)
- Account name

4. Contact info:

- Full name
- Phone number
- Address
- Security check

5. Payment info:

- Credit/Debit card
- \$1 temporary charge (refunded)

6. Success! AWS Console appears

 **Screenshot Point:** Take screenshot of AWS dashboard

Option C: Microsoft Azure

1. **Navigate to:** <https://azure.microsoft.com/free>

2. **Click:** "Start free"

3. **Sign in:** Microsoft account

4. **Verification:**

- Phone number
- Credit card
- Identity verification

5. **Success!** Azure Portal opens

 **Screenshot Point:** Take screenshot of Azure portal

Lab 2: Launch Your First Website (15-20 minutes)

Using AWS Lightsail (Simplest method)

Step 1: Access Lightsail

1. In AWS Console, search box type: **Lightsail**

2. Click on "Lightsail" service

3. Click orange "Create instance" button

Step 2: Configure Your Instance

1. **Instance location:**

- Keep default (closest to you)
- Note: EU (Frankfurt) good for Egypt

2. **Select platform:**

- Choose "Linux/Unix"
- Keep selected OS (Amazon Linux)

3. **Select blueprint:**

- Click "Apps + OS"
- Choose "WordPress"
- Latest version

4. Choose instance plan:

- Select FIRST option (\$3.50/month)
- First month FREE
- More than enough for testing

5. Name your instance:

- Enter:
- Or any name without spaces

6. Create!

- Click "Create instance"
- Wait 2-3 minutes
- Status changes to "Running"

Step 3: Access Your Website

1. Click on your instance name
2. Find "Public IP" (like 54.123.45.67)
3. Copy the IP address
4. Open new browser tab
5. Paste IP and press Enter

6. 🎉 Your WordPress site is LIVE!

📸 **Screenshot Point:** Screenshot your live website!

Step 4: Access WordPress Admin

1. In browser:
2. Username:
3. Password: Click instance → "Connect" → Look for password
4. Now you can customize your site!

Lab 3: Explore Cloud Features (10 minutes)

Dashboard Exploration

1. Go back to Lightsail console

2. Click your instance

3. Explore tabs:

Metrics Tab

- See CPU usage graph
- Network traffic in/out
- Disk performance
- All real-time data!

Try this: Refresh your website multiple times and watch network spike!

Networking Tab

- See Public IP (doesn't change)
- Private IP (internal)
- Firewall rules (ports open)
- IPv6 support

Snapshots Tab

- Click "Create snapshot"
- Name: **backup-1**
- This backs up entire website!
- Can restore anytime

Storage Tab

- See disk usage
- Can add more storage
- Attached/detached volumes

 **Screenshot Point:** Take screenshot of metrics graphs

Lab 4: Understanding Cloud Costs (5 minutes)

Cost Calculator Exercise

Your Scenario:

Small business website with:

- 1,000 visitors/month
- 50GB storage
- 5 email accounts
- Basic database

Calculate on AWS:

1. Go to: <https://calculator.aws/>

2. Click "Create estimate"

3. Add services:

- **EC2:**

- 1 instance
- t3.micro
- Region: EU

- **S3:**

- 50GB storage
- 1000 GET requests

- **RDS:**

- db.t3.micro
- 20GB storage

4. View estimate: ~\$25-30/month

Compare Traditional:

- Server purchase: \$3000
 - Monthly hosting: \$100
 - Maintenance: \$200/month
 - Total Year 1: \$6,600
- Cloud Year 1: \$360**
- Savings: \$6,240 (94%!)**

 **Screenshot Point:** Screenshot cost calculation

Lab 5: Clean Up Resources (5 minutes)

⚠️ IMPORTANT: Avoid Charges!

Delete Lightsail Instance:

1. Go to Lightsail console
2. Click : (3 dots) on instance
3. Select "Delete"
4. Type instance name to confirm
5. Click "Delete instance"

Delete Snapshots:

1. Go to "Snapshots" tab
2. Select snapshot
3. Click "Delete"
4. Confirm deletion

Verify Everything Deleted:

- No instances running
- No snapshots
- No static IPs
- No load balancers

✓ Cleanup complete - No charges!

🏆 Bonus Challenges

Challenge 1: Multi-Region Deployment

1. Create instance in different region
2. Compare latency from Egypt
3. Which region is fastest?

Challenge 2: Custom Domain

1. Register free domain (freenom.com)
2. Point to your IP

3. Access site via domain name

Challenge 3: Install SSL Certificate

1. Use Let's Encrypt

2. Enable HTTPS

3. Secure your site

Troubleshooting Guide

Common Issues & Solutions:

"Credit card declined"

- Use different card
- Check international transactions enabled
- Try PayPal if available

"Instance won't start"

- Check region has capacity
- Try different instance type
- Contact support

"Website not loading"

- Wait full 3 minutes
- Check correct IP
- Verify instance "Running"
- Check firewall allows HTTP (port 80)

"Can't find Lightsail"

- Check correct region
- Use search box
- Try direct URL: lightsail.aws.amazon.com

"Forgot to delete resources"

- Check billing dashboard
- Delete immediately

- Usually no charge if <24 hours
-

Lab Report Template

Copy and fill this:

Name: _____

Date: _____

Lab Completion Checklist:

- Created cloud account
- Launched WordPress site
- Explored dashboard features
- Calculated costs
- Cleaned up resources

Screenshots attached:

- Cloud dashboard
- Live website
- Metrics graphs
- Cost calculation

What I learned:

What surprised me:

My cloud project idea:

Post-Lab Learning

Watch These Videos:

1. AWS Lightsail Deep Dive (10 min)
 - Link: youtube.com/watch?v=lightSail123
2. Cloud Cost Optimization (15 min)

- Link: youtube.com/watch?v=cloudCost456

3. WordPress on Cloud (20 min)

- Link: youtube.com/watch?v=wpCloud789

Try These Next:

1. Install different apps (Node.js, Python)
2. Set up a database
3. Configure backups
4. Add monitoring

Free Courses:

1. AWS Cloud Practitioner Essentials

- 6 hours, free
- aws.training/cloud-practitioner

2. Google Cloud Essentials

- 4 hours, free
 - cloudskillsboost.google
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💡 Need Help?

During Lab:

- Raise hand for instructor
- Ask neighbor for help
- Check troubleshooting guide

After Lab:

- Email: labs@perfect-tc.com
- WhatsApp group: [Ask instructor]
- Office hours: [Schedule]

Online Resources:

- AWS Forums: forums.aws.amazon.com
- Stack Overflow: stackoverflow.com/questions/tagged/aws
- Reddit: [r/aws](https://www.reddit.com/r/aws)

Congratulations!

You've successfully: Created a cloud account Launched a live website
 Explored cloud features Understood cloud economics Practiced safe resource management

You're now a cloud practitioner!

Share Your Success:

- LinkedIn: "Just launched my first cloud website at @PerfectTC!"
 - Use hashtag: #PerfectCloudJourney
 - Tag: @PerfectTrainingCenter
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Instructor Notes Section

Pre-Lab Setup:

- Test all links work
- Have demo account ready
- Pre-create instances for demo
- Check internet speed
- Have backup screenshots

During Lab:

- Walk around helping
- Celebrate successes
- Note common issues
- Take group photo
- Ensure cleanup done

Post-Lab:

- Collect lab reports
 - Share additional resources
 - Answer remaining questions
 - Preview next session
 - Get feedback
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Next Review: December 2024