🎯 Allice Platform - Deployment Options Comparison

Choose the best deployment method for your needs.

Quick Comparison Table

Feature	Docker Compose	Google Cloud Run	Hostinger VPS	macOS Local	Windows Local
Difficulty	⭐ Easy	⭐⭐ Moderate	⭐⭐⭐ Advanced	⭐⭐ Moderate	⭐⭐ Moderate
Cost	Free (local)	$5-20/month	$10-30/month	Free	Free
Setup Time	5 minutes	15 minutes	30 minutes	15 minutes	15 minutes
Scalability	Limited	Excellent	Good	None	None
Maintenance	Low	Very Low	Medium	Low	Low
Production Ready	✅ Yes	✅ Yes	✅ Yes	❌ No	❌ No
Auto-scaling	❌ No	✅ Yes	❌ No	❌ No	❌ No
SSL/HTTPS	Manual	✅ Automatic	✅ Included	Manual	Manual
Backup	Manual	Automated	Manual	Manual	Manual

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1. 🐳 Docker Compose

Perfect For

- ✅ Quick local development
- ✅ Team development environments
- ✅ Small to medium production deployments
- ✅ Consistent environments across platforms
- ✅ Easy rollback and updates

Pros

- **Easiest setup** - One command to start

- **Isolated environment** - No conflicts with system packages
- **Reproducible** - Same environment everywhere
- **Quick updates** - Pull new image and restart
- **Multi-service** - Database and app together
- **Free** - No hosting costs for local use

Cons

- Requires Docker installed
- Limited to single machine (without orchestration)
- Resource overhead from containers
- Not auto-scaling

Best Use Cases

- Development and testing
- Proof of concept
- Small business internal tools
- Learning and experimentation

Cost

- **Local:** Free
- **Cloud VM:** Same as VPS costs

Quick Start

```
chmod +x docker-compose-start.sh
./docker-compose-start.sh
```

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2. ☁️ Google Cloud Run

Perfect For

- ✅ Production deployments
- ✅ Scalable applications
- ✅ Variable traffic patterns
- ✅ Minimal maintenance
- ✅ Professional/enterprise use

Pros

- **Auto-scaling** - Scales to zero, saves money
- **Managed infrastructure** - No server maintenance
- **Global deployment** - Multiple regions available
- **HTTPS included** - Automatic SSL certificates
- **Pay-per-use** - Only pay for actual usage
- **High availability** - Built-in redundancy
- **Professional** - Enterprise-grade platform

Cons

- Requires Google Cloud account
- Learning curve for GCP
- Potential cold starts
- Vendor lock-in
- Costs for high traffic

Best Use Cases

- Production web applications
- API services
- SaaS products
- Customer-facing applications
- Startups planning to scale

Cost Breakdown

- **Cloud Run:** $0.00002400 per vCPU-second
- **Cloud SQL (db-f1-micro):** ~$7/month
- **Storage/Network:** Usually < $5/month
- **Total:** $5-20/month for light usage
- **Free Tier:** 2 million requests/month free

Quick Start

```
chmod +x deploy-to-gcloud.sh
./deploy-to-gcloud.sh
```

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3. 🌐 Hostinger VPS

Perfect For

- ✅ Budget-conscious deployments
- ✅ Full control requirements
- ✅ Custom configurations
- ✅ Learning server administration
- ✅ Multiple services on one server

Pros

- **Affordable** - Lower cost than managed platforms
- **Full control** - Root access to server
- **Flexibility** - Install anything you need
- **Predictable costs** - Fixed monthly fee
- **Multiple apps** - Run several services
- **Direct access** - SSH into your server

Cons

- Requires system administration skills

- Manual security updates
- No auto-scaling
- Single point of failure
- You manage backups
- More time investment

Best Use Cases

- Budget-limited projects
- Learning server management
- Multiple small applications
- Custom server configurations
- Long-term stable workloads

Cost Breakdown

- **VPS 1:** $4/month (1 vCPU, 1GB RAM) - Basic
- **VPS 2:** $8/month (2 vCPU, 2GB RAM) - Recommended
- **VPS 3:** $15/month (3 vCPU, 3GB RAM) - Production
- **VPS 4:** $23/month (4 vCPU, 4GB RAM) - High traffic

Quick Start

```
scp -r ailice-deployment-package root@your-vps-ip:/root/
ssh root@your-vps-ip
cd /root/ailice-deployment-package
chmod +x deploy-to-hostinger.sh
./deploy-to-hostinger.sh
```

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4. 🍎 macOS Local Installation

Perfect For

- ✅ Development on Mac
- ✅ Local testing
- ✅ Learning the platform
- ✅ Offline work
- ✅ Privacy-sensitive work

Pros

- **No internet required** - Works offline
- **Fast development** - No deployment delays
- **Full debugging** - Direct access to everything
- **Free** - No hosting costs
- **Private** - Data stays on your machine
- **Easy iteration** - Instant code changes

Cons

- Not production-ready

- Only accessible locally
- Requires Mac hardware
- Manual dependency management
- No redundancy

Best Use Cases

- Development and testing
- Learning Allice platform
- Creating demos
- Prototyping features
- Personal projects

Requirements

- macOS 10.15 or later
- 8GB RAM minimum
- 10GB free disk space
- Admin access

Quick Start

```
chmod +x install-mac.sh
./install-mac.sh
```

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5. 🪟 Windows Local Installation

Perfect For

- ✅ Development on Windows
- ✅ Local testing
- ✅ Learning the platform
- ✅ Offline work
- ✅ Windows-only environments

Pros

- **No internet required** - Works offline
- **Fast development** - No deployment delays
- **Full debugging** - Direct access to everything
- **Free** - No hosting costs
- **Private** - Data stays on your machine
- **Desktop shortcut** - Easy to launch
- **Windows service** - Auto-start option

Cons

- Not production-ready
- Only accessible locally
- Requires Windows 10/11

- PowerShell execution policy
- No redundancy

Best Use Cases

- Development and testing
- Learning Allice platform
- Creating demos
- Prototyping features
- Personal projects

Requirements

- Windows 10/11
- 8GB RAM minimum
- 10GB free disk space
- Administrator access

Quick Start

```
Right-click install-windows.ps1 → Run with PowerShell
```

Decision Tree

Are you deploying to production?

NO → Use **Docker Compose**, **macOS**, or **Windows** installation
- Quick setup
- Free
- Full features for development

YES → Continue...

Do you need auto-scaling?

YES → Use **Google Cloud Run**
- Handles traffic spikes
- Scales to zero when idle
- Professional infrastructure

NO → Continue...

What's your budget?

< $10/month → Use **Hostinger VPS**
- Affordable
- Good performance
- More control

$10-30/month → Choose between:
- **Hostinger VPS** (more control)
- **Google Cloud Run** (less maintenance)

> $30/month → Use **Google Cloud Run**
- Better performance
- Higher availability
- Professional features

Feature Availability

All Deployment Options Include:

- ✅ FastAPI application
- ✅ PostgreSQL database
- ✅ Admin dashboard
- ✅ API documentation
- ✅ Health checks
- ✅ All AI agents
- ✅ Web automation
- ✅ Social media integration

Production-Only Features:

- ✅ HTTPS/SSL (Cloud Run, Hostinger with script)
- ✅ Custom domain (Cloud Run, Hostinger)
- ✅ Email notifications
- ✅ Automated backups (Cloud Run)
- ✅ Load balancing (Cloud Run)
- ✅ Global CDN (Cloud Run)

Migration Paths

From Local to Cloud

1. **Backup your data:**
   ```
   bash
   pg_dump ailice_db > backup.sql
   ```

2. **Deploy to cloud:**
   - Use `deploy-to-gcloud.sh` or `deploy-to-hostinger.sh`

3. **Restore data:**
   ```
   bash
   psql ailice_db < backup.sql
   ```

From Docker to Cloud Run

- Already containerized ✅
- Use `deploy-to-gcloud.sh`
- Same Docker image works

From Hostinger to Cloud Run

1. Export database
2. Deploy to Cloud Run
3. Import database to Cloud SQL
4. Update DNS

Hybrid Approaches

Development + Production

- **Local** (Mac/Windows) for development
- **Google Cloud Run** for production
- Keep them in sync with git

Staging + Production

- **Docker Compose** on a cheap VPS for staging
- **Google Cloud Run** for production
- Test before deploying

Multi-region

- **Google Cloud Run** in multiple regions
- Global load balancer
- High availability

Recommendations by Use Case

Personal Project

Best: Docker Compose or Local Installation
- Free
- Easy to use
- Full features

Startup/Small Business

Best: Google Cloud Run
- Professional infrastructure
- Scales with your growth
- Minimal maintenance

Enterprise

Best: Google Cloud Run with:
- Cloud SQL High Availability
- Multiple regions
- Cloud Armor for security
- Identity-Aware Proxy

Learning/Education

Best: Docker Compose
- Easy to reset
- Reproducible
- Teaches containerization

Freelancer/Agency

Best: Hostinger VPS
- Host multiple client projects
- Cost-effective
- Full control

High-Traffic SaaS

Best: Google Cloud Run
- Auto-scaling
- High availability
- Global deployment

Support and Maintenance

Docker Compose

- **Updates:** `docker-compose pull && docker-compose up -d`
- **Backups:** Manual database backups
- **Monitoring:** Docker logs

Google Cloud Run

- **Updates:** Automated or manual deployment
- **Backups:** Automated Cloud SQL backups
- **Monitoring:** Cloud Monitoring and Logging

Hostinger VPS

- **Updates:** System packages + app updates
- **Backups:** Manual or cron jobs
- **Monitoring:** Manual setup required

Local Installations

- **Updates:** Pull latest code + pip install
- **Backups:** Manual
- **Monitoring:** Log files

Getting Started

Choose your deployment method and follow the guide:

1. **Quick Testing:** → `quick-install.sh` or `quick-install.bat`

2. **Production:** → See `DEPLOYMENT_GUIDE.md`
3. **Custom Setup:** → Read individual script documentation

Need Help Deciding?

Answer these questions:

1. **Is this for production?** → Yes = Cloud, No = Local
2. **What's your technical skill level?** → Beginner = Docker, Advanced = VPS
3. **What's your budget?** → Free = Local, $5-20 = Cloud Run, $10-30 = VPS
4. **Do you need to scale?** → Yes = Cloud Run, No = VPS or Local
5. **How much time can you spend on maintenance?** → Little = Cloud Run, Lots = VPS

Still unsure? Start with Docker Compose - you can always migrate later!