

# SharePoint Web Parts Deployment Guide - Abacus Hosting

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This guide provides step-by-step instructions for deploying the SFG Aluminium Innovation Hub SharePoint Framework (SPFx) web parts on Abacus hosting infrastructure.

## Prerequisites

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- SharePoint Online tenant with app catalog
- Node.js 16.x or 18.x installed
- SharePoint Framework development environment
- Abacus hosting account with deployment permissions
- Git repository access

## Architecture Overview

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The SFG Aluminium Innovation Hub includes the following SharePoint web parts:

- **Warren Executive Dashboard** - Premium executive suite with metrics
- **Yanika Wellness Hub** - Creative wellness and mindfulness components
- **AI Chatbot Web Parts** - Smart assistants with theme customization
- **Library Navigation** - Advanced SharePoint library browsing
- **Quick Access Components** - Fast access to frequently used libraries

## Abacus Hosting Configuration

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### 1. Abacus Environment Setup

```
# Configure Abacus CLI (replace with your credentials)
abacus configure --api-key YOUR_ABACUS_API_KEY
abacus configure --region us-east-1
abacus configure --environment production
```

### 2. Domain Configuration

```
# Set up custom domain for SharePoint integration
abacus domain create --name sfg-sharepoint.abacusai.com
abacus domain configure --ssl-certificate auto
abacus domain configure --cdn-enabled true
```

### 3. Container Configuration

```
# Configure container for SharePoint hosting
abacus container create --name sfg-sharepoint-webparts
abacus container configure --memory 4GB
abacus container configure --cpu 2-cores
abacus container configure --storage 20GB
```

# SPFx Bundle Preparation

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## 1. Environment Configuration

Create or update `config/serve.json` :

```
{
  "$schema": "https://developer.microsoft.com/json-schemas/spfx-build/spfx-serve.schema.json",
  "port": 4321,
  "https": true,
  "initialPage": "https://sfg-sharepoint.abacusai.com/_layouts/workbench.aspx",
  "api": {
    "port": 5432,
    "entryPath": "node_modules/@microsoft/sp-webpart-workbench/lib/api/"
  }
}
```

## 2. Update Package Configuration

Update `config/package-solution.json` :

```
{
  "$schema": "https://developer.microsoft.com/json-schemas/spfx-build/package-solution.schema.json",
  "solution": {
    "name": "sfg-aluminium-innovation-hub",
    "id": "12345678-abcd-1234-efgh-123456789abc",
    "version": "1.0.0.0",
    "includeClientSideAssets": true,
    "skipFeatureDeployment": false,
    "developer": {
      "name": "SFG Aluminium",
      "websiteUrl": "https://sfg-sharepoint.abacusai.com",
      "privacyUrl": "https://sfg-sharepoint.abacusai.com/privacy",
      "termsOfUseUrl": "https://sfg-sharepoint.abacusai.com/terms"
    },
    "metadata": {
      "shortDescription": {
        "default": "SFG Aluminium Innovation Hub SharePoint Web Parts"
      },
      "longDescription": {
        "default": "Premium SharePoint web parts for Warren's Executive Suite and Yanika's Creative Wellness Hub with AI integration"
      },
      "screenshotPaths": [],
      "videoUrl": "",
      "categories": ["Communication", "Productivity", "Data Visualization"]
    },
    "features": [
      {
        "title": "sfg-aluminium-innovation-hub-feature",
        "description": "SFG Aluminium Innovation Hub feature",
        "id": "87654321-dcba-4321-hgfe-987654321cba",
        "version": "1.0.0.0"
      }
    ]
  },
  "paths": {
    "zippedPackage": "solution/sfg-aluminium-innovation-hub.sppkg"
  }
}
```

## Build and Deployment Process

### 1. Build for Production

```
# Install dependencies
npm install

# Build for production with Abacus optimization
gulp clean
gulp build --ship

# Bundle for Abacus deployment
gulp bundle --ship

# Package the solution
gulp package-solution --ship
```

## 2. Deploy to Abacus

```
# Deploy the web parts to Abacus hosting
abacus deploy --source ./dist/ --target /sharepoint/webparts/
abacus deploy --source ./temp/deploy/ --target /sharepoint/assets/

# Configure CDN endpoints
abacus cdn configure --source /sharepoint/assets/ --cache-max-age 31536000
abacus cdn configure --compression gzip,brotli
```

## 3. SharePoint App Catalog Deployment

```
# Upload to SharePoint App Catalog
# Note: This requires SharePoint admin access
spo app add --filePath "./sharepoint/solution/sfg-aluminium-innovation-hub.sppkg"
spo app deploy --name "sfg-aluminium-innovation-hub"
spo app install --name "sfg-aluminium-innovation-hub" --siteUrl "https://yourtenant.sharepoint.com/sites/yoursitecollection"
```

## Abacus-Specific Configuration

### 1. Environment Variables

```
# Set Abacus environment variables
abacus env set SHAREPOINT_TENANT_URL "https://yourtenant.sharepoint.com"
abacus env set CDN_BASE_URL "https://sfg-sharepoint.abacusai.com"
abacus env set API_ENDPOINT "https://api.abacusai.com/v1"
abacus env set ENVIRONMENT "production"
```

### 2. SSL and Security

```
# Configure SSL termination
abacus ssl configure --cert-type managed
abacus ssl configure --force-https true

# Set up CORS for SharePoint integration
abacus cors configure --allow-origin "/*.sharepoint.com"
abacus cors configure --allow-methods "GET,POST,PUT,DELETE,OPTIONS"
abacus cors configure --allow-headers "Content-Type,Authorization,X-Requested-With"
```

### 3. Load Balancing and Scaling

```
# Configure auto-scaling for SharePoint workloads
abacus scale configure --min-instances 2
abacus scale configure --max-instances 10
abacus scale configure --target-cpu 70
abacus scale configure --scale-down-delay 300s
```

## Web Part Configuration

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### 1. Warren Executive Web Part

```
// Configure for Abacus hosting
const warrenConfig = {
  apiEndpoint: process.env.ABACUS_API_ENDPOINT,
  cdnUrl: process.env.ABACUS_CDN_URL,
  theme: 'executive-gold',
  features: {
    realTimeMetrics: true,
    aiInsights: true,
    executiveDashboard: true
  }
};
```

### 2. Yanika Wellness Web Part

```
// Configure for Abacus hosting
const yanikaConfig = {
  apiEndpoint: process.env.ABACUS_API_ENDPOINT,
  cdnUrl: process.env.ABACUS_CDN_URL,
  theme: 'creative-wellness',
  features: {
    mindfulnessTools: true,
    creativityMetrics: true,
    wellnessTracking: true
  }
};
```

## Monitoring and Maintenance

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### 1. Abacus Monitoring Setup

```
# Enable monitoring and logging
abacus monitor enable --type application
abacus monitor enable --type infrastructure
abacus logs configure --retention 30days
abacus alerts configure --email admin@sfg-aluminium.com
```

### 2. Performance Optimization

```
# Configure caching strategies
abacus cache configure --type redis --size 2GB
abacus cache configure --ttl 3600
abacus performance configure --compression gzip
abacus performance configure --minification true
```

## 3. Backup and Recovery

```
# Set up automated backups
abacus backup schedule --frequency daily --time "02:00"
abacus backup retention --days 30
abacus backup configure --encryption AES256
```

## Troubleshooting

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### Common Abacus Deployment Issues

#### 1. CDN Cache Issues

```
bash
abacus cdn clear-cache --path /sharepoint/assets/*
```

#### 2. SSL Certificate Problems

```
bash
abacus ssl renew --force
abacus ssl verify --domain sfg-sharepoint.abacusai.com
```

#### 3. Memory/Performance Issues

```
bash
abacus scale up --instances 5
abacus monitor check --type memory
```

### SharePoint Integration Issues

1. **CORS Errors:** Verify domain whitelist in SharePoint admin center
2. **Authentication Issues:** Check app permissions and consent
3. **Loading Errors:** Verify CDN URLs and asset availability

## Security Considerations

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### 1. Access Control

```
# Configure access policies
abacus security configure --policy strict
abacus security whitelist --domain "/*.sharepoint.com"
abacus security configure --rate-limit 1000/hour
```

### 2. Data Protection

```
# Enable data encryption
abacus encrypt enable --type transit
abacus encrypt enable --type rest
abacus compliance configure --standard SOC2
```

## Support and Updates

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For support with Abacus hosting:

- **Abacus Support:** support@abacusai.com

- **Documentation:** <https://docs.abacusai.com/sharepoint>
- **Status Page:** <https://status.abacusai.com>

For SharePoint web part updates:

1. Update the codebase
2. Rebuild and redeploy to Abacus
3. Update the SharePoint app catalog
4. Test in SharePoint workbench

## Conclusion

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This deployment guide ensures successful deployment of SFG Aluminium Innovation Hub SharePoint web parts on Abacus hosting infrastructure, providing enterprise-grade performance, security, and scalability for your SharePoint environment.

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