Liferay portal

MIROSLAV BERANIČ, DIMITAR IVANOVSKI

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Kdo smo?

- Kje: Sedež v Mariboru, pisarna tudi v Ljubljani, del Solvera Lynx skupine.
- Temeljna področja: Integracijske rešitve, portali za samooskrbo strank, namenske poslovne aplikacije, integracija družbenih omrežij in CRM sistemov.
- Glavni trgi: Slovenija, Avstrija, Hrvaška.
- Tehnologije: Tibco, Java, Spring Framework, Liferay Portal, Apache ServiceMix, OSGi
- Produkti: Bihub.

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Stranke in reference

A1 · Telekom Slovenije · ADRIA · PETROL · CEB Council of Europe Development Bank · EIMV Elektroinštitut Milan Vidmar · ELES · T-Mobile Austria · vip Sve zbog vas · tel · A1 Telekom Austria Group · Postbank · telemach · Agencija za energijo

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Backend-end razvoj za Liferay Portal:

- Pregled in primerjava portalnih rešitev
- Razvoj in spremembe skozi zgodovino
- Poslovne in tehnične potrebe
- Tehnologije in orodja
- Razlike in povezave med Liferay orodji
- Osnove OSGi
- Integracija z LDAP
- Integracija s SOAP
- Integracija s SSO
- Integracija z Alfresco DMS

Front-end razvoj za Liferay Portal:

- Razlike med Liferay 6 in Liferay 7. Prednosti in slabosti. Prikaz naših rešitev.
- Bootstrap in Clay
- Templates in FreeMarker files
- Theme Dev: Node.js, NPM, GULP in Liferay Gulp Tasks, Liferay Theme Generator, HTML5, SASS, JavaScript in jQuery.

(Live coding del):

Na novem strežniku naredimo nov portal in generiramo novo temo.
- 1.vaja: Theme customization. Embedded portlets. Layout templates.
- 2.vaja: Navigacija
- 3.vaja: Lokalizacija
- Responsive design simulation
- 4.vaja: Vloge

Pregled in primerjava portalnih rešitev

- Jahia
- Kentiko
- CoreMedia
- OpenText
- SAP
- Salesforce
- Oracle
- Microsoft
- BloomReach
- Episerver
- Liferay
- Adobe
- IBM

https://www.gartner.com/document/3901469

Vloga in razlika glede na CMS/WCM

- eZ Systems
- Kentiko
- SDL
- CoreMedia
- OpenText
- BloomReach
- IBM
- Oracle
- Episerver
- Adobe

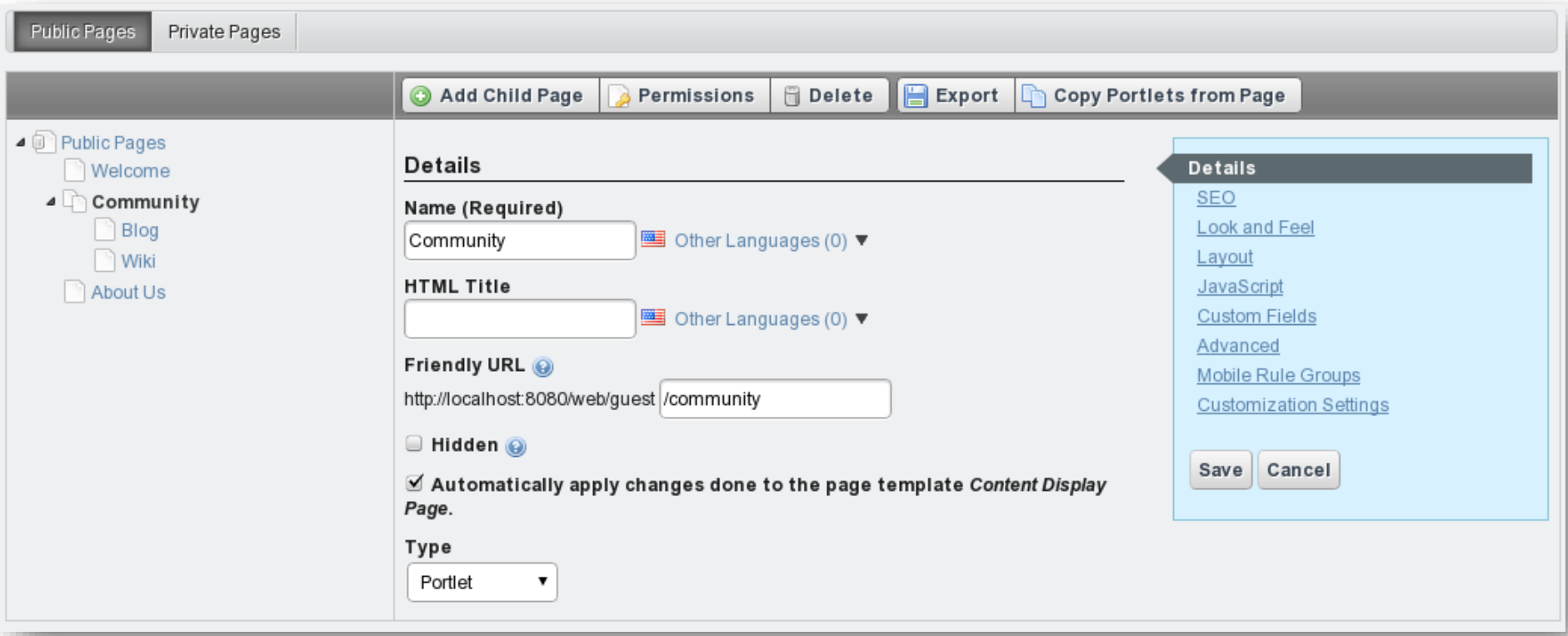
- WordPress
- Magnolia
- Shopify
- Joomla!
- Magento
- Drupal
- Crafter CMS

https://www.gartner.com/document/3884563

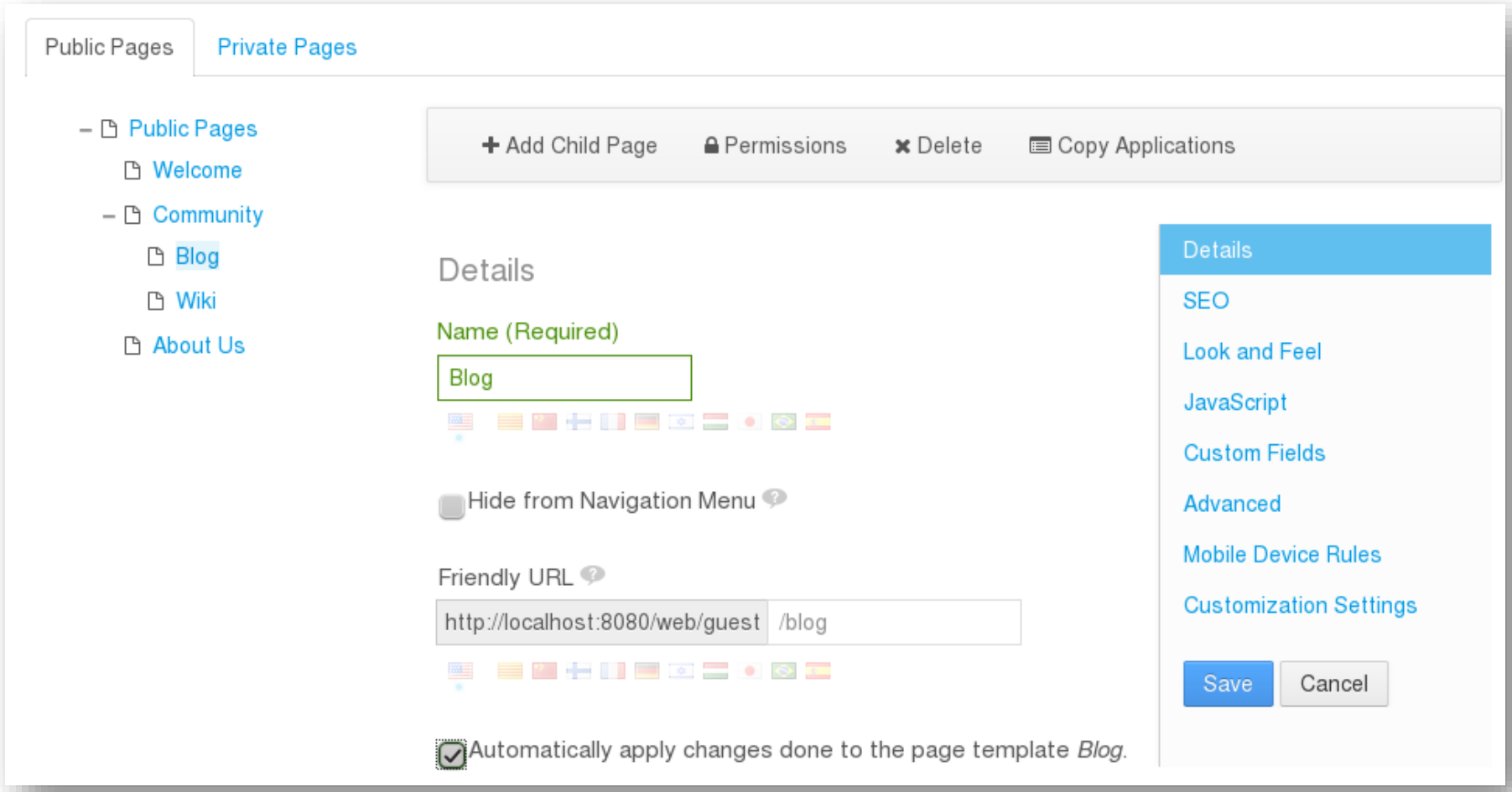
Razvoj in razlike med verzijami

- 6.0
  (The main mechanism that you as a developer will use to achieve all of the above in a modular way are Liferay Plugins. Liferay Plugins are always distributed as Web Archives (.war files), and deployed through Liferay's deploy mechanisms.)
- 6.2
  (Liferay 6.2's OSGi runtime is experimental and unsupported. It should be considered a technology preview at this time.)
- 7.0
  (Liferay Portal is modular too. It comprises code modules created and tested independently and in parallel. It's a platform on which modules and modular applications are installed, started, used, stopped, and uninstalled. Liferay Portal's components use the OSGi modularity standard.)
- 7.1 - samo OSGi
- 7.2 - izboljšave

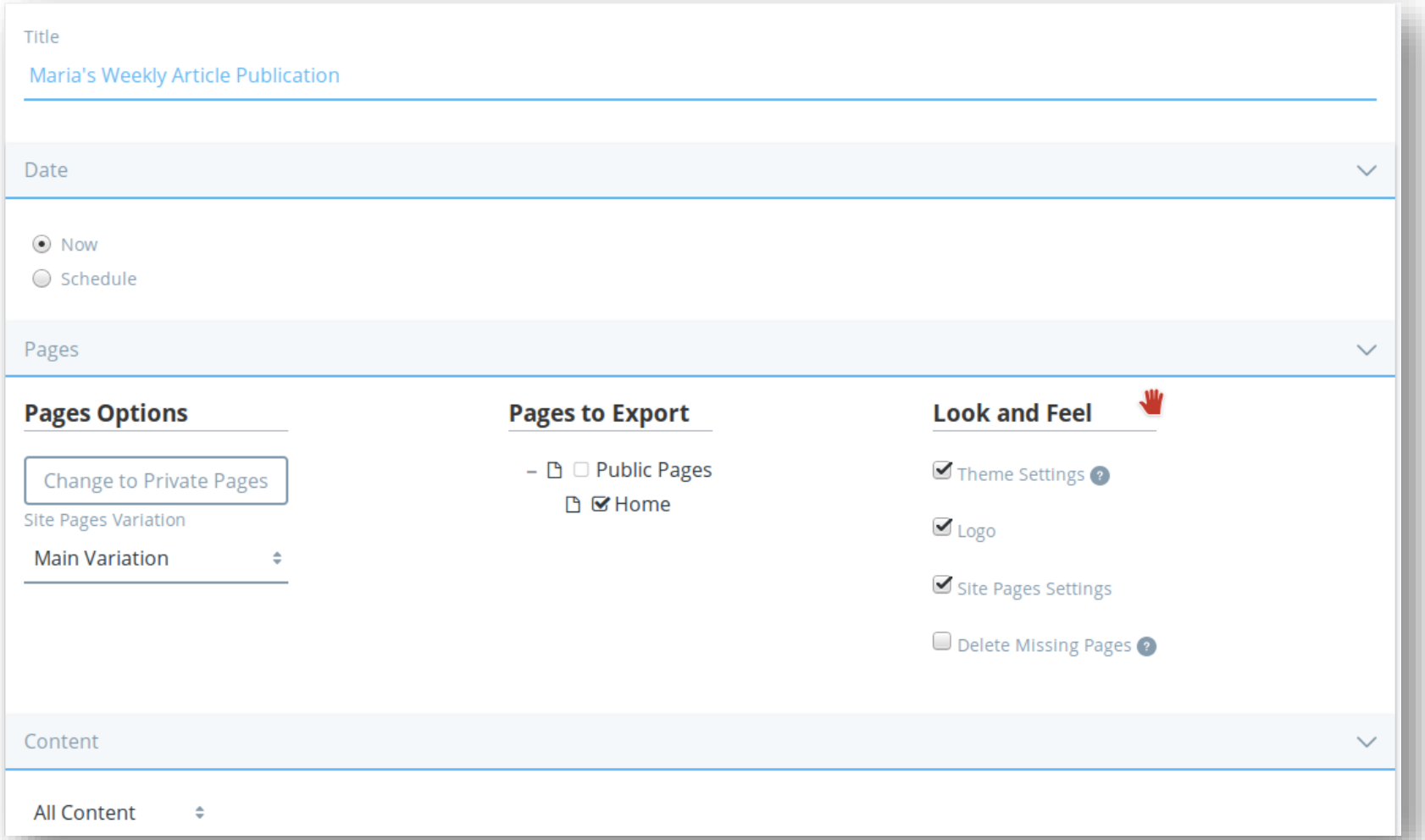
Liferay Portal 6.0



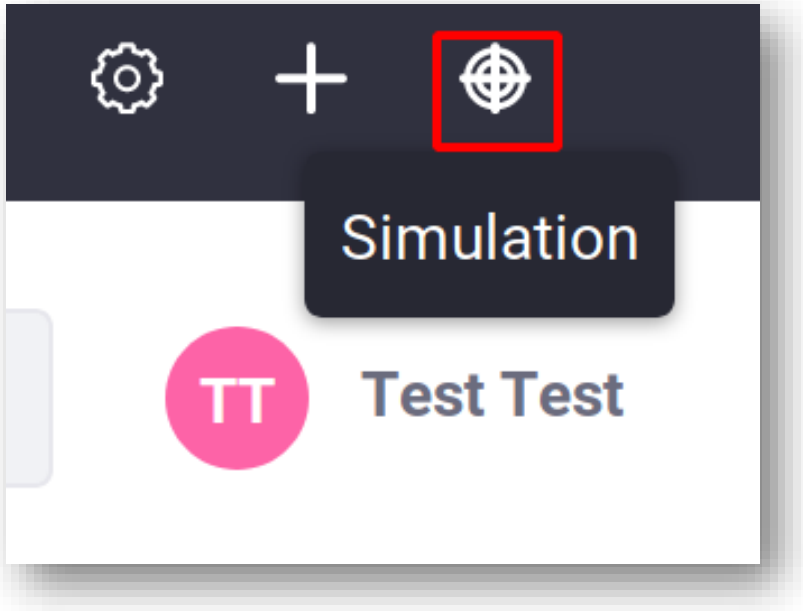
Liferay Portal 6.2



Liferay Portal 7.0



Liferay Portal 7.1



Poslovne in tehnične potrebe za portalno rešitev

- Portalna rešitev ni rešitev za vse
- Primarno uporabna za podjetja, ki potrebujejo osrednjo enotno okolje za povezovanje strank, zaposlenih, sodelujočih
- Izgranja intranet in extranet rešitev
- Poenotenje upravljanja vsebine in komunikacijskih kanalov znotraj in izven podjetja
- Enotno razvojno okolje

Tehnologije in orodja

- SOAP
  - JAX WS
  - Apache CXF
- JMS
  - Apache ActiveMQ
- REST
  - JAX RS
  - Restlet
  - Netty
- JPA
  - Hibernate
- Spring Framework
  - Spring Core (Context, Data)
  - Spring MVC
  - Spring Boot
  - Spring Integration
- LDAP, SSO, CMIS, OSGi

- Apache Karaf / ServiceMix
- Apache Camel
- Apache Cellar
- Apache Directory Studio
- Apache Spark
- Apache Kafka
- Jasig CAS
- Keycloak

- Liferay IDE, Liferay Dev Studio
- IntelliJ IDEA, DataGrip
- Apache Ant
- Apache Maven
- SoapUI
- Blade

Tipične komponente arhitekture

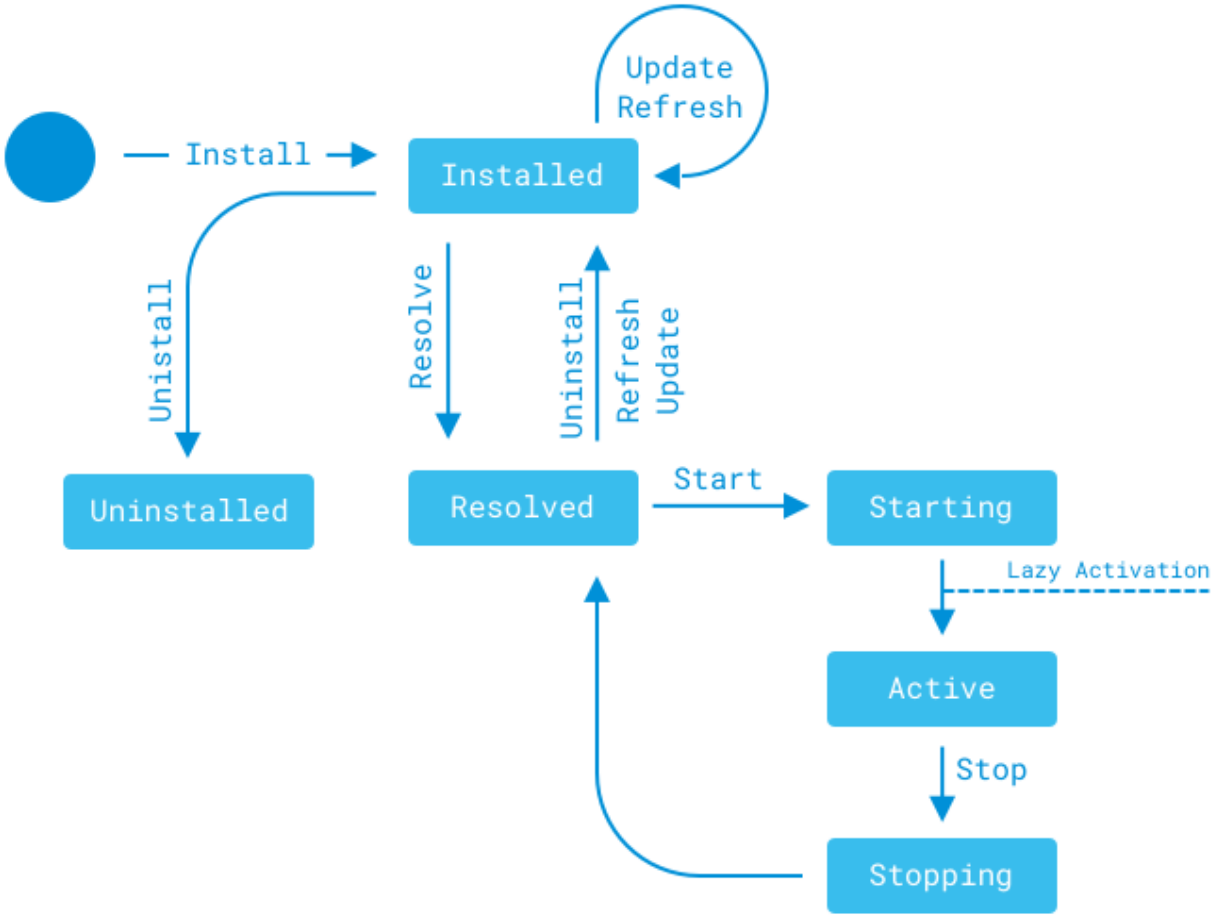
Razlike med Liferay Portal CE in

- Liferay Portal CE je osnova za manjše podjetje, z omejenimi vgrajenimi funkcionalnostmi
  - Veliko funkcionalnosti se "enostavno" implementira ali prilagodi
  - Podpora s strani forumov, mailing list, itd
- Liferay Enterprise oz. Liferay DXP ima več razširitev oz. razširitve imajo večji nabor funkcionalnosti
  - Potrebno je vedeti za kaj se bodo uporabljaje dodatne funkcionalnosti
  - Podpora s strani Liferay-a

- Liferay Portal CE podpora "odprto kodne" projekte, Liferay Portal EE oz. DXP pa je naravnan za velika podjetja in podpora EE rešitve

- Commerce – majhni koraki Liferay-a v vode B2B in B2C nakupovalnih okolj
- Liferay Sync – sinhronizacija datotek z lokalnim računalnikom

OSGi


Update
Refresh
Install
Installed
Unistall
Resolve
Uninstall
Refresh
Update
Uninstalled
Resolved
Start
Starting
Lazy Activation
Active
Stop
Stopping

OSGi

- Moduli opišejo svoje potrebe in sposobnosti v meta-podatkih, okolje poskrbi, da so potrebe zadoščene in sposobnosti propagirane
  - Posebej potrebno paziti na import, export in verzije paketov
  - Import in export se dela na nivoju Java paketov, zato še toliko bolj pomembno primerno poimenovanje Java paketov
- Enostavnejše objavljanje in pridobivanje funkcionalnosti
  - Kodira/prevaja se napram API-ju, pri izvajanju se ožiči izbrana implementacija
- Funkcionalnosti so razdrobljene v posamezne Java arhive – JAR datoteke, ki imajo dodatne meta datotečne opise
- Določen in znan je življenjski cikel modula
- V Liferay 7.1 je prvič OSGi "first class citizen"
- Liferay "še vedno" dodaja lastne anotacije, ki niso del splošne specifikacije, tako da pogosto moduli niso prenosljivi, a se bo to v prihodnjih verzijah izboljšalo/spremenilo

OSGi

struts-config.xml

```
<action path="/login/login"
    type="com.liferay.portlet.login.action.LoginAction">

    <forward
        name="portlet.login.login"
        path="portlet.login.login"
    />
    <forward
        name="portlet.login.login_redirect"
        path="portlet.login.login_redirect"
    />
</action>
```

OSGi

liferay-hook.xml

```
<struts-action>
    <struts-action-path>/portal/sample</struts-action-path>
    <struts-action-impl>
    com.liferay.sample.hook.action.ExampleStrutsAction
    </struts-action-impl>
</struts-action>
<struts-action>
    <struts-action-path>/login/login</struts-action-path>
    <struts-action-impl>
    com.liferay.sample.hook.action.ExampleStrutsPortletAction
    </struts-action-impl>
</struts-action>
```

ExampleStrutsPortletAction.java

```
public class ExampleStrutsPortletAction extends BaseStrutsPortletAction {

   public void processAction(
         StrutsPortletAction originalStrutsPortletAction,
         PortletConfig portletConfig, ActionRequest actionRequest,
         ActionResponse actionResponse)
      throws Exception {
      ThemeDisplay themeDisplay =
         (ThemeDisplay)actionRequest.getAttribute(WebKeys.THEME_DISPLAY);

      Long currentuser = themeDisplay.getUserId();

      if (currentuser != null) {
         System.out.println("Wrapped /login/ action2");

      }
      originalStrutsPortletAction.processAction(
         originalStrutsPortletAction, portletConfig, actionRequest,
         actionResponse);
   }
```

ExampleStrutsAction.java

```
public class ExampleStrutsAction extends BaseStrutsAction {

    public String execute(
        HttpServletRequest request, HttpServletResponse response)
        throws Exception {

        String name = ParamUtil.get(request, "name", "World");

        request.setAttribute("name", name);

        return "/portal/sample.jsp";
    }

}
```

sample.jsp

```
<%
String name = (String)request.getAttribute("name");
%>
Hello <%= name %>!
```

OSGi

portal-ext.properties

```
auth.public.paths=\
	/asset/get_categories,\
	...
	/wiki/rss,\
	/portal/sample
```

my-login.jsp

```
<%@ include file="/init.jsp" %>
<p>
   <b><liferay-ui:message key="myloginportlet_MyLogin.caption"/></b>
</p>
```

MyLogPortlet.java

```
@Component(
   immediate = true,
   property = {
      "javax.portlet.init-param.view-template=/my-login.jsp",
      "javax.portlet.name=" + LoginPortletKeys.LOGIN,
   },
   service = Portlet.class
)
public class MyLoginPortlet extends MVCPortlet {
}
```

Integracija z LDAP strežnikom

V uporabi predvsem dve implementaciji LDAP-a:

- Strežnik
  - Apache Directory
  - 389 Directory Server (RedHat / Fedora)
- Uporabniški vmesnik
  - Apache Directory Studio

- Centralna hramba uporabnikov - uporabniška imena, gesla, kontaktni podatki, dostopne pravice
- Integracija direktno z Liferay Portal ali preko SSO strežnika (Jasig CAS ali Keyclock)

Integracija s SOAP storitvijo

Za komunikacijo s SOAP spletno storitvijo se praviloma uporablja orodje/ogrodje/knjižnica Apache CXF v povezavi z Apache Maven "build" orodjem. Predvsem s stališča, ker se ta nabor orodja uporablja skozi vse druge komponente v arhitekturi (primarno v storitvenem vodilu in/ali povezanih aplikacijah).
Prednost je predvsem v poenotenju nabora knjižnic/orodij, s katerimi se srečujejo razvijalci.

Praviloma se najprej napiše/definira spletni vmesnik z WSDL, nato se naredi implementacija strežnika in odjemalca.

Pri implementaciji SOAP odjemalca je potrebno poskrbeti za preverjanje dostopnih pravic.

Integracija s SSO (Jasig CAS) in OAuth 2.0

- SSO – Single Sign-on – enotna vstopna točka za prijavo uporabnikov
- Pogosto se naredi integracija med Liferay in SSO strežnikom, SSO strežnik pa nato dalje v povezavi z drugimi protokoli – LDAP, OAuth 2.0, Kerberos, itd.
  - Predvsem v javno dostopnih portalnih rešitvah
  - Najpogosteje se uporablja v povezavi z LDAP in SQL/JDBC
- V preteklosti smo največ oz. praktično vse SSO integracije/rešitve naredili z uporabo projekta Jasig CAS; v prihodnje se vedno bolj spogledujemo s projektom Keyclock
  - Keyclock ima komunikacijske točke uporabne/primerne za druge komponente v celotni arhitekturi – recimo tudi dostop do strežniških instanc (uporabniki na računalnikih)
  - Jasig CAS je enostavneje za uporabo v relaciji z Liferay Portal in Alfresco DMS

Integracija s SSO (Jasig CAS) LDAP

LDAP Connection Settings

The following options apply to features that integrate with an LDAP server (i.e. authentication, attribute resolution, etc) given the provider's *configuration key*:

```
#${configurationKey}.ldapUrl=ldaps://ldap1.example.edu ldaps://ldap2.example.edu
#${configurationKey}.bindDn=cn=Directory Manager,dc=example,dc=org
#${configurationKey}.bindCredential=Password

#${configurationKey}.poolPassivator=NONE|CLOSE|BIND
#${configurationKey}.connectionStrategy=
#${configurationKey}.providerClass=org.ldaptive.provider.unboundid.UnboundIDProvider
#${configurationKey}.connectTimeout=PT5S
#${configurationKey}.trustCertificates=
#${configurationKey}.keystore=
#${configurationKey}.keystorePassword=
#${configurationKey}.keystoreType=JKS|JCEKS|PKCS12
#${configurationKey}.minPoolSize=3
#${configurationKey}.maxPoolSize=10
#${configurationKey}.validateOnCheckout=true
#${configurationKey}.validatePeriodically=true
#${configurationKey}.validatePeriod=PT5M
#${configurationKey}.validateTimeout=PT5S
#${configurationKey}.failFast=true
#${configurationKey}.idleTime=PT10M
#${configurationKey}.prunePeriod=PT2H
#${configurationKey}.blockWaitTime=PT3S
#${configurationKey}.useSsl=true
#${configurationKey}.useStartTls=false
#${configurationKey}.responseTimeout=PT5S
#${configurationKey}.allowMultipleDns=false
#${configurationKey}.allowMultipleEntries=false
#${configurationKey}.followReferrals=false
#${configurationKey}.binaryAttributes=objectGUID,someOtherAttribute
#${configurationKey}.name=
```

Integracija s SSO (Jasig CAS) OAuth 2.0

Example (Maven dependency):

```
<dependency>
    <groupId>org.pac4j</groupId>
    <artifactId>pac4j-oauth</artifactId>
    <version>${pac4j.version}</version>
</dependency>
```

Example to simulate the `GithubClient`:

```
OAuth20Configuration config = new OAuth20Configuration();
config.setApi(GitHubApi.instance());
config.setProfileDefinition(new GitHubProfileDefinition());
config.setScope("user");
config.setKey("62374f5573a89a8f9900");
config.setSecret("01dd26d60447677ceb7399fb4c744f545bb86359");
OAuth20Client client = new OAuth20Client();
client.setConfiguration(config);
client.setCallbackUrl(PAC4J_BASE_URL);
```

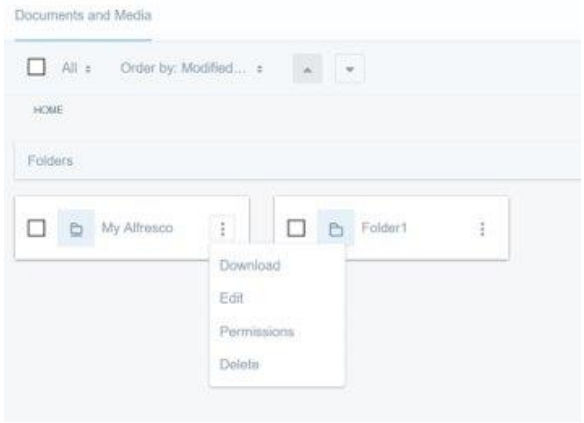
Identity provider	Client	User profile
BitBucket	BitbucketClient	BitbucketProfile
a CAS server using the OAuth protocol	CasOAuthWrapperClient	CasOAuthWrapperProfile
DropBox	DropBoxClient	DropBoxProfile
Facebook	FacebookClient	FacebookProfile
Foursquare	FoursquareClient	FoursquareProfile
Github	GitHubClient	GitHubProfile
Google	Google2Client	Google2Profile
HiOrg-Server	HiOrgServerClient	HiOrgServerProfile
LinkedIn	LinkedIn2Client	LinkedIn2Profile
Odnoklassniki	OkClient	OkProfile
ORCiD	OrcidClient	OrcidProfile
Paypal	PayPalClient	PayPalProfile
QQ	QQClient	QQProfile
Strava	StravaClient	StravaProfile
Twitter	TwitterClient	TwitterProfile
Vk	VkClient	VkProfile
Wechat	WechatClient	WechatProfile
Weibo	WeiboClient	WeiboProfile
Windows Live	WindowsLiveClient	WindowsLiveProfile
Word Press	WordPressClient	WordPressProfile
Yahoo	YahooClient	YahooProfile

http://www.pac4j.org/docs/clients/oauth.html

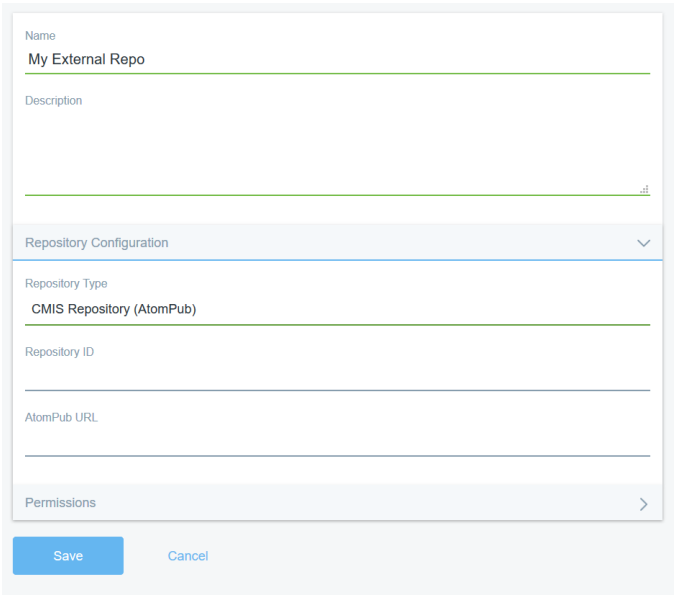
Integracija z Alfresco DMS

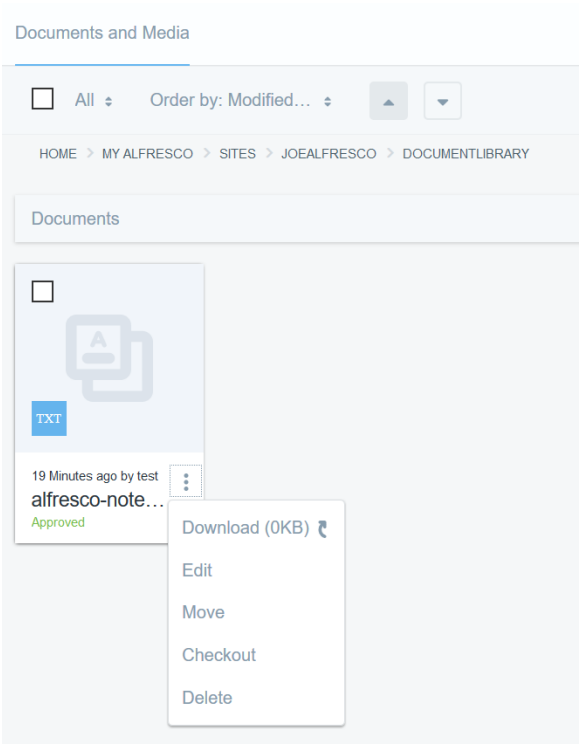
- Alfresco DMS je odprtokodni projekt, ki je namenjen za hrambo dokumentov
- Eden redkih odprtokodnih projektov certificiran/akreditiranih za hrambo/arhiv dokumentov s strani Arhiva RS (Register elektronske hrambe)
- Izmenjava podatkov preko CMIS protokola
- CMIS protokol implementira tudi (med drugim):
  - Microsoft Sharepoint
  - OpenText Documentum

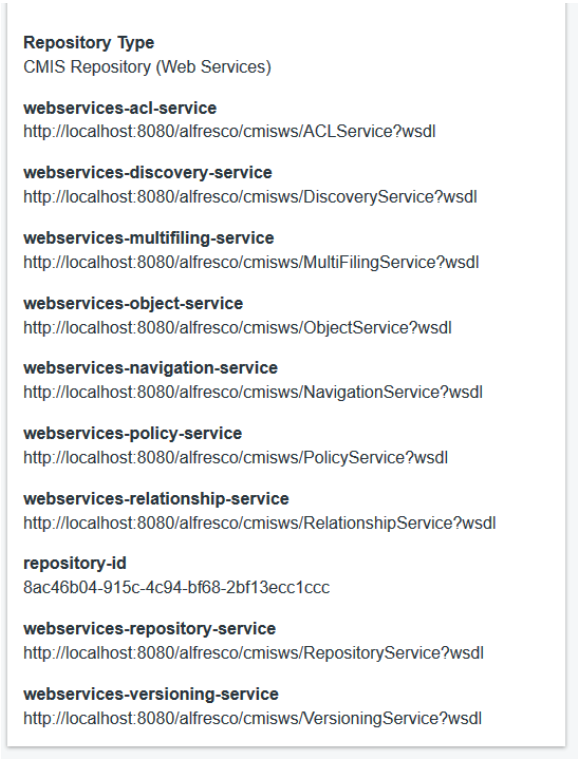
  (za ta dva projekta je podpora samo v Liferay EE)
- Liferay Portal ima za dokumente namenski "portlet" (nabor portlet-ov), ki se imenuje "Liferay Portal's Documents and Media"



Integracija z Alfresco DMS - CMIS 1.1







- **Repository Type**: *CMIS Repository (AtomPub)*
- **Repository ID**: MyDocumentRepository
- **AtomPub URL**: http://[host]:[port]/alfresco/api/-default-/public/cmis/versions/1.1/atom

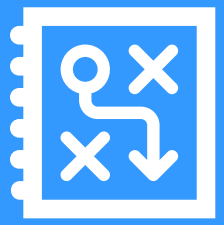
Povzetek prvega dela

- Razvoj v Liferay Portal 7.1+ je veliko enostavnejši, kot kadarkoli prej, po zaslugi OSGi
- Liferay Portal raste v smislu nabor funkcionalnosti in uporabnosti le teh
- Liferay dodaja nove projekte/produkte in ostreje ločuje med CE in EE
- Liferay Portal je eden od mnogih, a zagotovo eden bolj atraktivnih za naše okolje
- Mogoče so številne integracije, pri tem je potrebno uporabiti smiselno rešitev, glede na zastavljeno arhitekturo
- Liferay Portal je primeren za intranet in extranet spletne strani
- V povezavi z Alfresco DMS dobro deluje tudi kot hramba dokumentov

- Priporočena redna izobraževanja, saj se vsako leto spremeni veliko stvari
  - Konference
  - Izobraževanja
  - Dogodki
  - Mailing liste
  - Forumi
  - Vaja dela mojstra

miroslav.beranic@bintegra.com

Uvod v razvoj uporabniškega vmesnika za Liferay 7



- Predstavitev naših Liferay rešitev
- Liferay 6 vs. Liferay 7+
- Uporabniški vmesnik
- Predloge: Apache FreeMarker™
- Ustvarjanje Liferay temo
- Naloge

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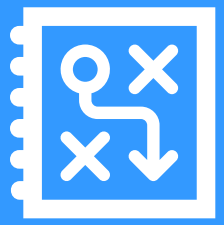
Uvod v razvoj uporabniškega vmesnika za Liferay 7



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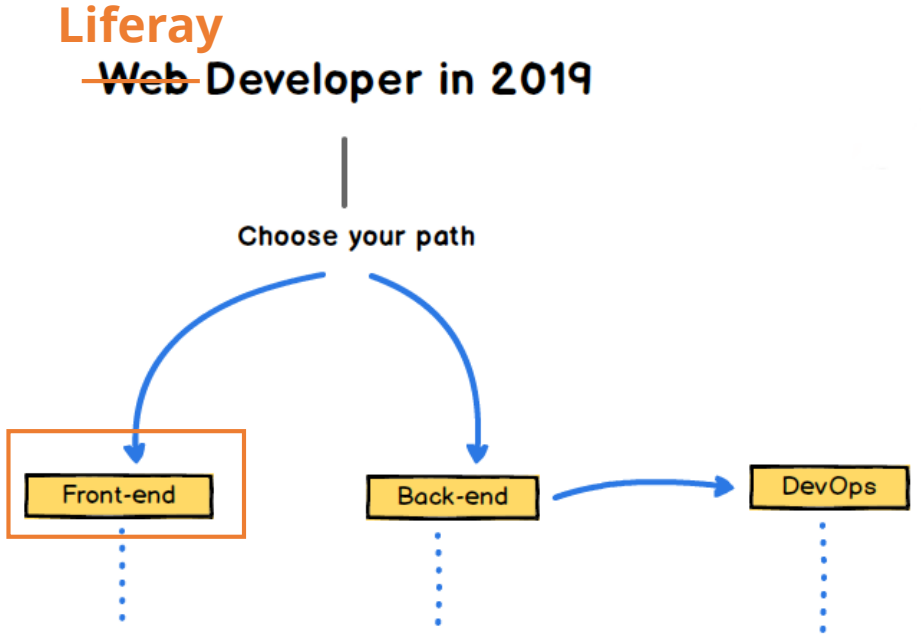
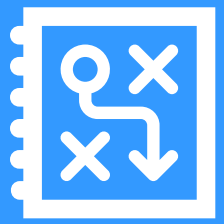


(Vir: GitHub user Kamranahmedse)

Uvod v razvoj uporabniškega vmesnika za Liferay 7



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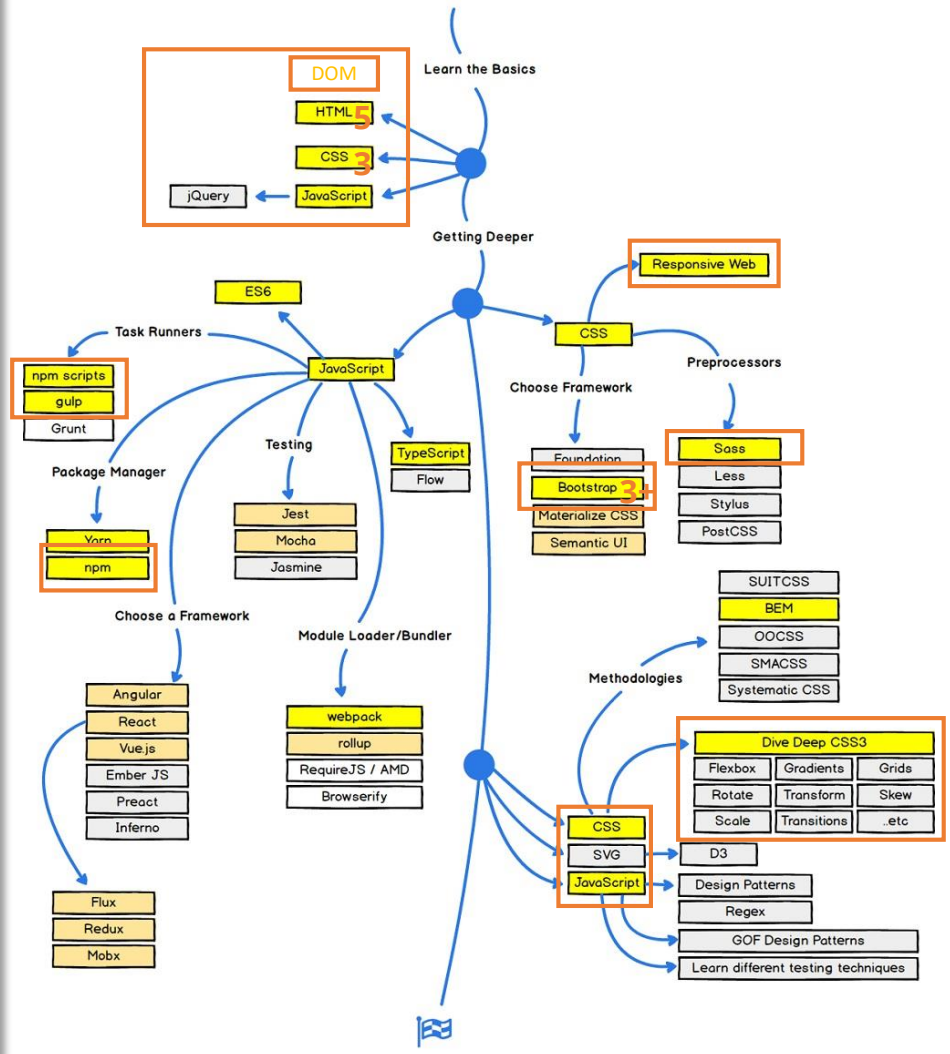
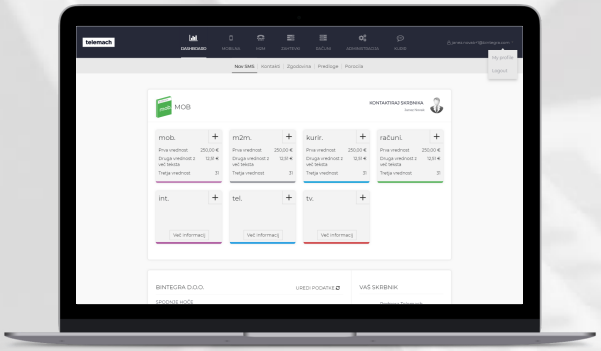


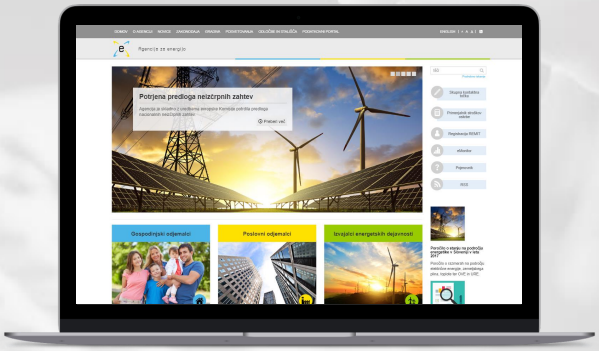
(Vir: GitHub user Kamranahmedse)

Predstavitev naših Liferay rešitev

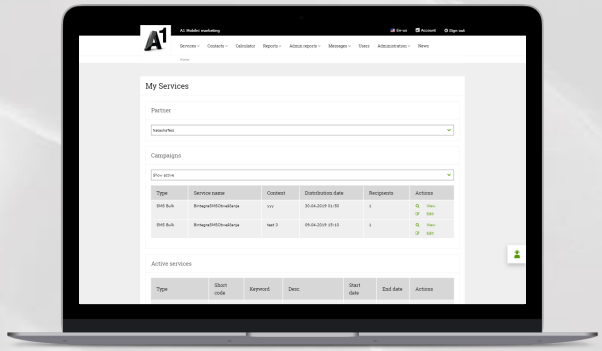
Telemach



Agencija za energijo



A1



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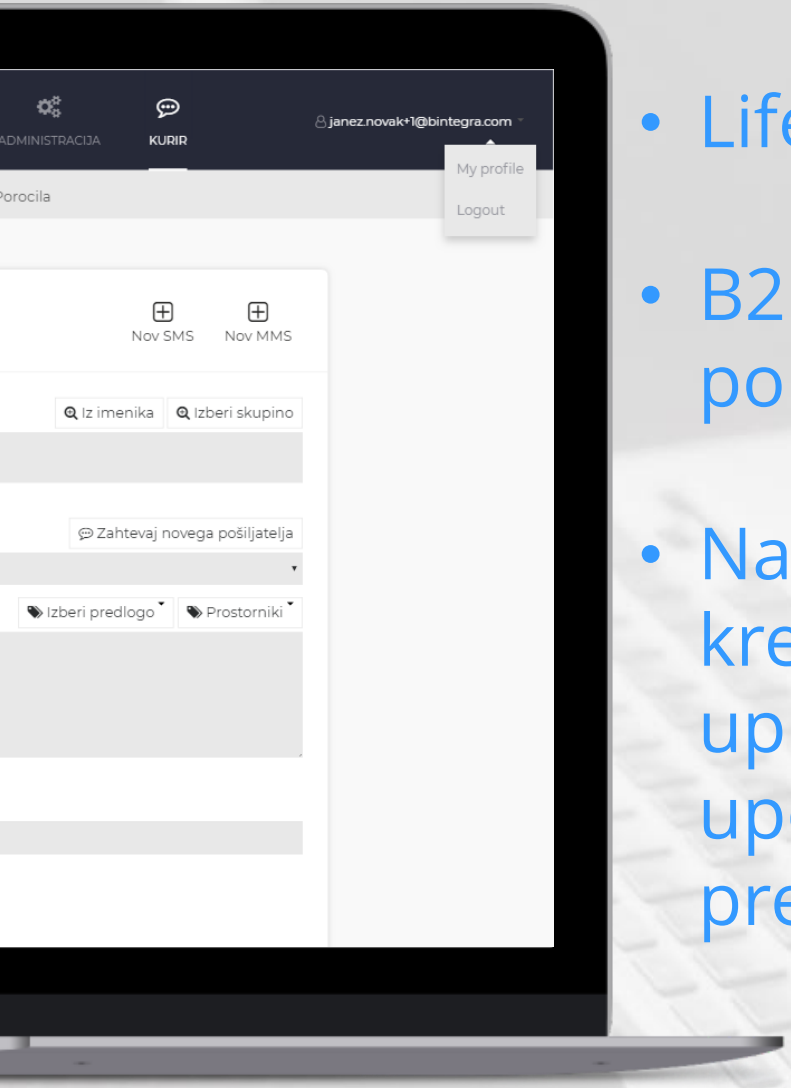
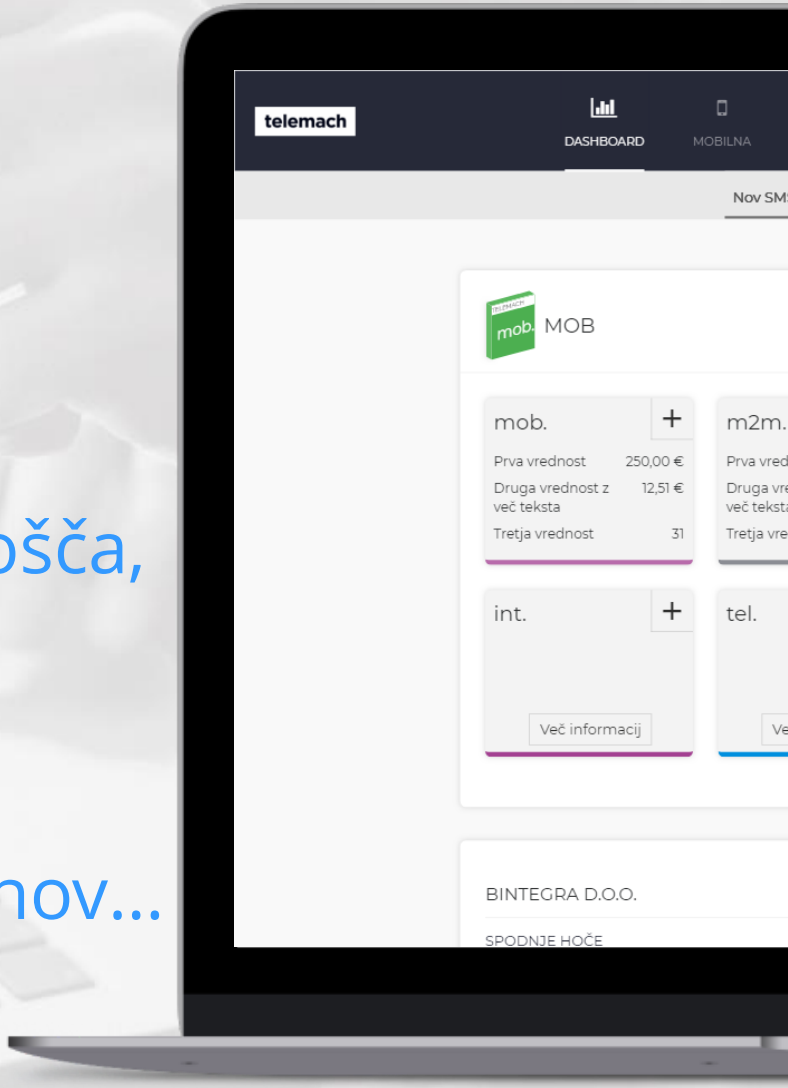
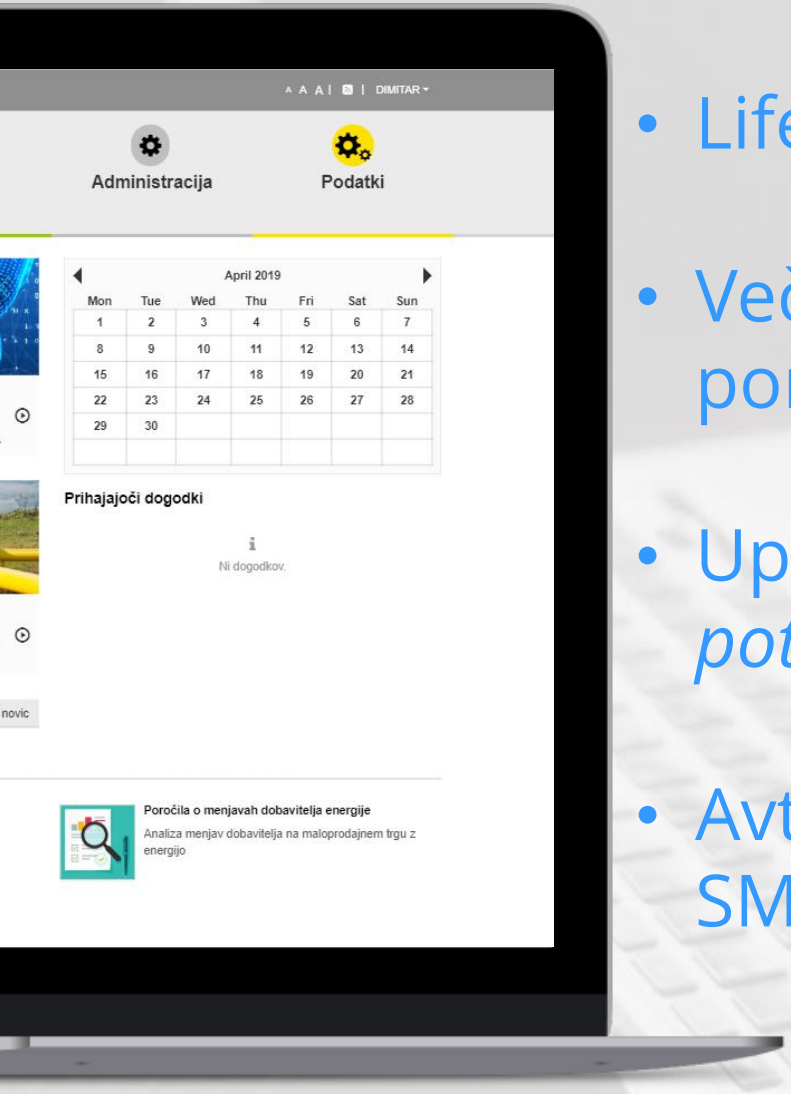
Telemach



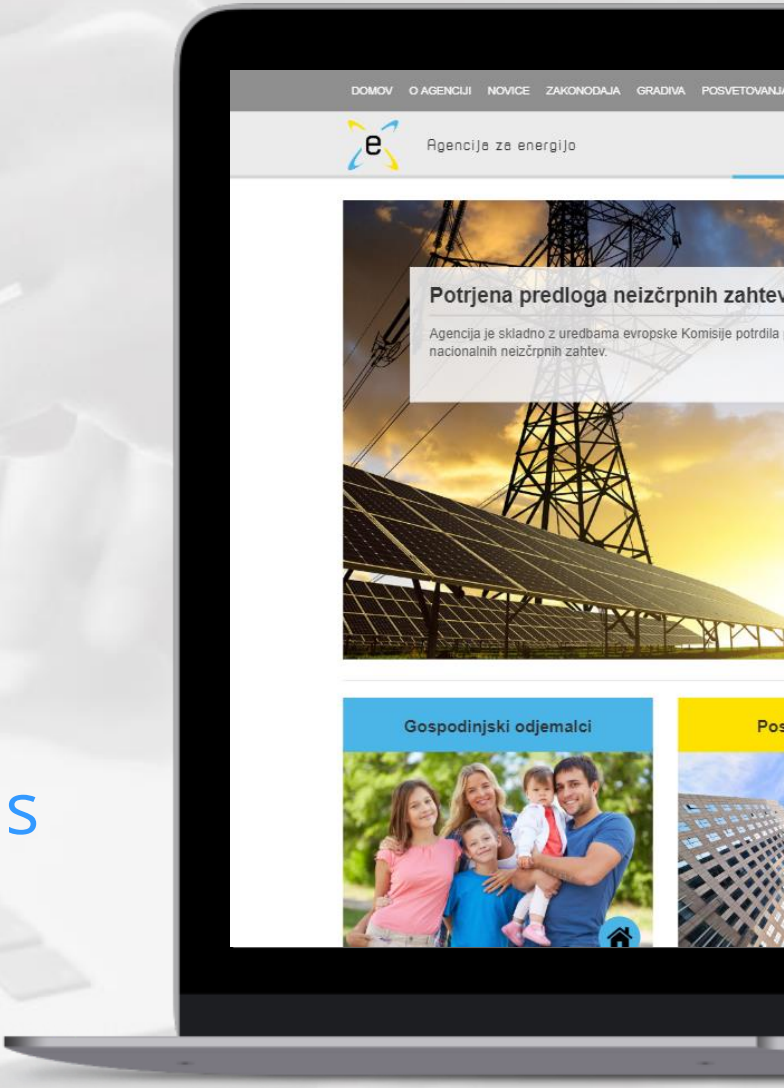
- Liferay 6.2
- B2B Selfcare portal
- Nadzorna plošča, kreacija in upravljanje z uporabniki, pregled računov...



Agencija za energijo



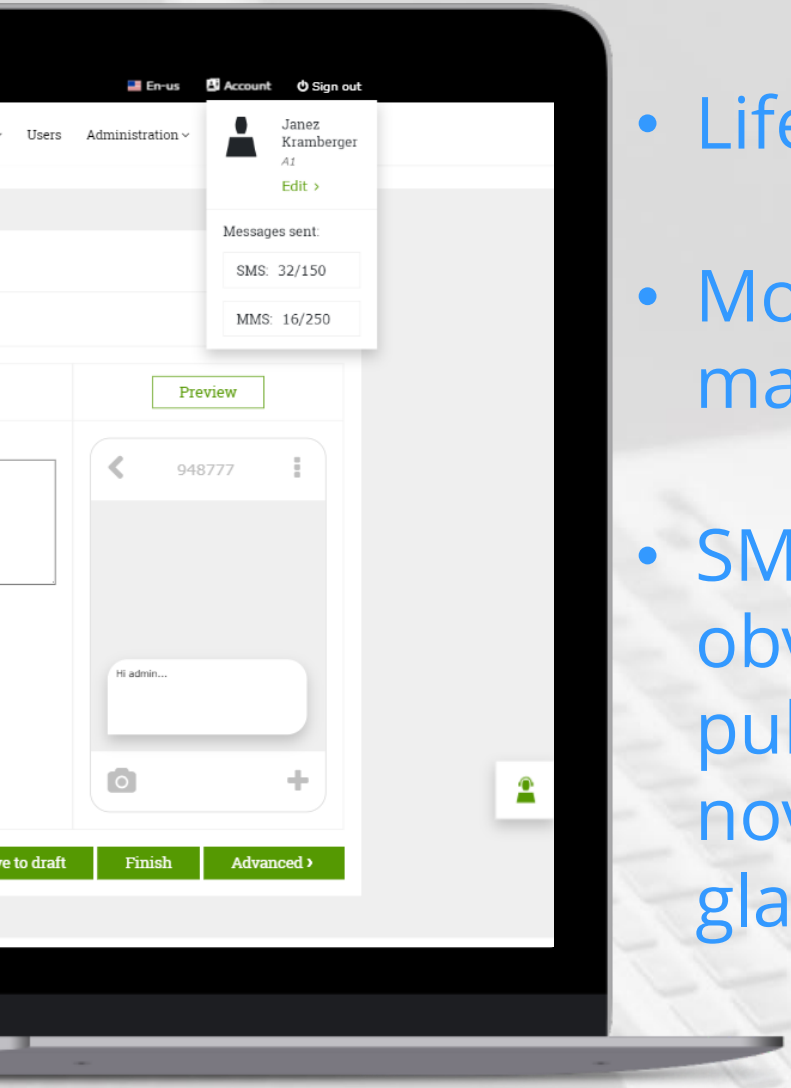
- Liferay 6.2
- Več različnih portalov
- Upravljanje *poteka dela*
- Avtentikacijo s SMS



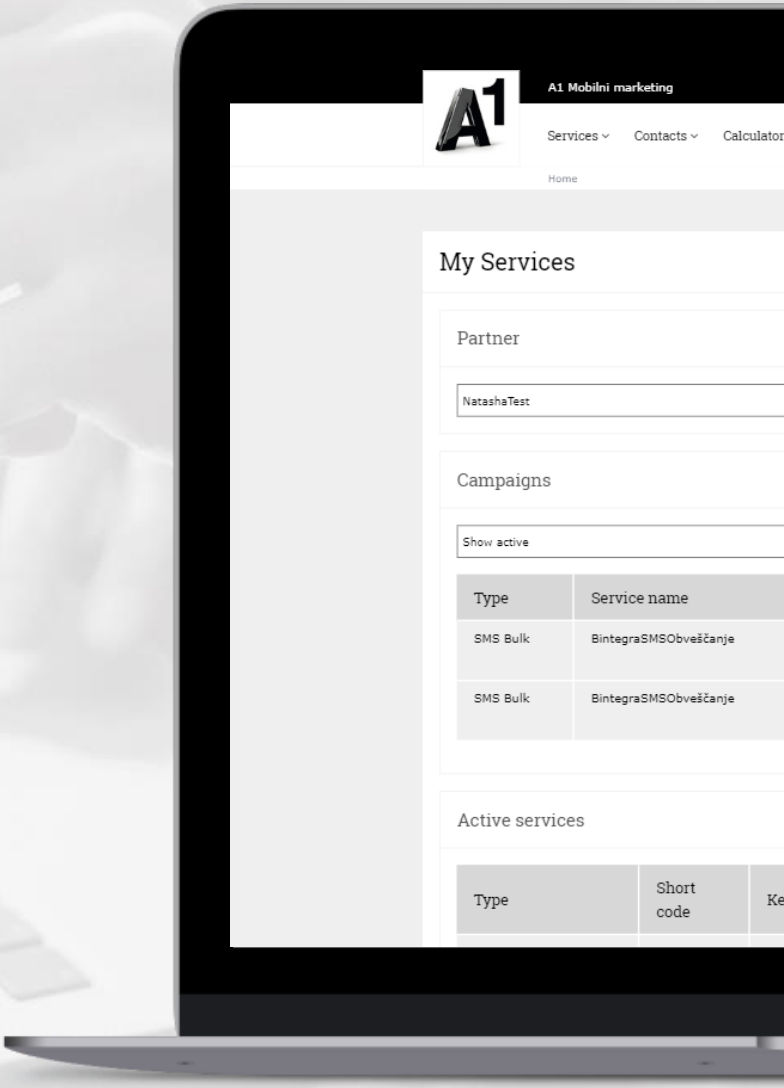
Extranet

Intranet

A1

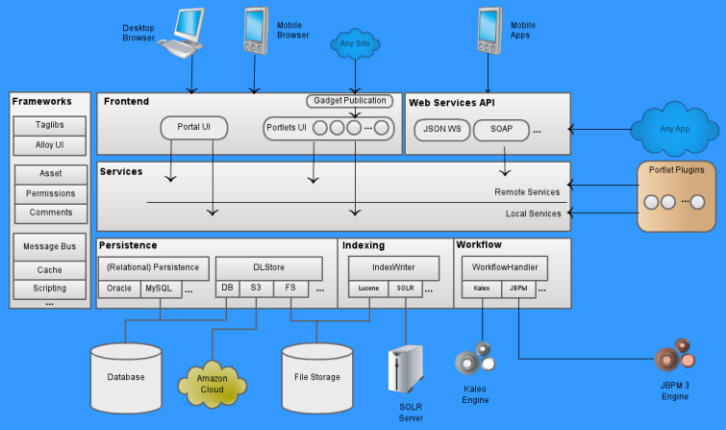


- Liferay 7.1
- Mobilni marketing
- SMS/MMS obveščanje, publikacije, novice, USSD glasovanje...



Liferay 6

- Plugin – WAR



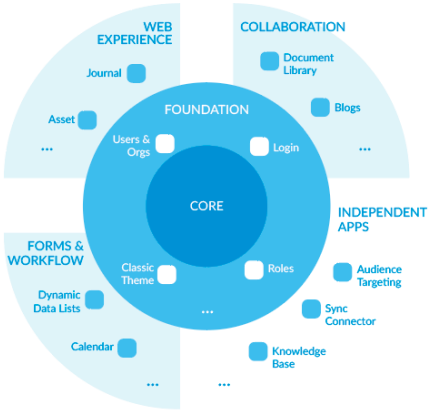
- Deploj v *aplikacijsko* mapo
- Deploy / undeploy

- Bootstrap 2
- Navadni UI
- EE: Liferay 6.2 EE

v s

Liferay 7+

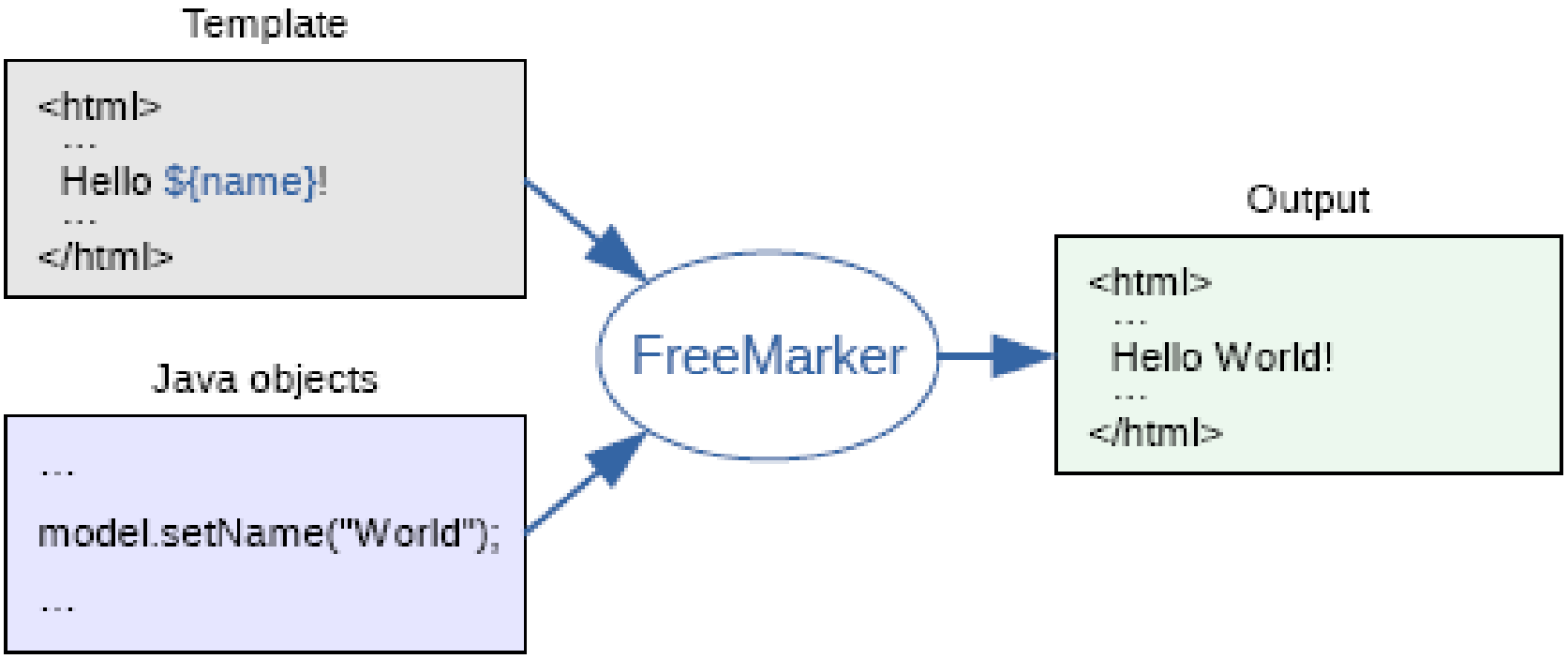
- Modul – JAR



- Deploj v *OSGI* mapo
- Lifecycle management, Gogo shell Interface
- Bootstrap 3+, Clay, Lexicon
- Responsive/Mobile UI
- EE: Liferay DXP

Uporabniški vmesnik

Predloge: Apache **FreeMarker™**



(Vir: https://freemarker.apache.org/)

Ustvarjanje Liferay temo

- Celoten „look and feel“ portala
- Kombinacija CSS, JavaScript, HTML in predloge FreeMarker
- Razvojno okolje: Node.js, NPM, GULP
- Liferay Gulp Tasks, Liferay Theme Generator

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Razvojno okolje

Liferay Theme Generator

```
C:\Users\liferay\Desktop\projects\themes\7-1-th

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 .-----------------------.
 |  Welcome to the splendid |
 | Liferay Theme generator! |
 '-----------------------'

? What would you like to call your theme? (My L
```

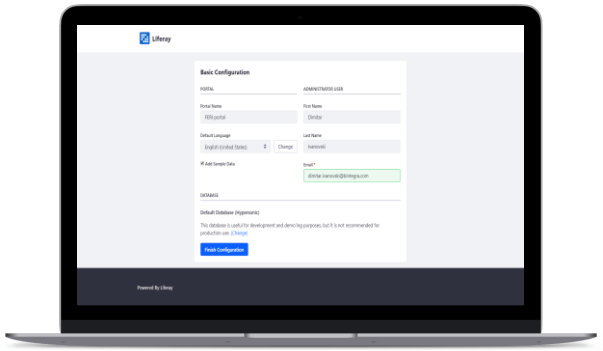
Gulp Tasks

- `build`: generates the base theme files, compiles Sass into CSS, and zips all theme files into a WAR file that you can deploy to a Liferay server.
- `deploy`: runs the `build` task and deploys the WAR file to the configured local app server.
- `extend`: allows you to specify a base theme to extend. By default, themes created with the Liferay Theme Generator are based off of the styled theme.
- `kickstart`: allows you to copy the css, images, js, and templates from another theme into the `src` directory of your own. While this is similar to the `extend` task, kickstarting from another theme is a one time inheritance, whereas extending from another theme is a dynamic inheritance that applies your src files on top of the base theme on every build.
- `init`: prompts you for local and remote app server information to use in theme deployment.
- `status`: displays the name of the base theme/themelets your theme extends.
- `watch`: allows you to see the changes you make to your theme without requiring a full redeploy. After invoking the `watch` task, every time you save any changes to a file in your theme, applicable changes are compiled and they're copied directly to your app server. **Note:** In order for the `watch` task to work, you must have Developer Mode enabled.

(Vir: https://dev.liferay.com)

Naloga 1

- Basic configuration
- Lifecycle management, Gogo shell Interface
- Responsive design simulation
- Theme customization
- Embedded portlets
- Layout templates



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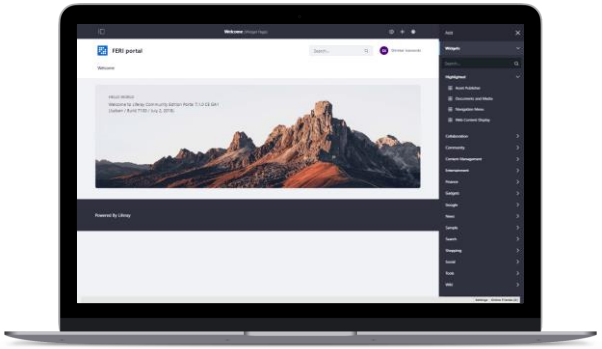
Naloga 2

- Navigacija



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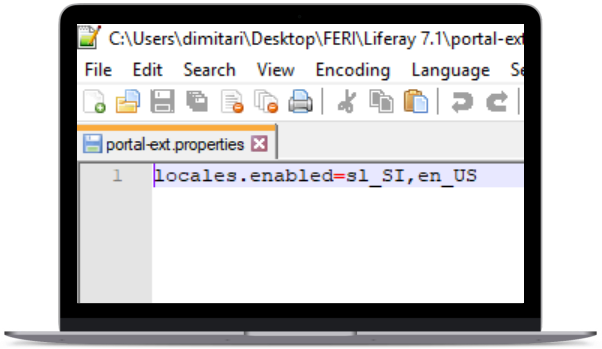
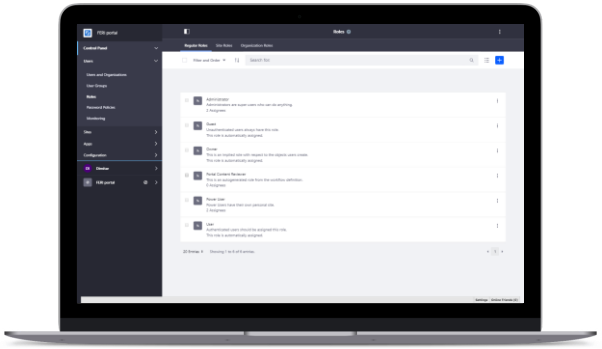
Naloga 3

- Lokalizacija



Naloga 4

- Uporabniške vloge



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Appendix: About Bintegra

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Consulting & IT Solutions

Key focus

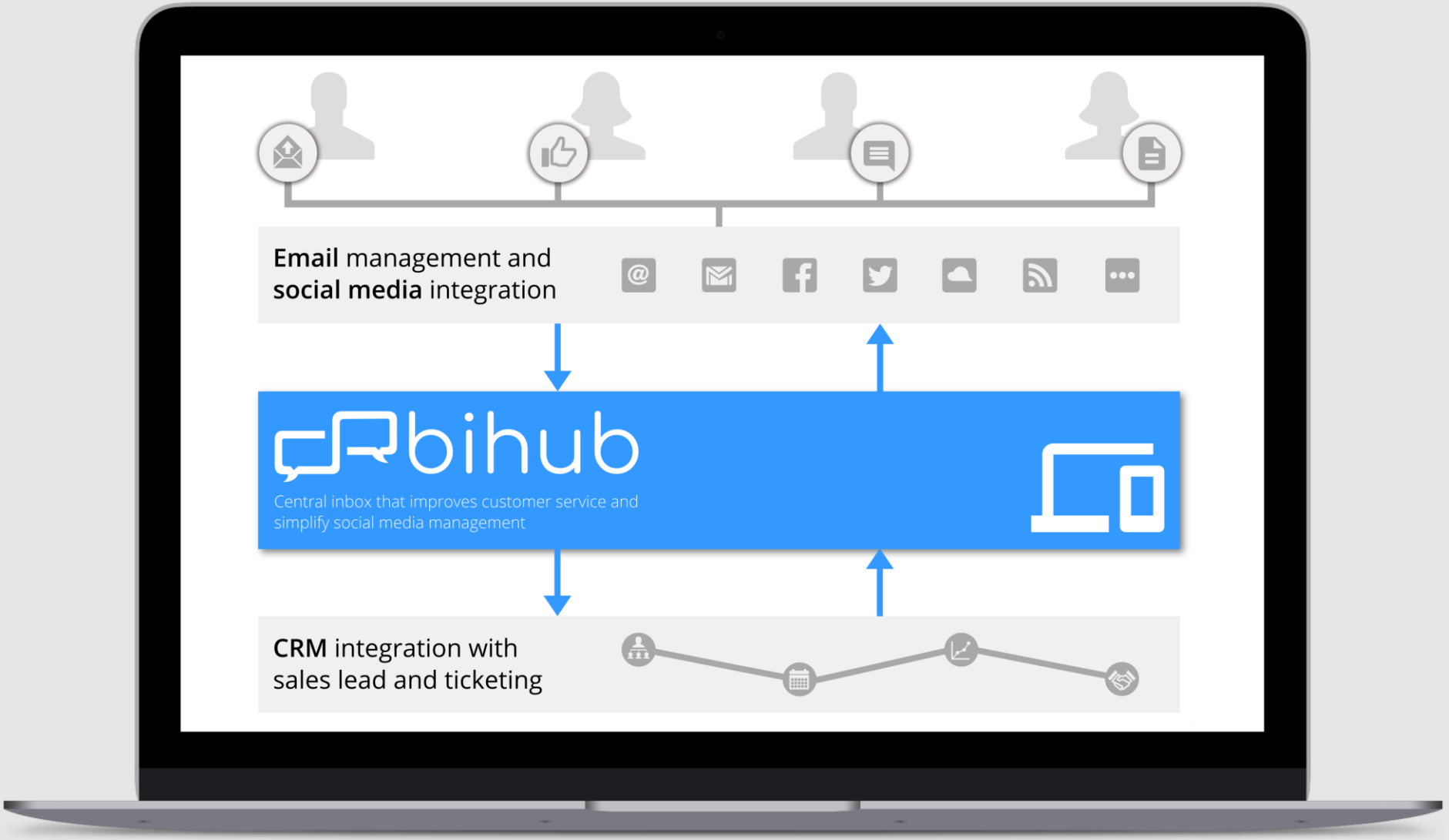
Integration solutions, Self-Care portals, enterprise applications, integration of Social networks with CRM

Main markets

Slovenia, Austria & Croatia

Technologies

Products


Email management and
social media integration
bihub
Central inbox that improves customer service and
simplify social media management
CRM integration with
sales lead and ticketing

Certificates of excellence

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Small & Medium Enterprises
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Chamber of Commerce and Industry of Slovenia

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Main office

Železnikova 4
2000 Maribor
Slovenia

Ljubljana office

Stegne 23A
1000 Ljubljana
Slovenija

info@bintegra.com

+386 (0) 2 620 4861 /2

+386 (0) 2 620 4863